



**KU8**  
Consortium of  
Universities in Kwara

# **KU8 CONFERENCE**

## **BOOK OF ABSTRACTS**

**THEME:**

**TRANSFORMING  
UNIVERSITY EDUCATION  
IN THE 21<sup>ST</sup> CENTURY:  
The Role of Stakeholders**

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## **First International KU8 Conference**

*Theme:*

**TRANSFORMING UNIVERSITY EDUCATION IN THE 21<sup>ST</sup> CENTURY:**

**THE ROLE OF STAKEHOLDERS**

**University of Ilorin, Ilorin, Nigeria - 2023**

# *Book of Abstracts*

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## Foreword

The maiden edition of the KU8 conference with the theme “**Transforming University Education in The 21<sup>st</sup> Century: The Role of Stakeholders**” was most apt at this time of economic downturn, global insecurity and pandemic-induced crisis.



The multidisciplinary conference aimed at providing a veritable platform for interaction, facilitating integration across various fields, and bringing together researchers, scholars, industrialists, policymakers and students from all subject areas and disciplines worldwide. The conference was held over four days, from 6<sup>th</sup> to 9<sup>th</sup> August, 2023 at the University of Ilorin, Ilorin, Nigeria. It afforded the presentations of over 280 policy-relevant research output across

16 concurrent sessions, although over 400 abstracts were received and peer-reviewed.

The conference was preceded by a workshop which featured training on topics such as “**Grantsmanship: Ethics and Best Practices and Strategies for Winning Research Grants**”. Similarly, as part of the KU8, UNILORIN-2023, personalities who have contributed significantly to the academia and public sectors were duly recognized and awarded.

The research outputs whose abstracts had been thoroughly peer-reviewed in this maiden KU8 conference edition were presented in hybrid mode featuring both physical and virtual options. We trust that the imperative take from the presentation would form the fulcrum of further research for the benefit of all mankind.

In conclusion, we would like to express our heartfelt appreciation to the international advisory members, the KU8 Vice-Chancellors who played a pivotal role in initiating the conference, our sponsors, abstract reviewers, editors, participants, and numerous other individuals whose contributions were invaluable. We extend special gratitude to the host University, the University of Ilorin, for providing exceptional facilities and support throughout the event. We are pleased to announce that the book of proceedings from this conference will be published by highly indexed and reputable publishers. The publication will ensure that the valuable research presented during the conference reaches a broader audience and contributes significantly to the advancement of knowledge in relevant fields.

**Prof. Jamiu Kolawole Odusote** - MNSE, MNMS, R.ENGR. (COREN)

*Conference Chair*

*Dean, Faculty of Engineering, University of Ilorin, Ilorin, Nigeria*

## **Disclaimer**

All abstracts included in this Book of Abstracts were subjected to rigorous evaluation and critical peer review. However, the views expressed are those of the authors and are only meant to assist readers to comprehend the concerns in the subject area. Authors are solely responsible for the correctness and validity of the content of each abstract. Hence, the organising committee of KU8 UNILORIN-2023 considers all contents of the abstracts in good faith but is not liable for any decision made thereon anywhere or at any time.

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## ABSTRACTS

### EDUCATION

#### **KU8-004: Impact of Technology-enhanced Experiential Learning on Students Performance in Qualitative Research in a Nigerian University**

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#### **Abstract**

Shallow knowledge on qualitative analysis especially with the use of software like Atlas it was observed among students of higher degree in a Nigerian University. This study therefore aims to investigate the effect of technology-enhanced experiential learning on the performance of students trained in qualitative research methods. The research employs a mixed-methods approach, utilizing both quantitative and qualitative data collection and analysis techniques. The population of the study were postgraduate students of Department of Social Sciences Education, in a Nigerian University while the target population were Measurement and Evaluation students offering Qualitative research methods. The study measures the participants' performance based on various indicators, including critical thinking skills, creativity, and overall research quality. Quantitative data is gathered through performance surveys and assessments evaluations, while qualitative data is collected through interviews and focus group discussions. Preliminary findings indicate that the technology-enhanced experiential learning technique aided higher levels of engagement, increased self-efficacy, and enhanced research skills. The study contributes to the existing literature by highlighting the potential benefits of technology-enhanced experiential learning in teaching and learning.

**Keywords:** Experiential Learning; Performance; Technology; Performance; Qualitative Research

#### **KU8-006: Comparative Study of Science Education Students with Balanced Emotions Imbalanced Emotions in Correlation to their Academic Performances**

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#### **Abstract**

Science anxiety is defined as a debilitating combination of fearful negative emotion and cognition in the context of science learning. It can occur before or during learning science materials. Due to this term, the purpose of this study was to investigate how emotional balance and imbalance affects students' cognitive learning and their academic performance in University of Ilorin, Ilorin, Nigeria. This research study employed a descriptive research of the survey type, simple random techniques was used to select a total of 250 students from five units in the Department of Science Education as population of the study. Three research questions and two hypotheses were raised and formulated accordingly. The instrument was then field-tested on a random sample of 20 students selected from a different department to determine the reliability coefficient of the instrument. ANOVA and Coefficient Analysis were used to analyze the data obtained and the reliability Coefficient result was 0.75, which shows that the instrument was reliable. The result of findings revealed that, it was true that balanced and imbalanced emotions affect cognitive learning and students' academic performance aside other findings. Then the researchers recommended that the University Departmental Counselors or Course Adviser should focus on monitoring the progress of the students, through observations. The parents of the undergraduate students should assist their children financially, morally and be ready to ask questions about the condition of their ward on weekly or monthly base. And Sensitization should be hosted by the school authority to educate the students about the likelihood of consequences faced by students with balanced and imbalanced emotions among others.

**Keywords:** Anxiety; Academic Anxiety; Depression; Cognitive learning; Self-efficacy

**KU8-015: Enhancing Workforce Readiness: The Role of Internships in Preparing Undergraduate Students for the 4<sup>th</sup> Industrial Revolution**

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**Abstract**

The 4th Industrial Revolution (4IR) is delineated by rapid technological advancements, automation, and digitalization, which have significant implications for the future of work. As undergraduate students prepare to enter the workforce, examining the role of university internships in equipping them with the necessary skills and competencies to thrive in the 4IR becomes crucial. This study explored the relationship between university internships and the preparedness of undergraduates for the field of employment in the 4IR. A qualitative method of interview approach was employed to gather data from the purposively sampled undergraduates who participated in internships across five universities in Kwara State from Management Science, Physical and Natural Sciences, Agriculture and Education faculties. The semi-structured interview questions were used to interview ten undergraduates, two from each purposively selected university in Kwara State on the role of internships on their skills, career readiness, and adaptation and the effectiveness of the programme. The findings showed that university internships are crucial in preparing undergraduates for the business world, and skill development. It was also acknowledged that internships provide exposure to emerging technologies and industrial practices, which may enhance employability prospects in the 4IR job market. It was therefore recommended among others that the universities integrate fourth industrial revolution-related skills and competencies within internship curricula, foster industry-academic collaborations, and promote inclusivity and diversity in internship opportunities to equip undergraduates with the necessary knowledge and skills to succeed in the rapidly evolving labour market.

**Keywords:** Internship; 4th Industrial Revolution; workforce; undergraduate

**KU8-016: The Role of Universities towards Achieving Sustainable Development Goal 1**

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**Abstract**

Poverty reduction and achieving sustainable development are top priorities for Nigeria. Universities are centers of higher learning capable of generating the information, skills and innovation needed to address the fundamental problems and forces that combat poverty. However, to reach their full potential, universities must overcome hurdles such as: Inadequate funding, inadequate equipment, and poor quality of teaching. This paper examines the role of Nigerian universities in poverty alleviation and the potential challenges and benefits of their engagement. Specifically, it examined: the concept of poverty; prevalence of poverty globally and particularly in Nigeria; existing literature on poverty reduction in Nigeria; and the main causes of poverty in Nigeria; In addition, the paper outlines various obstacles and opportunities for universities to play more significant roles in the battle against poverty in Nigeria. The paper advocated for the establishment conducive environment for teaching, learning, and research in Nigerian universities. It also, called for more robust constructive collaboration between the town and gown in promoting entrepreneurship and innovations with the aim of achieving sustainable development goal 1.

**Keywords:** Universities; Sustainable Development Goal; Poverty; Nigeria

**KU8-032: Glocalisation of Africa's Unmined Heritage from Primary to Tertiary Education: Community Service of Higher Education**

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**Abstract**

Higher institutions of learning are the link between town and gown, they explore nooks and crannies to transform projects into prospects. As such, teaching in higher education should trigger students to tinker. The GLOCALISE approach is a blend of global and local values designed to sustain the gradually eroding cultural values and expand opportunities for collaborative inquiry-based learning, problem-solving and innovative practices. A culture that is hidden from children goes into extinction too soon. Thus, the concept of Glocalisation should be embedded in the curriculum across all levels of education. This should manifest as a tale and tell/role play method at the primary; project-based at the secondary and problem-solving at tertiary levels. Different concepts in each subject across each level should be linked to a proverb, idiom, artifact, antique, history, tradition and culture. Learning contextualized makes so much sense and fun to learners and allows critical thinking and collaborative engagement. Thus, this paper presents how the GLOCALISE approach is exploring glocally (globally & locally) some African cultural heritages through crowdsourcing and developing resources accessible to teachers, parents and interested stakeholders for teaching and students' engagement through the Glocalise repository. The pedagogical, assessment and curriculum resources are updated and validated by local and global experts. This approach is hoped to nurture innovative African minds and mine untapped African heritages into priceless pearls globally.

**Keywords:** Glocalisation; Africa; Unmined Heritage; Community Service; Higher Education

**KU8-035: Perception of Tourism Education as a Choice of Programme in Universities: Implications for Sustainability in Education**

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**Abstract**

Tourism education is a collection of formalized teachings which transmit knowledge, foster skills and character traits that equip students for their career in the industry. However, its appreciation among the university community is imprecise. On this premise, this study investigates the perception of tourism education in universities and the implications for educational sustainability. The research is guided by three main objectives: to investigate the general perception of the tourism education program among students, educators, and industry professionals; to find out the extent to which students' perception of the program influences their enrolment in tourism education programs at universities; and to assess the level of awareness among lecturers regarding tourism education for sustainability in education. A mixed method was adopted for the investigation, in which the hybrid explanatory/confirmatory method was used. The study employs a QUAN + qual mixed design (Quantitative driven simultaneous design). While the core component is quantitative, the supplemental component is qualitative. The quantitative portion of the study was conducted using a descriptive survey research design. The study's population consists of all tourism students and lecturers from Kwara State University, Malete, Kwara State. The data for this study was statistically examined using Mean statistics to answer the research questions and the independent samples t-test statistic to test the hypotheses at the 0.05 level of significance. Recommendations were made based on the findings.

**Keywords:** Education; Hospitality; Sustainability; Tourism; Tourism Education



**KU8-038: Dissemination and Utilization of the Supervised Study Technology Principles Projects: Impacts for Quality Education**

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**Abstract**

One of the factors that are affecting the Quality of education in Nigeria is “How to learn”. Studies have revealed that many students could not distinguish between reading to pass and study with full mastery for perfect understanding. Based on the recommendations from some of the findings of completed and supervised projects, this paper examines, the impact for quality education from the outputs of the supervised Study Technology Principles projects’ in the Department of Science Education, University of Ilorin, Nigeria. The dissemination and utilization of its findings to the biology teachers was carried out as workshop in other to promote lifelong learning opportunity. The method adopted was Mentor-Mentees, where the Mentor was the supervisor and the mentees were the 4 project students (2 masters’ and 2 Doctoral Degrees). The workshop was carried out for 108 biology teachers that were fully represented from the 16 Local Government of kwara state. The participants were trained on how to identify barriers to study and its impact for Quality Education. The instruments were study technology tools with success story papers for the evaluation. The analysis was carried out with the qualitative statistics. The findings revealed that the participants master the study technology principles. It was concluded that all findings from research should be implemented by dissemination and utilization. It was recommended that the study technology principle should be integrated into all instructions. Further training could be organized across all disciplines for the Quality Education.

**Keywords:** Quality Education; Biology; Study Technology Principles; Dissemination; Utilization

**KU8-044: Impacts of Learning Interest and Parental Support on Academic Performance of Secondary School Students of Islamic Studies in Lagos**

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**Abstract**

This study investigates the impacts of learning Interest and parental support on academic performance of secondary school students in Islamic Religious Studies in Lagos State. The study descriptive survey with the population consisting of all 68 public senior secondary schools in Lagos state Education District V and 31,703 Islamic Religious Studies Students. A Sample of 400 SS II Islamic religious studies students were selected using Krejcie and Morgan Sampling Template in 10 randomly selected schools for this study. Descriptive analysis was used to answer the research questions and lineal Regression was used to test hypotheses. The study found that the level of learning interest, parental support and academic performance were all high among senior secondary schools Islamic Studies Students in Lagos State. Also, the learning interest and parental support does not have significant influence on the Academic Performance of senior secondary schools Islamic Studies Students in Lagos State. Based on these findings, it was recommended among others that students should show high level of learning interest and commitment in the study of Islamic studies; Parents and guardians should show high level of parental support to their children, in order to reinforce learning and enhance their academic performance.

**Keywords:** Academic Performance; Islamic Religious studies; Learning Interest; Parental support

**KU8-048: ASUU and The Future Struggle for University Education in Nigeria**

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**Abstracts**

Over time, ASUU has been fighting FG for better working conditions of academic staff, improved funding for universities, and better educational standards in Nigeria. However, the future of university education in Nigeria seems gloomy as challenges such as brain-drain, poor infrastructure, and low level quality of education continue to plague education sector. Some of the remarkable impacts of ASUU struggle can be seen in the increased access to university education for millions of Nigerian students through preventing the Federal Government to introduce university tuition fee, and its effort has been instrumental in giving many university educators opportunity to study and attend seminars and conferences abroad through tetfund, etc. All this has been achieved through struggles and series of industrial actions. But the recent judicial nosiness is seen as a victory against ASUU struggle that can kill its spirit and thwart its efforts. This paper is a review of the challenges and prospects of the union. It urges ASUU to continue to play its' active role of advocating for better educational standards, while also engaging with other stakeholders viz. the government and the private sector to address the challenges facing the education sector. With continued support and collaboration between government, businesses and other stakeholders, ASUU has the potential to enhance the quality of University Education in Nigeria for a better future.

**Keywords:** ASUU, Struggle, Education, University, Nigeria

**KU8-053: The Need for Halal Industry Education and Training in the Nigerian Universities: Undergraduate or Postgraduate?**

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**Abstract**

The halal industry plays a significant role in the global economy and has witnessed substantial growth in recent years. The industry is gaining some relevance in Nigeria. In a bid to boost its products in the local and international markets, the country has established a committee to steer halal certification. However, there is the challenge of manpower to work for this infant industry in the federation. This, therefore, necessitates the urgent demand for training and development of human capital to produce competent personnel to execute operational tasks. There is no doubt about this, but the question remains hanging on the appropriate approach to be adopted in Nigerian universities towards producing the initial human capital to man the industry. Should it be developed straightaway as an undergraduate degree program, or should it be incorporated as postgraduate training? Therefore, this paper examines the need for developing human capital for the Halal industry in Nigerian universities. The qualitative study adopts Malaysia and Indonesia as case studies. Investment in human capital development has become vital since human capital development is an important managerial aspect in ensuring growth and sustainability in the Halal industry. Hence, there is a need for the Nigerian university education system to create an enabling environment for training and developing human capital in the Halal industry. There is no better educational level that is fitting for this task.

**Keywords:** Halal Industry; University; Nigeria; Education; Postgraduate; Undergraduate.

**KU8-064: The Prophylactic Intervention for Integrating Computer Ergonomics into Pedagogical Instructions in Kwara State, Nigeria**

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**Abstract**

The process of integrating computer ergonomics into pedagogical instructions has been gaining recognition in this twenty-first century. There is limited understanding regarding the prophylactic for achieving successful Information and Communication Technology's (ICT) integration and the negative consequences of the improper use of Computers which can cause serious physical injury to the user. The study examined a comprehensive literature review of relevant studies conducted, that provided an overview of the strategies for successfully integrating computer ergonomics into pedagogical instructions in Kwara State, Nigeria. The study is an explanatory design of the literature type. Literatures review agreed that there are several strategies for successfully integrating computer ergonomics into pedagogical instructions. These strategies include: Ergonomic; The Ergonomics of Computer Workstation; Ergonomic Intervention and Possible Solutions; The Ergonomics of Laptops; The Ergonomics of Mobile Device; Ergonomic Intervention and Possible Solutions; and Implications. Findings revealed that integration of ergonomics into ICT incorporation is paramount and consequential. The study concluded that technology should not be implemented at the detriment of one health also the strategies addressed would help to ensure a successful integration of computer ergonomics into pedagogical instructions in Kwara State. Recommended that, for a successful implementation of the strategies discussed, adequate resources and stakeholder partnerships should be explored among others.

**Keywords:** Ergonomics; Computer Related Illnesses; Pedagogical Instructions; Prophylactic Intervention; Information and Communication Technology

**KU8-066: Towards a Teacher-Learner Centred Learning Technique for Sustainable Development of African Higher Education**

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**Abstract**

Teacher-learner centred learning, a far-reaching, diverse approach to conventional subject-based instruction, is a very powerful institutional systemic strategy that emphasises higher-order critical thinking, communication, and generic and teamwork skills. Among the subject-based, outcome-based, and problem-based learning (PBL) methods, the objective is to indoctrinate the elements of any discipline. With subject-based teaching techniques, the focus is primarily on these elements and secondarily on employing these elements; whereas with PBL methods, the spotlight is on the procedure of employing these elements to unravel real-world problems and link academic knowledge with societal and industrial needs. By associating fundamentals with solving problems, knowledge is recalled more easily, kept in mind for much longer, and more readily employed to solve real-world challenges. This paper examines current knowledge about teaching-learning approaches in higher education institutions and their implications for the sustainable development of African higher education. The authors considered that aspects of the traditional model of conventional subject-based instruction, such as the widespread use of lectures, the overcrowded content, and the assessment methods employed, have not produced desirable and viable learning. A modified teaching-learning approach guided by real-world problems that displays a mixture of characteristics of PBL strategies is thus suggested for the sustainable development of African higher education. PBL is one systemic strategy for the sustainable development of higher education, in particular in a resource-constrained or resource-deficient environment. Its challenges and possibilities are highlighted.

**Keywords:** Problem-based learning; Higher education institutions; Self-sufficient learners

**KU8-068: Autonomy Management and Development of University in the 21st Century**

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**Abstract**

The global demand for university autonomy is blatant evidence that the government and its agencies are interfering with university administration and operations. Also, proprietors, and other external forces to a substantial extent imposing bureaucratic rules and conditions of service on how the activities of the universities should be, in spite of the laws governing these institutions. This appears to be a barrier to the full realization of the goals and development of the universities. This study examines the influence of autonomy on development of university in the 21<sup>st</sup> century. Lack of staffing autonomy, financial autonomy and academic freedom, all represent significant obstacles to the effective management and development of universities. Sample of 120 participants was purposively chosen from public universities in Kwara State (University of Ilorin & Kwara State University). This study adopts quantitative (descriptive) research design. The hypotheses were tested using the Pearson product-moment correlation coefficient and linear regression analysis. The findings revealed that staffing autonomy, financial autonomy and academic freedom has positive and significant relationship with development of universities. It was recommended that government should permit university autonomy in terms of freedom to choose personnel and students. Also, government should give room for financial independence of the universities in order to design and manage a wage system that is appropriate for the university. Additionally, government should allow academic freedom so as to encourage teachers to freely engage in independent thought, invention and research within the parameters of academic practice without worrying about being intimidated by the administration or government forces.

**Keywords:** Staffing; Financial autonomy; Academic freedom; Development

**KU8-071: Civic Knowledge and Civic Skills as Predictors of Undergraduates' Patriotic Attitudes in a University in Kwara State Nigeria**

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**Abstract**

Applicability of the knowledge and skills acquisition towards making a positive impact on society is the focus of Social Studies Education in Nigerian Universities. The study examined the levels of civic knowledge; civic skills; and patriotic attitudes of undergraduates at the University of Ilorin and the extent to which civic knowledge and civic skills predict their patriotic attitudes. The study adopted a descriptive research design of predictive type. A Sample of 326 Social Studies undergraduates was purposively selected. A Constructed Civic Knowledge Test (CKT), Civic Skills Scale (CSS) and an adapted Patriotic Attitude Scale (PAS) were used for data collection. The Pearson Product Moment Correlation statistics and the Cronbach Alpha reliability values of the three instruments were 0.87, 0.84 and 0.87, respectively. The data collected were analysed using percentages and mean for research questions. The only hypothesis was tested using Multiple Regression statistics. The findings of the study revealed that the undergraduate students' mean scores of civic knowledge (28.28) were moderate, civic skills (96.7) were high, and patriotic attitudes (62.9) were high and indicative of positive patriotic attitudes. Civic knowledge and Civic Skills significantly predict undergraduate students' patriotic attitudes. The study concluded, among others, that more attention is needed to increase the level of civic knowledge to sustain the high levels of civic skills and patriotic attitudes to contribute to the betterment of the country. It was recommended that university lecturers should engage undergraduate students in practical activities that can further lead to the practicability of patriotic behaviour in them.

**Keywords:** Undergraduates; Social Studies; Civic Knowledge; Civic Skills; Patriotic Attitudes

**KU8-075: Graduating Students' Perception of Universities' Role in Promoting their Exploration of Career Options through Entrepreneurship in Kwara State**

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**Abstract**

Nigeria's current employment situation presents a serious challenge to the youths and the society. More than ever, the university's role in helping students make their education useful for the economy and gratifying for themselves without necessarily depending on a paying employment is underscored. How far has this been apprehended by the university students? To provide answer to this question, this study looked into graduating students' knowledge of the role that universities play in encouraging career exploration in Kwara State, Nigeria. All graduating students from Kwara State's public and private universities made up the study's population. Descriptive design of survey type was adopted. 500 graduating students were chosen for the study using a purposive sampling technique. Students' Perception of Universities' Role in Promoting Exploration of Career Options (SPURPECO), an instrument with a reliability rating of 0.86, was used to collect the data. Data obtained were analysed using frequencies, percentages, t-test and Multiple regression analysis. The findings showed that while the majority of students were aware that universities do offer some graduate-level entrepreneurship and skills courses, they did not consider those programmes to be career-oriented. The findings showed significant differences in the levels of awareness and perception of university graduates from government-run and privately owned institutions, as well as among various disciplines of study. Based on the study's findings, recommendations were made that institutions recognize their duty to give students the chance to pick up the necessary life and job skills. Universities should also endeavour to review their entrepreneurship course curricula to make sure it covers all students need to know about job alternatives.

**Keywords:** Career options, Entrepreneurship education, Life skills, Innovation

**KU8-079: Enhancing Higher Education Curriculum in Nigeria: Addressing the Gap between Industry Demands and Graduates' Skills**

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**Abstract**

This paper examines the challenges faced by the higher education curriculum in Nigeria in meeting the demands of the rapidly evolving industries and the skills required by graduates for gaining employment. The widening gap between industry needs and the skills-set possessed by graduates has raised concerns about the effectiveness of the current curriculum. Hence, this paper explores the factors contributing to the gap and proposes strategies for engendering the higher education curriculum to bridge the gap. Through an elaborate literature review from reputable journals, this paper identifies several key issues contributing to the mismatch between industry demands and graduate skills. These include outdated curricula, insufficient integration of practical training, inadequate alignment with industry needs, and limited collaboration between academia and industry stakeholders. The implications of this gap are significant, as they can hinder economic growth, reduce job prospects for graduates, and minimize the overall development of the country. Arising from the findings, the paper presents a range of recommendations for enhancing the higher education curriculum in Nigeria that include emphasizing the importance of regularly updating and revising curricula to align with current industry needs and technological advancements; emphasis on practical training and experiential learning, promoting industry-academia collaborations, and strengthening internships and apprenticeships into the curriculum and integration of soft skills development into the curriculum, as they are increasingly sought after by employers.

**Keywords:** Higher education curriculum; Industry demands; Skills gap; Curriculum enhancement

**KU8-088: Stakeholders Perceived Contribution of Entrepreneur Education in Nigerian University to Curb Brain Drain**

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**Abstract**

Brain Drain in Nigeria is a critical issue that has had significant consequences on the country's development and progress. There is a dearth of empirical information specifically revealing stakeholders' (university lecturers and students) perceived contribution of entrepreneurship education in Nigerian universities as a potential solution. Therefore, this study investigated Stakeholders Perceived Contribution of Entrepreneur Education in Nigerian University to Curb Brain Drain in Kwara State. Four specific objectives were raised to guide the study. Descriptive research design on a survey type was employed in this study. The target population of the study comprise all lecturers and students in University of Ilorin. Simple random sampling technique was used to select 80 lecturers and 227 students. A researcher-designed questionnaire was used for data collection. The finding of the study revealed that Entrepreneurship education in Nigerian universities has the potential to equip students with the necessary skills and knowledge to create employment opportunities in Nigeria and entrepreneurship education in Nigerian universities helps students develop a proactive mind set and the ability to identify and seize opportunities, reducing the desire to migrate in search of better prospects. The study recommended that the government should invest in entrepreneurship education and creating an enabling environment so that Nigeria can retain her skilled workforce, promote economic development, and reduce brain drain.

**Keywords:** Brain Drain; Lecturers; Students; Entrepreneurship Education

**KU8-094: Online Collaborative Learning and Academic Performance of Business Education Students in Universities, Kwara State**

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**Abstract**

The study assessed the online collaborative learning and academic performance of business education students in universities, Kwara State. The study was a descriptive study of the correlational type. The population for the study comprised 1,190 students at two universities in Kwara State, out of which 169 were sampled. Three research questions and three hypotheses were tested at the 0.05 level of significance. A purposeful sampling technique was used to select the samples. The data for the study were gathered using a structured, validated questionnaire tagged the Online Collaborative Learning Questionnaire (OCLQ) and Students Academic Performance Questionnaire (SAPQ). The reliability of the instrument was determined with the use of Cronbach's alpha, and the values are 0.81 and 0.71. The collected data were analyzed electronically using descriptive and inferential statistics. The major finding revealed that there is a low level of collaboration among business education students at both the University of Ilorin and Kwara State University. The implication of the paper is that online collaboration should be encouraged for positive changes to emanate for efficiency. Thus, it was recommended that students be encouraged to use online collaborative tools for the exchange of knowledge.

**Keywords:** Online tools; collaborative learning; business education students; academic performance

**KU8-099: University Lecturers' Accessibility and Usability of Digital Technology and Tools for Postgraduate Research Supervision in Kwara State, Nigeria**

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**Abstract**

The advent of digital technology has transformed various aspects of academic research and teaching globally, including postgraduate research supervision. This study investigates the accessibility and usability of digital technology and tools among university lecturers for postgraduate research supervision in Kwara State, Nigeria. The research employs a quantitative data collection method. A structured questionnaire, validated by four lecturers with reliability value of 0.83 from Cronbach Alpha analysis, was distributed among the three sampled university lecturers in Kwara State through Google Form. The three purposively selected universities are Kwara State University, University of Ilorin and Al-Hikmah University. Simple Random sampling techniques was adopted to guide the administration of the Google Form and eventually, a total 126 responses was downloaded. The data collected was subjected to data analysis of frequency count and mean while the hypotheses were analyzed using t-test. The result revealed that university lecturers have access to digital technologies, mostly through personal devices but was not frequently used for the supervision of postgraduate supervisees. The findings of this study contribute to understanding the current state of accessibility and usability of digital technology and tools for postgraduate research supervision in Kwara State.

**Keywords:** Technology; Quantitative; Administration; Accessibility; Digital

**KU8-114: Barriers to Internationalization of Education in Nigeria and Counselling Implications**

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**Abstract**

Internationalization of education has become increasingly important in the contemporary society as it enables individuals to gain exposure to diverse cultures, perspectives, and knowledge. However, in Nigeria, there are some barriers that hinder effective internationalization of education. This presentation therefore highlights the barriers impeding internationalization of education in Nigeria and their counselling implications. The paper focuses on the challenges faced by students, institutions, and the education system as a whole. The barriers include financial limitations, inadequate infrastructure, racism, visa and immigration constraints, limited institutional collaborations, language barriers, and cultural differences. The challenges hinder Nigerian students' ability to experience international education opportunities. The counselling implications of these barriers are multifaceted. Counselling plays a crucial role in guiding and providing supportive services to students, who aspire to pursue international education. Counsellors are trained to address the emotional and cultural challenges students may face while studying abroad, bridging the gap between their expectations and the realities of a foreign educational environment. Counsellors advocate for policy changes that promote inclusivity and accessibility, especially in terms of financial aid and visa regulations, improved infrastructure, cross-cultural training, and institutional collaborations. Through provision of appropriate guidance and support, counsellors can help Nigerian students to overcome their challenges and contribute meaningfully to the development of the society. In conclusion, the barriers impeding internationalization of education in Nigeria could be minimized, if guidance and counselling is given adequate attention.

**Keywords:** Barriers; Internationalization; Education; Infrastructure; Implications

**KU8-116: Rethinking Entrepreneurial Education for Viable Industrial Development in Nigeria**

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**Abstract**

Entrepreneurship has been one of the fundamental human activities from time immemorial. This is so because man is created in such a way that if he must eat, he must work for what to eat and engaging in entrepreneurial activities remains one of those ways by which this motive could be achieved. Furthermore, it is becoming more evident that entrepreneurial development is a necessary ingredient for achieving sustainable industrial development of any nation in today's world. In line with this understanding, government and relevant stakeholders have been enjoined to devise workable strategies by which viable entrepreneurial orientation could be rekindled among the people, especially the youths in the society. In other to achieve this feat, entrepreneurial education has been introduced as a compulsory subject of study in all higher institutions of learning in Nigeria as undergraduate and postgraduate levels. However, despite such efforts, entrepreneurial activities are yet to make significant effects in terms of reducing problems of graduate unemployment and enhancing viable industrial development in the country. It is against this background that this paper seeks to highlight some of the steps that could be taken in order to make entrepreneurial education relevant to encourage positive entrepreneurial mindset needed to attain sustainable industrial development in Nigeria. The chapter recommends that entrepreneurial education should be more practical-oriented to make it useful for the country to achieve viable industrial development.

**Keywords:** Entrepreneurship; Development; Undergraduate; Education

**KU8-118: Smart Learning: Achieving Sustainable Development Goals (SDGs) in Education via Technology**

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**Abstract**

This article aims to investigate the role of Smart Learning in achieving the Sustainable Development Goals (SDGs) within the educational context. It seeks to evaluate the impact of technology-enabled Smart Learning in promoting sustainable development in education and explore the potential benefits and challenges associated with integrating technology to achieve the SDGs. A comprehensive literature review was conducted, utilizing various sources such as Scopus, Google Scholar and ResearchGate. The review focused on a global perspective to analyze how technology can contribute to the attainment of the SDGs in education. The literature review findings indicate that integrating technology through Smart Learning can enhance student engagement, facilitate personalized learning experiences, and foster global connectivity. It highlights the significance of aligning educational practices with the SDGs to empower students as active contributors to society. The study also identifies challenges related to technology integration and emphasizes the importance of providing professional development opportunities for educators, ensuring equitable access to technology resources, and fostering collaboration among stakeholders. Based on the findings, it can be concluded that technology holds transformative potential in achieving the SDGs in education. The article recommends offering professional development programs for educators to effectively utilize technology tools, ensuring equal access to technology resources for all students, and promoting collaboration between educational institutions, policymakers, and technology providers. Furthermore, it suggests exploring innovative strategies and pedagogical approaches to maximize the advantages of Smart Learning in advancing the SDGs.

**Keywords:** Smart Learning; Technology; Transformation; Sustainability; Education



**KU8-138: Teachers Assessment of Factors Responsible for Poor Attitude of Senior School Students towards Learning**

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**Abstract**

This research work examined the factors responsible for poor attitudes towards learning in senior secondary schools in Ilorin South Local Government Area. The research study adopted a descriptive form of survey research. The population of this study consist of teachers of senior secondary schools in Ilorin South, while the sample size consisted of 100 teachers selected from 7 schools within this locale using purposive sampling technique because they have the variables the researcher is looking for—a researcher's designed questionnaire with psychometric properties of content validity and 0.84 significant level. The findings revealed that lack of motivation from home, emotional trauma, teachers' negative attitude to teaching, ineffective teaching techniques, peer influence, unavailability of adequate teaching and learning materials, overpopulated classrooms and parental education are factors responsible for poor attitudes towards learning in senior secondary schools in Ilorin South Local Government Area. Based on the findings of the study, the use of standard teaching and learning materials, giving proper and adequate attention to students affected by emotional trauma, sensitization of students on the essence and benefits of education and learning, adoption of standard teaching techniques, proper classroom arrangement and encouragement of lesser population are possible solutions to poor attitude towards learning in senior secondary schools.

**Keywords:** Attitude; Learning; Vocation; Skills; Classroom

**KU8-144: Revolutionizing Education: Harnessing the Power of Artificial Intelligence (AI) for Effective Learning**

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**Abstract**

The rapid advancement of artificial intelligence (AI) has paved the way for its integration into various industries, and education is no exception. This theoretical paper examines how AI can revolutionize education and how it can be used to improve student learning results. In this conversation, the ideas of individualized learning, intelligent tutoring system, data analytics and adaptable education take center stage. By utilizing AI algorithms, educational platforms may deliver individualized learning experiences that take into account each student's particular needs, skills, and learning preferences. Intelligent tutoring systems act as virtual tutors, offering individualized guidance, tracking student progress, and providing targeted remediation. Adaptive learning systems offer real-time feedback and customized learning paths, promoting greater engagement and knowledge retention. By analyzing vast amounts of educational data, AI can generate valuable insights that could enable informed decision-making, curriculum design, and instructional strategies, facilitating evidence-based education practices. Moreover, AI's integration with virtual and augmented reality technologies offers innovative solutions for remote or distance learning, providing interactive and engaging environments for students. While the benefits of AI in education are pronounced in the article, challenges and ethical considerations of appropriate usages are also addressed. Issues such as data privacy and algorithm bias require careful consideration to ensure responsible AI use in educational settings. The paper concluded that the power of AI in education is transformative and encourage educators and institutions to embrace AI's potential in order to unlock new possibilities for effective learning, personalized instruction, and improved educational outcomes.

**Keywords:** Artificial Intelligence; Personalized Learning; Adaptive Education; Augmented Reality; Virtual Reality

**KU8-147: Social Responsibility and Stakeholders' Participation in the Management of  
University Education in Nigeria**

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**Abstract**

University education is the type of higher education whereby advanced knowledge, skill acquisition and high level research are pursued. As a result of this, there is a lot of interaction between people within the university and the outside world. Education in general is seen as beneficial to the society and so the need for individuals, organisations and people with vested interests to participate in the management of university education is crucial. The society also sees it as her duty to ensure the success of education, especially university education which produces high level manpower. This paper therefore examines stakeholders' participation in the management of university education in Nigeria vis-a-vis social responsibility. It looks at the types of stakeholders in university education in Nigeria with a view to outlining their roles or functions in the university system. The paper also examines the concept of social responsibility as it is applicable to stakeholders' participation in the management of university education in Nigeria. The social responsibility theory and the concept of university social responsibility are largely explored to shape stakeholders' participation in the management of universities and are viewed as ways of enhancing the level of university goal attainment, thereby changing the university in a positive direction. The paper puts forward suggestions for actions to be taken and policies to be formulated with a view to transforming university education for good. Recommendations are made in order to improve the quality of education in Nigerian universities.

**Keywords:** Universities; Stakeholders; Social Responsibility; Management; University Education

**KU8-150: Challenges and Barriers to ICT Deployment in Nigerian Universities**

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**Abstract**

Deployment of ICT to tertiary institutions has met with a varying range of challenges globally depending on availability of resources and intent. This study examined the challenges and barriers to ICT deployment in the Nigerian universities. The objectives were to determine the barriers, reasons for the challenges and how it effects the slow advancement of technology in the Nigerian universities. The study employed a survey research design, targeting a population which comprises of students and academic staff of four selected government tertiary Institution in Anambra state Nigeria, which includes two universities, one polytechnic and one college of education. A sample of four hundred (400) respondents were selected using a simple random technique. Questionnaire were distributed and used to collect data and analyse using frequencies and mean. Findings revealed that education authorities and the government have not made much impact towards a successful ICT deployment, also that the little infrastructure in use are not adequately applied in the universities. The research established that a successful ICT deployment in the university will improve the Nigerian education system and help enhance the teaching and learning process. It was recommended that the need for adequate supply of ICT infrastructure and proper sensitization programs on importance of ICT literacy will effectively influence the massive deployment of ICT in Nigerian university education system.

**Keywords:** Universities; ICT; Deployment; Barriers; Nigerian Education

**KU8-163: Perceptions of Stakeholders on Personnel Recruitment and Management in Universities in Kwara State, Nigeria**

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**Abstract**

This study investigated perceptions of stakeholders on personnel recruitment and management in Universities in Kwara State, Nigeria. Descriptive research design of correlational type was adopted. A sample of 150 academic and non-academic staff were selected through purposive sampling technique and used as participants in the study from Al-Hikmah University, Ilorin, Kwara State University, Malete and University of Ilorin, Ilorin. A researcher-designed instrument titled: "Perceptions of Stakeholders on Personnel Recruitment and Management Questionnaire" (PSPRMQ) was used to elicit relevant information from the participants. The questionnaire was validated by experts in the fields of Educational Management and Educational Test and Measurement. A reliability test was also conducted on the instrument. Two research questions and two research hypotheses guided the conduct of the study. Descriptive statistics of mean rating was used to answer the research questions raised, while inferential statistic of t-test was used to test the formulated research hypotheses at 0.05 level of significance. It was concluded that effective personnel recruitment and management will enhance attainment of the University goals. The findings of the study, among others, indicated that there was no significance difference in the perceptions of stakeholders on personnel recruitment and management in Universities in Kwara State based on status and gender. It was recommended that the University management should ensure that highly qualified staff are recruited in order to ease their management.

**Keywords:** Personnel, Recruitment, Management, Universities, Kwara-State

**KU8-184: Psychological Impetus for 21st Century University: A Case Study of Leadership, Resource Sourcing and Application**

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**Abstract**

Man is driven by motives which are fundamentally psychological. It is rooted in thoughts, feelings, and observable behaviors, or regarded as practical manifestation of thoughts and feelings into actions. Leadership, in its essence, is embodied by an individual who takes on a frontline role in making critical decisions. Focusing on leadership as a critical component behind the process of decision-making and implementation within the context of a university, this individual assumes the driver's seat and steers the university's policies in both academic and administrative matters. The psychological well-being of university leadership cannot be over-emphasized as it plays a pivotal role in determining the university's readiness to source and effectively utilize resources for the demands of the 21st century university. Thus, this review provides an understanding of the psychological impetus driving the decision of leaders and its implication on effective resource management in this rapidly evolving educational landscape.

**Keywords:** University; 21st Century; Leadership; Psychological; Decision-making

**KU8-181: Assessment of Student Teachers' Technological Pedagogical and Content Knowledge (Tpack) in Universities in Kwara State**

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**Abstract**

This study analyzed the TPACK constructs among student teachers in universities in Kwara State Nigeria. The study adopted a convergent mixed-method approach using the TPACK questionnaire and a focus group discussion (FGD) across the study's sample. Sample selection for the study was based on a multi-stage sampling technique. A questionnaire was distributed to a sample of 529 student teachers in their final year enrolled in three universities in Kwara State, Nigeria. They responded to the study tool that was accessed after the validity and reliability of the tool had been verified using Cronbach's Alpha. The data were analysed using statistical mean and Mann-Whitney U test. The findings revealed that student teachers possessed more of Pedagogical Knowledge and less of the Technological skill; majority of the student teachers acquired related technological skills through personal effort; most of the itemized factors on the questionnaire did not militate against the acquisition of the TPACK skills. The study's conclusions, recommendations, implications, and limitations are based on the research findings.

**Keywords:** Student Teachers; Constructs of Technological Pedagogical Content Knowledge (TPACK); Universities in Kwara State

**KU8-188: Academic Incivility among Undergraduates and Curbing Mechanisms in Tertiary Institutions in Kwara State**

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**Abstract**

This study assessed academic incivility among Undergraduates and curbing mechanisms in tertiary institutions in Kwara State, Nigeria. The objectives of this study were to examine the level, factors responsible, consequences and curbing mechanisms of academic incivility among undergraduates in tertiary institutions. The population for the study was undergraduates in universities in the state. The study adopted a descriptive survey design, 250 undergraduates were sampled through purposive sampling technique. The researcher's designed questionnaire titled "Academic Incivility among Undergraduates' Questionnaire" was used to elicit data from the respondents. Construct validity was used to determine the validity of the instrument with reliability coefficient of 0.83 using Pearson Product Moment Correlation. The findings of the study revealed that the level of academic incivility among undergraduates in tertiary institutions was low and factors responsible for academic incivility highlighted were main factors germane among the undergraduates. The finding of the study also showed that academic incivility had negative consequences on undergraduates in tertiary institutions. This study also revealed that all the items pointed out in this study as curbing mechanisms on academic incivility among students are preventive measures in curbing incivility among undergraduates. Based on the findings, it was recommended that functioning guidance and counselling unit in various schools should be established. Educative programmes that will sensitise undergraduates on the right attitudes and values should also be provided to curb the prevalence of academic incivility among students in tertiary institutions.

**Keywords:** Academic incivility; Factors responsible; Consequences; Curbing mechanisms; Tertiary institutions

**KU8-192: Sustainable Development Goals and the Pivotal Roles of Universities**

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**Abstract**

The Sustainable development goals (SDGs) are a collection of seventeen (17) strategically structured goals with specific metrics targeted at improving the world. Actualization of the SDGs is expected to improve the global environment, political and economic needs. The 17 Global goals ranging from no poverty to partnership for the goals are SDGs instituted to cushion the challenges facing the world. The University is the zenith of the educational platform whose activities are embedded in the three tripodal mandates of teaching, research and community impact. The SDGs provide a platform for the University in giving back to their immediate community through intentional activities and action. This paper entails the 17 SDGs, their performance indicators, the roles of the universities in educational research and innovation and the barriers to SDGs implementations. It also covers the roles of Times Higher Education (THE) in the impact ranking of global universities via their engagement with sustainable development goals. This study, therefore, explores the feasibility of the University mandates via engaging the global goals as well as the barriers to implementation of SDGs. The paper concludes by signposting the synergistic roles of the University tripodal mandates as crucial to the feasibility of the sustainable development goals.

**Keywords:** Sustainable development goals; Performance Indicators; Times Higher Education; Quality Education; Community impact

**KU8-201: Transforming the Education of Persons with Special Needs in Nigerian Universities: Role of Stakeholders**

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**Abstract**

This comprehensive study examines the critical role of stakeholders in transforming the education of persons with special needs in Nigerian universities. Inclusive education has become a global imperative, recognizing the fundamental right of individuals with disabilities to access equitable educational opportunities for their development, empowerment, and social integration. Effective implementation of inclusive practices in higher education requires active involvement and collaboration among stakeholders. Despite progress, individuals with disabilities in Nigeria still face significant challenges in accessing quality education. Through a thorough literature review and analysis of existing initiatives, this study investigates the roles and responsibilities of key stakeholders: policymakers, university administrators, faculty members, support staff, students with disabilities, and parents/guardians. It explores their unique perspectives, challenges, and contributions toward creating an inclusive and enabling environment in Nigerian universities. By identifying gaps, barriers, and successful initiatives, this research provides insights into strategies and collaborative efforts needed to enhance education for persons with special needs. The findings contribute to existing knowledge and offer practical recommendations for stakeholders to promote inclusive education practices. Ultimately, the goal is to foster a transformative educational environment that ensures equal opportunities and holistic development for students with special needs in Nigerian universities.

**Keywords:** Inclusive Education; Nigerian Universities; Policymakers; Special Needs; Stakeholders

**KU8-206: Enhancing Scientific Innovation and Research Development through Information and Communication Technology**

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**Abstract**

Scientific innovation and research development through Information and Communication Technology (ICT) was conceptualized to enhance science educators' capacity in ICT competencies and skills to teach Science, Technology, and Mathematics (STM) subjects in Nigeria secondary schools. The research was aimed to critically appraise the scientific innovation and research development in relation to science educator development for ICT use in classroom practice and research. Research contributes to teacher training and development, helping teachers to stay up-to-date with the latest developments and best practices in the field and promoting innovation. Prior research has shown contrasting views and a multitude of dimensions and approaches to look at this phenomenon. This paper takes stock of past work and provides new insights through the existing review of academic literature, reports, and case studies which demonstrates how ICT has contributed to accelerating the pace of scientific discovery, promoting collaboration, improving data management and analysis, and facilitating global research networks. The findings highlight the potential of ICT to transform the scientific landscape and underscore the need for continued investment in digital infrastructure and capacity-building to fully harness its benefits. Moving from these premises, this present study offer an overview of the topic by featuring possible linkages and thematic clusters. Then sketch a novel research agenda for scholars, practitioners, and policy makers who wish to engage in research and build critical, constructive, and conducive discourse on Scientific Innovation and Research Development through ICT.

**Keywords:** Scientific Innovation; Research Development; Information and Communication Technology (ICT)

**KU8-208: Education and Internalisation in the 21<sup>st</sup> Century: Counselling on Effective Management Imperatives**

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**Abstract**

Education is a primary social activity for replication of traditions and desirable life forms. The focus of its internalisation is to reform learners through Affective domain for correct attitudinal building, Cognitive domain for all encompassing learning back up by Research for development and Psycho-motor domain for the Science and Technology advancement into the world of Creativity and Innovation. Reformed character or personality is expected to transform the society for good, based on societal norms and tradition to activate socio-economic life of the people on the goal of achieving wellness. Education is therefore, the root of civilization and development if it is well funded, managed and functional. The paper adopts SWOT analysis approach and SMART concept tool to X-ray the state of Education in our Nation on the Goals of the 21st Century in term of development template. The paper reveals the implication of neglecting functional Education, failure to rightly empower the youth by internalising the actual essence of Education and getting properly integrated into global level of educational attainment as a negative attitude towards the UN definition of Sustainable Development. All Stakeholders are therefore charged to embrace and work for functional Education. Government should provide adequate security regarding school system as well as prevent Kidnapping; stop abusing the rights and privileges of Education because it is fundamental to human reformation for societal transformation as well as promotion of sustainable development. It is therefore imperative to manage well and effectively too, Nigeria Education; with adequate funding and right classification of priorities for the Nation to grow and develop well.

**Keywords:** Counselling; Education; Institutional Governance; Orientation; Management

**KU8-209: Principals' Perception on Challenges of Admission Services in Nigerian Secondary Schools: Empirical Evidence from Kwara State**

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**Abstract**

For students at all educational levels, admission is considered the first service to be offered. The procedural method, however, has raised questions about the admission service provided to students at secondary schools in Nigeria. Given the aforementioned, this study looked at how principals in Kwara State's public secondary schools perceived the difficulties with the admissions process. The study used a qualitative research design as its methodology. Ten principals were chosen from Kwara State's three senatorial districts using three sample techniques: stratified, purposive, and convenience. Information was gathered using an interview process called "Interview Protocol on Admission Services (IPAS)". The data was analyzed using a thematic method. The results showed that the way entrance exams and interviews were conducted had a big influence on choosing the qualified candidates who were looking to be placed in the educational system. Based on the study's findings, it was suggested that the admission service policy be reviewed in order to make sure that the selection of applicants for admission follows international best practices.

**Keywords:** Admission; Examination; Interview; Placement; Qualitative Approach

**KU8-211: Instructional Strategies and Teacher's Productivity in Public Senior Secondary Schools Ilorin**

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**Abstract**

This study examined instructional strategies and teacher's job performance in the public senior secondary Schools in Kwara State. Specifically, the study determined the instructional strategies mostly preferred by teachers in Public Senior Secondary Schools in Kwara State; the study adopted descriptive research design of survey type. The population of the study consisted of all the 6,284 teachers in the entire 371 public senior secondary schools in Kwara state. Simple random sampling technique was used to select two Local Government Areas from each of the three senatorial districts in Kwara state. Proportionate sampling technique was used to select 10 teachers from each of the sampled schools. "Instructional Strategies Questionnaire (ISQ)" and "Teachers Job Performance Questionnaire (TJPQ)" respectively were used to collect data for the study. Mean, Standard deviation and Pearson Product-Moment Correlation Statistic were used to analyze the data. The findings of the study revealed that role-play strategy was found to be the instructional strategy mostly preferred by teachers in public senior secondary schools in Kwara state; the level of teachers' job performance in public senior secondary schools in Kwara state was moderate with a mean score of 2.52; there was a significant relationship between instructional strategies and teacher's job performance in public senior secondary schools in Kwara state ( $p < 0.05$ ); and there was a significant relationship between cooperative strategy and teachers' job performance in public senior secondary schools in Kwara state ( $p < 0.05$ ). Based on the findings of the study, it was recommended that teachers should continue to give preference to the cooperative, group discussions and role-play strategies to boost their job performance.

**Keywords:** Significant; Descriptive; Proportionate; Questionnaire; Survey type

**KU8-215: Effective Classroom Communication among Secondary School Students in Ilorin Metropolis**

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**Abstract**

Effective communication is an essential aspect of classroom setting and a vital tool for student engagement, motivation, information sharing, education and training, socialization and preservation of school culture. This study investigates perception of students on effective classroom communication in ILORIN metropolis secondary schools. The study is a descriptive design of the survey type. The population comprises of all junior secondary school students in Ilorin metropolis secondary school. Using convenient sampling techniques, 500 students constitute participants for the study. A questionnaire developed titled "Effective Classroom Communication Questionnaire" (ECCQ) which was subjected to face and content validity by experts was used to gather information from participants. A reliability coefficient of .77 obtained adjudged the instrument reliable. Four features of communication which include reinforcement, active listening, teamwork and emotional regulation, were explored. The findings reveal that students perceived reinforcement as motivating factor that enhance their participant and engagement in class activities during lessons. They affirm that teachers' recognition of their good deeds during class further creates positive and supportive learning environment for them. However, contrary finding reveals students do not feel comfortable expressing their thoughts in the class when teacher do not listen to them. The study therefore recommends the need for teachers to value and respect students' opinion by actively listening to them during and after lessons.

**Keywords:** Ccommunication; Reinforcement; Active Listening; Teamwork; Emotional regulation

**KU8-221: Investigating Electronic Media Viewing by Undergraduate Students in Nigerian Universities: A Survey**

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**Abstract**

The study investigated electronic media viewing among undergraduates in selected federal universities in south west Nigeria with a view to identify the contents viewed, purpose of viewing and attitude exhibited during viewing. The survey research design was adopted for the study while questionnaire was used as the major instrument of data collection. Multi-stage sampling procedure was used to select a total of 723 undergraduates across 3 federal universities in south west Nigeria to constitute the sample for the study. The findings revealed that movies, entertainment news, general news, games, e-books and educational programmes are the major electronic media contents which south west in Nigerian universities viewed and that the undergraduates viewed electronic media content for the purposes of information, entertainment and socialisation than for academics. On the attitude exhibited by the undergraduate students while viewing electronic media, finding from the study established listening to music, social networking and text messaging as major attitudes exhibited. The study also established the multi-tasking abilities of the undergraduate student. The study recommended that undergraduates should use electronic media technologies properly for widespread educational purposes and that university authorities should strategically engage the undergraduates in purposeful electronic media usage for assignments, projects and term papers, among others in order to reduce excessive use of electronic media, thereby redeeming their time for gainful exercise.

**Keywords:** Electronic Media; Undergraduate Students; Federal Universities; Nigeria



**KU8-240: Managing Undergraduate Final Year Projects: A Centralised Management Approach**

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**Abstract**

Undergraduate final-year projects play a pivotal role in integrating knowledge, skills, and practical experiences into the learning journey. However, the management of these projects often encounters challenges such as inconsistent outcomes, a lack of interdisciplinary collaboration, and limited student guidance and support. To address these issues and enhance the overall project experience, a structured approach is essential. This paper aims to explore the potential of the Centralized Management Approach in effectively managing undergraduate final year projects. The methodology adopted in this approach encompasses several key components: project selection, a mentorship program, a blend of online and physical learning, democratization of the learning process, interdisciplinary collaboration, and diverse assessment methods. A total of eighty-six undergraduate students participated in this study. The findings revealed that the Centralized Management Approach empowers students to select projects that align with their interests and career goals, leading to heightened motivation and engagement throughout their work. Additionally, the mentorship aspect of this approach provides students with crucial guidance and support, enriching their learning experience significantly. Overall, the Centralized Management Approach offers a robust framework for managing undergraduate final year projects, effectively addressing challenges and enhancing students' project experiences. By adopting this approach, universities can optimize project outcomes, promote interdisciplinary collaboration, and facilitate meaningful and impactful learning experiences for their students.

**Keywords:** Centralized Management, Final year project, University

**KU8-248: Influence of Parental Education on Secondary School Students' Performance in Islamic Studies in Ilorin Metropolis**

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**Abstract**

Education is one of socio-economic status indices affecting academic performance of students in Nigerian education. So, this paper examines the impact of parental education on secondary school students' performance in Islamic Studies in Ilorin metropolis, Kwara State. The descriptive research method was adopted for the study. The stratified random sampling technique was adopted to select fifteen public and private secondary schools in Ilorin metropolis, while simple random sampling technique was adopted to select six hundred students both males and females across the fifteen schools. An adapted questionnaire was used to gather information on impact of parental education on senior secondary school students II performance in Islamic Studies, while their terminal result in Islamic Studies was used to measure their academic performance. The adapted questionnaire was subjected to test re-test method and was found to have a reliability coefficient of 0.65, using the Pearson Product Moment Correlation coefficient (PPMC). Findings of the study revealed that there was a significant relationship between parental education and secondary school students' academic performance in Islamic Studies in Ilorin metropolis based on gender, school location and school type. Therefore, the paper recommended that parents irrespective of their educational background should be enlightened on the need to prioritize their children's education by visiting them at schools constantly and providing educational materials for them, among others.

**Keywords:** Islamic Studies; Performance; Parents; Education; Socio-economic status

**KU8-249: Internationalization of Education in Nigeria in the 21st Century: The Need for Guidance and Counselling Services**

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**Abstract**

Internationalization of education has gained immense importance in Nigeria as it opens doors for students to explore global opportunities, expand cultural horizons, and contribute to globalized world in the 21st century. This paper stresses the significance of Guidance and Counselling services in facilitating effective internationalization of education in Nigeria. Internationalization of education involves various processes, such as studying abroad, participating in exchange programmes, engaging in collaborative research and academic partnerships. However, students in Nigeria face numerous challenges in pursuing international education experiences, due to limited access to information, lack of awareness about available opportunities, inadequate preparation, and insufficient psychosocial support. Guidance and counselling services play a pivotal role in addressing these challenges and successfully facilitating internationalization of education. Professional counsellors can provide crucial guidance to students, helping them to navigate the complexities of the international education landscape. Counsellors can assist students in developing essential skills such as cross-cultural communication, adaptability, intercultural competence, and critical thinking, which are integral to thriving in diverse educational environments. Given the ever-increasing importance of internationalization, it is necessary to strengthen guidance and counselling services in Nigerian educational institutions. This requires adequate funding, professional training and development for counsellors and establishment of standard counselling centers. In conclusion, this presentation emphasizes the role of guidance and counselling services in supporting students' socio-emotional well-being, and fostering key skills for global engagement.

**Keywords:** Internationalization; Education; Students; Services; Guidance and Counselling

**KU8-288: Drug Abuse Prevention in Nigerian Universities: A Proposal**

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**Abstract**

This paper offers a dimension to look at ways to reduce drug abuse on various university campuses. The pressing need to deal with the prevalence and negative effects of drug abuse among students, focusing on the impact on learning outcomes, individual well-being, and campus communities need not over emphasized. Creating and putting into practice efficient strategies to lower drug abuse rates, supporting a healthier campus climate, and improving students' general well-being are crucial to fostering a positive learning environment and ensuring the long-term productivity and success of Nigerian universities. A multifaceted approach, combining education programs, peer support networks, and counseling services would be adopted for the effort. Education program will raise awareness about the risks and consequences of drug abuse, providing students with knowledge and tools to make informed decisions while peer support network will create a supportive environment for seeking guidance, share experiences, and receive assistance from their peers. Furthermore, counseling services offer professional support and intervention for students struggling with drug abuse or related issues. It is expected that the proposed comprehensive prevention strategies can lead to a significant reduction in drug abuse rates among Nigerian university students. Furthermore, the collaboration between universities, student organizations, and relevant stakeholders to ensure the sustained implementation and effectiveness of preventive measures. Additionally, the integration of preventive education within the university curriculum, expansion of peer support networks, and allocation of resources for counseling services are crucial steps in creating a holistic and supportive campus environment.

**Keywords:** Drug abuse, stigma, prevention, universities, education.

**KU8-266: Principals' Gender as Determinant of Administrative Effectiveness in Public Senior Secondary Schools in Kwara State, Nigeria**

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**Abstract**

This study investigated principals' gender and administrative effectiveness in public senior secondary schools in Kwara State. The researchers adopted descriptive survey research. Stratified random sampling technique was used to select 25 out of the 77 senior secondary schools in Ilorin metropolis (Ilorin West, East, South, Asa and Moro Local Government Areas). Simple random sampling technique was used to select 300 teachers (51.72%) out of 580 teachers in the sampled schools. A researcher designed questionnaire titled "Principals' Gender and Administrative Effectiveness Questionnaire (PGAEQ)" was used to gather relevant data from the respondents. Four research questions were raised and five hypotheses were formulated including one main hypothesis to guide the study. Both simple percentage and t-test statistical method were used to analyze the data at 0.05 significance level. The main finding revealed that there is significant difference between principals' gender and administrative effectiveness (calculated t-value 2.01 > critical value 1.65). Other findings showed that, there is significant difference between: male and female principals' leadership capacities (calculated t-value 2.31 > critical value 1.65), male and female principals' quality of discipline (calculated t-value 1.99 > critical value 1.65), male and female principals' communication skill (calculated t-value 2.00 > critical value 1.65) and male and female principals' human relations skill (calculated t-value 2.14 > critical value 1.65). Based on these findings, it was recommended that male and female principals who have undergone at least first degree in management/administration should be appointed into secondary schools as leaders. This is because; such principals would have acquired wide knowledge in various management principles and practices. It was also suggested that oral interview and written examinations on school management and administration should be prerequisite for male and female principals' promotion.

**Keywords:** Gender; Administrative Effectiveness; Principal; Senior Secondary School

## **ENGINEERING, SCIENCES AND TECHNOLOGY**

**KU8-001: Influence of Drying Methods on Some Qualities of Dried Honey-treated Banana Fruit Slices**

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**Abstract**

Banana is one of the vital nutritious tropical fruits that are commonly available for human consumption all year round. However, when ripe, it is susceptible to quick deterioration because it is climactic hence, the need for drying. This study investigated the effects of three drying methods (sun, solar and oven drying) on the proximate and vitamin qualities of dried honey-treated ripe banana slices. Samples of 5 mm-sized, firmly-ripe banana slices were soaked in 0.25 % v/v honey solution for 4 minutes and afterward drained. The samples were subjected to sun drying, solar drying, and oven drying (at 65 °C) until constant moisture content was reached. The results showed that the banana sample dried in the oven has the highest values of 5.00%, 2.14%, and 5.60% for fat, protein, and ash respectively. However, both sun and solar drying methods recorded slightly lower moisture content (5.20 %) than oven drying (5.40 %). Also, higher vitamin C (81.70 mg/100 g) and β-carotene (1361.16 µg/100 g) contents were observed in the oven-dried banana sample. It was concluded from the study that the oven drying method is most suitable for drying honey-treated banana slices as it helped to retain the most proximate and vitamin contents evaluated.

**Keywords:** Banana; Proximate qualities; Drying methods; Honey-treated; Vitamin content.

**KU8-002: Design and Fabrication of a foundry sand mixer**

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**Abstract**

Foundry sand mixer is a crucial tool used in the metal casting industry for combining sand with various additives and binders to create moulds. In this work, a foundry sand mixer specifically tailored for small-scale operations such as those required in university-based workshop was designed and fabricated. The mixer stands out from industrial-type foundry sand mixers due to its compact size, mobility, ease of operation and maintenance. These innovative features make it a convenient and efficient solution for use in small-scale foundry workshops. By minimizing downtime, improving efficiency, and enhancing the overall quality of castings, this mixer can significantly contribute to the foundry operation. The efficiency of the machine was determined as 92%. The attained results from its performance evaluation showed that the prepared moulding sands has superior properties in terms of strength and shatter index compared to those prepared using manual mixing. Additionally, this sand mixer aligned with the country's local content policy and promote self-sufficiency in the manufacturing sector.

**Keywords:** sand mixer; foundry, casting, sand, fabrication.

**KU8-003: The Trends of Indoor Positioning Algorithm: A Survey**

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**Abstract**

The acceleration of location-based technology has been remarkable over the last decade with the emergence of various indoor positioning methods. This progress has led to a surge in commercial interest in location-based apps and services, primarily driven by context-dependent data. These systems can be categorized into two groups based on their underlying infrastructure. The first group involves technologies such as radio frequency identification (RFID), ultra wideband (UWB), and wireless sensor networks (WSN) that require specific hardware installations for locating. The second group, which includes the geomagnetic field and wireless fidelity (Wi-Fi), relies on contemporary wireless networks for locating. A matching algorithm and a fingerprint localization approach are typically employed in the second group. This paper explored the matching algorithm for Wi-Fi positioning. However, one drawback of this approach is that it requires the reconfiguration of commercially available Wi-Fi equipment and a deep understanding of the position of the access point (AP). Furthermore, the recent developments in indoor positioning algorithms are highlighted with their benefits, with the aim of better informing the reader about cutting-edge technology and inspiring novel research initiatives in this fascinating topic. Future research should focus on exploring reinforcement learning algorithms to enhance mobile user location tracking, along with other methods such as probabilistic or SVM techniques. Additionally, a soft range limiting factor could prove useful, and cooperative mobile localization could aid mobile nodes in determining their relative locations. Ultimately, the choice of algorithm depends on factors such as the available infrastructure, accuracy requirements, cost, and the specific use case.

**Keywords:** Fingerprinting; Indoor Positioning; Wi-Fi; K-Nearest Neighbor; Access Point

**KU8-009: Data Mining Genome-Based Algorithm for Optimal Gene Selection and Prediction of Colorectal Carcinoma**

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**Abstract**

This study presents a method for optimal selection of gene subsets to enhance the non-clinical diagnostic classification and prediction of colorectal cancer using gene expression level of 40 tumour and 22 normal colon tissues for 2,000 gene expression profiles obtained with an Affymetrix oligonucleotide array. A Hybrid multi-objective Support vector Machine (SVM) feature selection and classification algorithm was employed to determine the Biomarker gene subsets that are highly statistically and clinically relevant to the 62 (tumour or normal) responses of the gene expression levels. The genes selection was done in two stages with the first stage using the Bayesian t-test to prune the non-informative genes and the second stage employed the multi-objective optimization method that allows sequential addition of genes for optimal determination of the pre-selected gene subsets. The SVM with RBF kernel ( $SVM_{RBF}$ ) was fitted sequentially to select the set of near-optimal genes that are correlated with the response class. The optimally selected gene subset yielded an accuracy of 90.1% on the test data that were never used in the building process of the algorithm. Also, an estimated average of 86.94%, 91.92%, 85.87%, 92.64% and 91.56% was obtained for Sensitivity, Specificity, Positive predictive value, negative predictive value, and Cross-validated Area under the curve (CVAUC) respectively. Furthermore, the results obtained from the principal component analysis and the complete linkage hierarchical clustering indicated near-perfect discrimination of the two clinical response groups of the colorectal cancer status of the patients.

**Keywords:** Support Vector machines; Feature selection; Multi-Objective Optimization; Principal Component Analysis; Clustering

**KU8-012: Sustainable Management of Muturu Cattle for Food Security and Livestock Development in Nigeria**

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**Abstracts**

The Nigerian Muturu cattle- a trypanotolerant variety of the indigenous West African shorthorn- was once widely distributed across the country and made significant contribution to animal protein supply until the 19th century. Today, Muturu cattle are considered endangered due to anthropogenic changes and their rapid replacement in Northern Nigeria with the much-preferred Zebu cattle. Muturu cattle were nearly decimated in the southeastern states because they were slaughtered to feed the starving human population during and after the civil war of 1967 to 1970. In addition, the strong cultural and spiritual attachment and deification of the animal has reduced the population of the Forest Muturu to between 25 000 to 40,000. The present situation calls for an urgent action to salvage this important genetic resource from extinction. The value of Muturu cattle should not only be treated in term of its nutritional merit but in the broader context of its adaptive genes for sustainable livelihood and economic sustainability of Nigerian rural dwellers. There is the need for sustainable management and conservation of Muturu resource base and the orientation of technological and institutional change with the aim of ensuring the attainment and continued satisfaction of human needs for present and future generations. This can be achieved through sound policy framework and laws; National plan of action for in situ and ex situ conservation and management; Government-farmer partnership; Funding of research on Muturu cattle; and establishment of functional egg, sperm and embryo gene banks.

**Keywords:**

**KU8-014: Plant Defence Knottins as promising Molecular Tools for Innovations in Agriculture and Medicine**

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**Abstract**

Plant defence knottins (cystine knot peptides) have recently attracted immense scientific interest owing to their overall intrinsic potentials for ground breaking innovations in Agriculture, sustainable and safe food packaging, pharming applications and molecular medicine. However, while the poorly tapped opportunities under this niche are considerably indigenous, the majority of the explorers and exploiters are foreign. We present a brief review of the recent advances in plant defence knottins. In our pioneering effort in their discovery from Nigerian plant biodiversity, we carried out the peptidomic characterization (SPE, HPLC, chemical derivatization and MALDI-TOF MS) of novel knottin-like peptides from *Cajanus cajan* as well as the *in vivo* toxicity studies in rodents, *Artemia salina* and *in silico* analysis. Scientific evidence has shown that Knottins are gene-encoded with potentials for bioengineering applications. Selectively toxic knottins are pharmacological tools for drug discovery such as the T20k currently in clinical trials for multiple sclerosis. The recent advances in knottins discovery include novel applications in target-specific therapy, pharming solutions, biopesticides, food packaging and senescence and sustainable food security. My group has uncovered novel knottins in *Cajanus cajan* whose unique cystine knot structural topology demonstrate previously unknown overexpressed valine residues. *In vivo* toxicity studies showed safety at 2 g/kg bw in rodents and over 1000 µg/mL in *Artemia salina*. *In silico*, the pure peptides showed broad spectrum antimicrobial activities and extremely low toxicity to mammalian cells. Emerging and accumulating scientific evidence suggest that plant defence knottins may be a game changer in food security, preventive and curative therapies.

**Keywords:** Plant biodiversity; defence knottins; cystine knot peptides; peptidomics; applications

**KU8-019: Characterisation, Classification and Fertility Status of Soils of Lade in the Southern Guinea Savanna, Nigeria**

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**Abstract**

Land degradation and dwindled agrarian efficiency are obvious effects of scarce gen on soil properties for ensuring sustainable agriculture in Nigeria. Consequently, this study assessed the physical and chemical attributes; classify and rank Lade soils according to fertility potential. A free survey was conducted to collect representative soil data. Six profile pits (L1 to L6) were dug for mapping units' characterization. Soil samples from the horizons of respective profiles were examined for physicochemical and morphological properties using standard laboratory techniques. Profile description and soil classification at the Great Group level followed USDA guidelines; Fertility Capability Classification system was employed for cropping potential. Physicochemical properties indicated a relatively high structural index, strong to slightly acidic (4.0 – 6.3). Organic carbon (8.02 – 9.24 g kg<sup>-1</sup>), available phosphorus (9.66 – 25.76 mg kg<sup>-1</sup>), and total nitrogen (0.09 – 0.34 g kg<sup>-1</sup>) contents were generally moderate. Exchangeable bases ranged from high to very high; base saturation was low to medium while Effective Cation Exchange Capacity rated medium to high, indicative of moderately fertile soils. Colour varied from dark yellowish brown (10YR 4/4) on the surface to reddish brown (2.5YR 4/3) in the sub-soils. The texture was mostly loam to sandy clay loam. Soils L1 - L6 were classified as Endoaqualfs, Kandiuqualfs, Haplustalfs, Haplustalfs, Plinthustalfs and Kandiuqualfs, respectively. Potential suitability for arable crop place pedons L1 and L3 in S2 (moderate) whereas other pedons were rated S3 (marginal). Judicious use of inorganic fertilizer combined with good residue management and drainage is recommended for sustainable socio-economic and agricultural development.

**Keywords:** Fertility capability; nutrient status; sandstone; soil capability; soil taxonomy

**KU8-020: Statistics: An impetus to university sustainability and Development**  
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**Abstract**

Statistics plays a crucial role in university sustainable development by providing quantitative tools and methodologies to collect and analyse data, measure progress, and make informed decisions. The objective of this study is to elicit information about the impact of Statistics towards the sustainable and development of the university and thereafter create awareness of the roles of Statistics towards sustainable development. This study investigates the role of Statistics in university sustainability and development with emphasizes in building a veritable data center in order to have Statistical information for university policy formulation and implementation, resources allocation, research gap and execution, students and staff audits/directory, activities management, town and gown inclusive. The study adopted historical analytics technique to identify the key areas with which Statistics is contributing meaningfully to the sustainable development of the university. The study identifies the key bottleneck that hinder sustainability and development of the university as related to underutilization of Statistics. The study showcases the machinery for execution and monitoring of sustainability and development of university using modern Statistical techniques. The study therefore concluded that each university in the country should have data centre that will be managed by Statisticians and engage them in day to day activities.

**Keywords:** Statistics; Data; Sustainable; university; development

**KU8-023: Economic Analysis of Climate-smart Adaptation Strategies Adoption among Sugarcane Farmers in Niger State: Implications for Sustainable Agriculture**

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**Abstract**

Climate change poses significant challenges to agricultural systems worldwide, including the sugarcane sector in Nigeria. We, therefore, investigate the adoption of climate-smart adaptation strategies among sugarcane farmers in Niger State, the hub of sugarcane production, and explore the implications for sustainable agriculture. Specifically, we identified the climate-smart adaptation practices adopted by sugarcane farmers; analyzed the profitability of sugarcane in Niger State; and identify the constraints in the use of climate-smart adaptation practices in Niger State. The research employs the use of cross-sectional data from 120 sugarcane farmers drawn from a three-staged simple random sampling technique across Niger state. The data were analyzed using descriptive statistics, Gross margin analysis, and a Likert-type scale. The study reveals that sugarcane farmers in Niger State are experiencing adverse effects of climate change, which have led to reduced sugarcane yields and diminished farm incomes, threatening the livelihoods of farmers and the sustainability of the sugarcane industry in the region. Farmers thus are adopting various climate-smart adaptation strategies such as planting on wetlands, intercropping with vegetables, soil conservation techniques, and irrigation. The profitability analysis reveals a gross margin of 242,356.325/Ha of land cultivated. Challenges hindering the widespread adoption of climate-smart practices include limited access to information, inadequate access to improve seedlings and fertilizer, and limited access to credit. Policymakers, researchers, and stakeholders need to address these barriers and develop supportive policies and programs that incentivize and facilitate the adoption of climate-smart practices among sugarcane farmers.

**Keywords:** Sustainability; climate change; sugarcane

**KU8-024: Education and Internationalization in the 21<sup>st</sup> Century in the Advancements in Information Communication Technology (ICT) Context in Nigeria**

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**Abstract**

The 21st century is marked by remarkable advancements in Information Communication Technology (ICT), which necessitates changes in the education sector to create an ideal learning environment for digital education. Computers, the internet, and other technological developments have revolutionized various aspects of human activities. Hence, this study tends to investigate Education and Internationalized in the 21<sup>st</sup> century. The study adopts the descriptive analytical design, data were generated through observation, documents, and review of previous studies. The researcher, therefore, relied on journals, textbooks, seminar papers, magazines, bulletins, newspapers, etc. The study concludes that education is an essential aspect of our lives, and in the 21st century, the adoption and utilization of Information and Communication Technologies (ICTs) in education being internationalized can bring about significant positive changes. In addition, the influence of ICT on education extends to the methods of instruction and the learning process itself. It provides a rich and interactive environment that motivates both learners and teachers, leading to a more dynamic teaching-learning experience. The study, therefore, recommends that students be engaged in acquiring 21st-century skills and knowledge by reshaping the learning processes and preparing them for success in the modern world. Furthermore, students are to be empowered to reach their full potential, providing them with the tools and resources needed to excel in their educational journey. By harnessing the power of ICT, unlocking new possibilities, and creating an enriched learning environment that fosters academic growth and personal development for students in the 21st century.

**Keywords:** Education, Internationalization, 21<sup>st</sup> Century, Advancements, Information Communication Technology

**KU8-025: Development of a Distribution Transformer Substation Anti-vandalism using Dual Surveillance Monitoring Technique**

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**Abstract**

Power system encounter losses such as commercial, non-technical and technical losses. These losses often create serious damages to the power system by reducing the quality of power that is deliverable to the customers. Distribution substations are the most accessible power substation to customers for the supply of electricity. These substations based on their packaging in Nigeria are susceptible to vandalism. This vandalism is becoming a daily occurrence because of high demands for copper and sale of transformer oil in the black market. To minimize the vandalism, this paper presents a development of distribution transformer substation anti-vandalism using dual-surveillance monitoring technique. The method involves a circuitry design that incorporate a PIR sensor to detect human presence in the vicinity of the transformer substation perimeter fencing, a buzzer to sound as an alarm, a GSM module to send out a call/message alerting the operator in charge and a video/camera for surveillance purpose. The system was configured to send video to a dedicated web server in real time when the sensors sense any human presence and also captures image on detection which is sent via email to the operators. A flowchart that illustrates the procedural steps was developed and presented. The device was tested and found perfectly working.

**Keywords:** Distribution transformer substation, Dual-surveillance, GSM Module, PIR sensor, Transformer substation vandalism



**KU8-026: Globalisation, Impact Factor, Researchers' and Institutions' Ranking: To Be or Not to Be?**

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**Abstract**

The emphasis on the global outlook and worldwide rating of researchers and their researches from the developing world partly prompted the research. The perspectives of researchers from the developing countries were sort through the administration of online survey and data obtained analyzed by subjecting it to a descriptive frequency distribution statistical analysis. The phenomenon of globalisation which include the pressure to fit into this Western-imposed model despite the deficit of research support infrastructures may in part be fueling the push for global institution and researchers rating by various institutions. No doubt, all institutions want a high ranking on a global scale but the apparent questions are: what parameters are ranked, and how acceptable, reputable and transparently flawless are the processes involved? In the same context, academics and researchers ranking and/or assessment based on journal impact factor or citation metrics is inherently flawed with several consequences particularly for the developing nations; It is obvious that as academia are drowning in the flood of 'globalisation', research and indigenous innovations are most negatively impacted as both best brain and research output including publications and patents are carried headlong to the "advanced world" which is relatively saturated. Therefore, the 'de-globalisation' of knowledge production, indigenous knowledge sharing and the general paradigm of the developing countries' perception must be a priority for all stakeholders. Obviously, developing countries must steer innovation and creativity and re-evaluate their overall priority, dependence on the western researchers and institution ranking/metric system, develop a sustainable metrification needed for their regional development and profitable exploration of indigenous knowledge, rapid sustainable regional development, competition, visibility and eventual global relevance. The globalisation crave that seems to promote the inter-continental collaborations and publications at the expense of intra-continental publications and national growth.

**Keywords:** Higher education; Partnerships; Intellectualism; Globalisation; Impact Factor

**KU8-031: Laplace-Based Cryptography through Linear Combination of Functions**

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**Abstract**

The security of a nation and various organizations, including military and intelligence agencies, heavily relies on their proficiency in safeguarding sensitive information from unauthorized access. In the contemporary digital landscape, cryptography plays a crucial role in protecting mobile communications, internet services, bank details, and more against the ever-present threats posed by hackers and fraudsters. In this work, we propose a novel algorithm for cryptography that exploits the Laplace transform by applying it to linearly combined functions for encryption. By employing linear combinations of transformed functions, we aim to achieve a high degree of encryption complexity, rendering the decrypted message virtually unattainable without the knowledge of the decryption key. Combination of two functions opens up new avenues for exploration in the realm of cryptography, encouraging further advancements in information security and ensuring the confidentiality and integrity of sensitive data in the face of emerging cyber threats

**Keywords:** Algorithm; Encryption; Cryptography; Decryption; Laplace

**KU8-037: A Web-Based Past Question Paper Repository (Wpqr) System: A Case Study of Computer Science  
Department Federal Polytechnic Bida**

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**Abstract**

Past question paper is one of study materials that gives student ability to confidently face exam, prepare the student psychologically for exam, equips student with skill for managing time and helps student in identifying their weak areas before the examination comes. However, inability to have access to past question papers by the student have direct opposite effect on the student thereby leading to poor performance of such student in the exam. The manual past question paper archiving system adopted in Computer Science Department has not only practically made past question papers inaccessible to student and staff but also unsuitable for online school which is inevitable in case of pandemic like COVID-19. This study therefore proposes a Web-based Past Question Repository (WPQR) system which is capable of making past question accessible to its user remotely. Requirement analysis, architectural design, and database design for WPQR were done. The designs were implemented and the system (WPQR) was tested on a localhost server. The results obtained showed that the system is able to make past question accessible to its user. Hence, the study recommended the usage of WPQR in Computer Science Department and extension of its usage to other schools in the polytechnic.

**Keywords:** Repository; Examination; Past Exam Question paper; Academic Institution; Institutional Repository

**KU8-039: Production of Nutrient Dense Organic Fertilizer Using Sawdust and Food Waste**

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**Abstract**

Sawdust and food waste constitute about 75–85% organic solid wastes found in south-western part of Nigeria and their uncontrolled disposal remained major health concern. This study focused on conversion of food waste and sawdust to nutrient dense compost. Mixtures of sawdust and food waste in different ratio constitute compost piles of R<sub>1</sub>-R<sub>6</sub> in semi aerobic bins. Parameters examined throughout the composting process include microbial morphology, enzymatic activities, temperature, moisture content, pH, electrical conductivity and C/N ratio. Germination index (GI), total viable count, total coliform count and macronutrients (NPK) composition was measured for quality evaluation. Thermophilic and mesophilic microorganisms were present in the compost pile throughout the composting period. There was a steady decrease in temperature throughout the process and moisture content ranged from 45% to 60%. The compost samples had pH ranging from 5.9 to 6.9. Initial C/N ratio of all feedstock decreased throughout the composting process by more than 50% while enzymatic analysis shows the presence of  $\alpha$ -amylase, cellulase and pectinase secretion by the microbes. Further nutritional analysis of the compost showed presence of soluble sugar, acid soluble carbohydrate, nitrogen, potassium and phosphorus. There was decrease in total coliform count and viable count. The best compost sample (experimental run four (R<sub>4</sub>)) had the highest solid degradation with gradual reduction in mass and moisture content (42%) after 6 weeks of the composting process. Analysis of R<sub>4</sub> showed C/N ratio of 12:1 compared to 25:1 in the control, R<sub>4</sub> had an increased percentage of K, P and supported the growth of pepper plant over the three (3) weeks of trials.

**Keywords:** Sawdust; Compost; Thermophilic; Moisture; Temperature

**KU8-042: Green Synthesised Silver Nanoparticles of *Moringa Oleifera* Leaf Extract Show Antimicrobial Activity in Stored Maize and Peanuts**

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**Abstract**

In Africa, post-harvest losses hinder the attainment of food and nutrition security, as required in Sustainable Development Goal (SDG) 2. Around one-third of food produced is lost to microbial and other damage. This study reports the preservation of stored maize and peanuts using silver nanoparticles (AgNPs) biosynthesised from *Moringa oleifera* leaves. First, AgNPs were prepared by reducing 1 mM AgNO<sub>3</sub> with *M. oleifera* leaf broth, then purified and concentrated. The AgNPs were then characterised via UV-visible spectroscopy, Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). Subsequently, biosynthesized AgNPs were tested in-vitro against autochthonous bacteria and fungi by the Kirby-Bauer method. They were also incorporated in-vivo into peanuts and maize and stored for 8 weeks in triplicate standard high-density polyethylene (HDPE) hermetic bags. Analogously prepared grains not treated with AgNPs, served as controls. The AgNPs exhibited peak absorbance at 450 nm (1.8 Au), and SEM analysis revealed their spherical shape, ranging from 50-60 nm. FTIR imaging revealed C≡N and N=C=S functional groups and the C-H bending of aromatic compounds, all found in *M. oleifera* phytochemicals. The AgNPs induced a 48.2 % and 53.5 % reduction in bacterial counts in maize and peanuts, respectively. The most significant decrease was observed in the fungal genera *Aspergillus* and *Penicillium*. This is the first report on maize and peanut protection from microbial colonisation and spoilage with AgNPs derived from *M. oleifera*. The proposed method holds promise as an effective approach for preserving stored produce and contributes to the achievement of SDG 2.

**Keywords:** *Moringa oleifera* leaf extract; stored grains; silver nanoparticles; hermetic bags; food preservation

**KU8-043: Assessing the Implication of Cholera Outbreak in Kwara State: A Case Study of Offa Local Government Area**

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**Abstract**

Cholera is a public health issue and has become a source of great concern in Offa LGA of Kwara State due to its prevalence therein. Hence, this study assessed the risk of cholera outbreak in Offa by identifying its causative factors, examining its most vulnerable areas, evaluating the community awareness level and assessing the nature of health risks related to cholera. 110 questionnaires were administered with a total of 100 (90.9%) returned. A simple random sampling technique was used, thereafter analyzed using Microsoft Excel and descriptive statistics such as charts, histogram and frequency tables. This study identified inadequate access to clean water and sanitation, low level of community awareness, poor hygienic practices, poor public health systems and inadequate waste management in the community as the major causative factors to the cholera epidemic. It also shows that only 32% of respondents were aware of the epidemic whilst a majority (68%) of respondents were unaware. Four hazards (dumpsites, open toilets, stagnant waters, and shallow wells) were found to be dominant in the vulnerable areas. It was recommended that raising awareness through community sensitization, education, as well as providing access to adequate public health services especially to high-risk areas were the panacea.

**Keywords:** Public health; Cholera epidemic; Awareness; Clean water; Sanitation

**KU8-047: Foodborne Disease Incidence and Contamination in a Privately Owned Educational Institution: A Step towards Achieving SDG 3**

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**Abstract**

Addressing the prevalence of foodborne diseases (FBD) within institutions is crucial to achieving Sustainable Development Goal three (SDG 3) of ensuring healthy living and promoting well-being. The impact of these diseases on students' overall health and academic performance is substantial. Therefore, this study underscores the occurrence and potential causes of FBDs in a privately owned educational institution within Ilorin Metropolis. The research design incorporated survey techniques as well as physicochemical, bacteriological and susceptibility analysis methods to analyze food samples obtained from the school cafeteria. The findings revealed that certain students had experienced FBDs since their enrollment, with many cases occurring after consuming food prepared and sold on the school premises. Moreover, all food items examined were found to be contaminated with varying levels of microorganisms, particularly carbohydrate-rich foods, having the highest contamination. The bacterial isolates included *Staphylococcus aureus*, *Escherichia coli*, *Salmonella* spp., *Streptococcus* spp., *Proteus* spp., *Citrobacter* spp., *Enterobacter* spp., *Klebsiella* spp., and *Pseudomonas aeruginosa*. Notably, *Staphylococcus aureus* (25.8%), *Escherichia coli* (15.1%) and *Salmonella* spp. (11.8%) were the most prevalent. Results suggest that contaminated food items were the primary cause of FBDs among students, highlighting the need for educational institutions to prioritize the safety of their on-site food services. Regular monitoring and quality assurance, emphasizing improved hygienic practices and implementing the World Health Organization's five keys to safer food recommendations can significantly reduce the incidence of FBDs within school communities thereby safeguarding the health and well-being of their students, ultimately contributing to the achievement of SDG 3.

**Keywords:** Sustainable Development Goal three, Foodborne disease, Private-owned institution, *Staphylococcus aureus*, *Escherichia coli*

**KU8-049: Cheese Coagulating Properties of Selected Coagulants**

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**Abstract**

This study was aimed at determining the time and temperature of coagulation, as well as the yield and the sensory properties of cheese resulting from the use of the juices of pineapple, lime, orange and alum solution as coagulants. The four coagulants had four levels each (16 treatments), arranged in a factorial design. The result revealed that all four coagulants were potent coagulants for West African soft cheese. Curdling of cheese was earliest and temperature of cheese coagulation lowest with pineapple juice. Cheese yield was highest with alum solution while increasing levels of all the coagulants used generally increased cheese yield. Use of pineapple juice enhanced the taste, aroma, texture and general acceptability of cheese. Pineapple juice is highly recommended as a soft cheese coagulant. There might be the need in future to study the potency of blends of pineapple juice, alum solution and other juices in the coagulation of West African soft cheese.

**Keywords:**

**KU8-050: A Deterministic Framework for Electricity Theft Detection in Advanced Metering Infrastructure**

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**Abstract**

Advanced metering infrastructure (AMI) is increasingly being deployed but faced with cyber-attacks. These attacks, aimed at manipulating the data with the potential of causing significant losses in revenue, privacy breaches, infrastructural damages, etc., have also been on the increase. Electricity thefts being the major threat of AMI have attracted wide research efforts. While various machine learning algorithms have been explored, this work seeks to provide a deterministic framework for electricity theft detection in AMI utilizing common machine learning algorithms. Common algorithms such as K-nearest neighbour (KNN), Decision Tree (DT), Artificial Neural Networks (ANN), and Deep learning algorithms are selected for the developed real-time framework. For each of the selected algorithm, the architecture for implementing electricity theft detection is presented. A generalized means of evaluating the performance parameters is presented to identify, monitor, and control electricity thefts in AMI. This scheme presents a generalized solution for electricity thefts utilizing machine learning algorithms and it offers an integral solution to curbing energy thefts just before significant losses are incurred.

**Keywords:** Electricity Theft Detection; Advanced Metering Infrastructure; Cyber Attacks; Machine Learning Algorithms

**KU8-051: Implementation of a Voice-Controlled System for Switching Household Appliances**

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**Abstract**

Home automation relies on automated switching for the control of various appliances and applications. Although a wide range of possible switching implementation techniques have been presented in literature, research on every aspect of home automation remains evolving. In this work, a switching technique is implemented in an Android mobile application utilizing the MIT application inventor. The developed application receives a voice command, transcribes it with the aid of Google analyzer, and sent it to ESP 32 microcontroller through the Google Firebase which had been integrated into both the microcontroller and the developed Android application. The microcontroller uses a preset command to control household appliances through relay switching. Within a normal conversation range of 60 dB, the application responded positively to the voice commands in about 80% of the trials, but at about 30% in a whispering noisy environment (of about 30 dB). The application gives about 90% positive response for a less than 1 m range and about 40% for a range between 1 - 3 m. No response was recorded for a range beyond 3 m. This voice-controlled switching system will be of great support in an automated home.

**Keywords:** Home Automation; Voice-Controlled; Switching; MIT Application Inventor

**KU8-052: Role of Stakeholders in Sustainable University Agricultural Education in Nigeria**

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**Abstract**

The pivotal influence that Agriculture exerts over both rural and national development places a premium on the need to examine the role of stakeholders in sustainable university agricultural education in Nigeria. Hitherto, agricultural education in Nigerian universities is beset by a myriad of problems such as: mismatch of courses desired by prospective students relative to courses eventually offered them on admission, paucity of funds for quality research and training, obsolete infrastructure, inadequate training and ultimately, high rate of unemployment of agriculture graduates. It is therefore necessary that stakeholders such as staff of the university, students, alumni, farmers, employers and the private sector should come together to chart a new course towards the resolution of these lingering problems. This study therefore seeks to identify the roles of these stakeholders in the university agricultural education; describe the interrelatedness of the roles; identify the pitfalls towards achieving success; and proffer effective solutions to ensure a well-defined curriculum and training that will guarantee gainful employments for graduates in a sustainable way. The study explored systems theory and the methodology involves a theoretical review of journals, books, and articles relating to the study. It was concluded that the role of stakeholders in sustaining the university agricultural education in Nigeria is very crucial to development. The study suggests the establishment of an educational council comprising all stakeholders to regularly pool opinions together to ensure that university agricultural education is attuned to the developmental needs and progress of all stakeholders and the nation at large.

**Keywords:** Role; Stakeholder; University Agricultural Education; Sustainable

**KU8-056: Microbiological Viewpoints on the Food Safety Concerns in Nigeria**

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**Abstract**

Food has become very important to humans from the beginning of time. Foods containing protein for instance enhance human growth and development if it is processed under hygiene conditions. Handling foods improperly can initiate foodborne diseases, poor health and can lead to increase in medical expenses and reduction in productivity. This study therefore aims at examining food safety concerns in Nigeria, food handling, food hygiene and the roles of food regulatory agencies in promoting good health in Nigeria. The paper adopted qualitative method and relevant literature was reviewed. This study found that the food safety concerns in Nigeria include improper handling and packaging of food items, vending food along streets and poverty. This paper pointed that there are food safety laws in Nigeria, however, the problem has been poor implementation of these laws. This paper concluded that poor hygiene practices, food contamination and street vending of food items have adverse effect on the health of consumers. It was therefore recommended that the National Agency for Food and Drugs Administration and Control (NAFDAC) in Nigeria should be given adequate support in order to enhance its statutory roles on surveillance and awareness-creation activities to the grassroots. The importance of Good Manufacturing Practice (GMP) and Hazard Analysis and Critical Control Point (HACCP) systems should be re-emphasized by the regulatory agencies. Food handlers should adhere strictly to good personal hygiene practices.

**Keywords:** Food; Food safety; Hygiene; Food handlers; NAFDAC

**KU8-057: Causes of Lower Abdominal Pain in Women of Reproductive Age in Universities in Kwara State, Nigeria**

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**Abstract**

Lower abdominal pain is a common complaint among women of reproductive age, and it can significantly impact their quality of life and academic performance. This study aims to identify the causes of lower abdominal pain among female students in Nigerian universities, focusing on the universities in Kwara State. A cross-sectional survey will be conducted among a sample of female students aged 18-35 years from the four universities in Kwara State. A structured questionnaire will be employed to collect data from 200 students on the demographic characteristics of the participants and their experiences with lower abdominal pain. Statistical analysis will be performed to identify the prevalence and potential causes of lower abdominal pain. The results from the study are expected to indicate that a significant proportion of female students experience lower abdominal pain, with various etiologies. The leading causes of lower abdominal pain among the participants will be uncovered. These findings will highlight what are needed in terms of targeted interventions and comprehensive healthcare services to address the causes of lower abdominal pain among female students in Nigerian universities. Strategies such as health education, access to reproductive healthcare services, and stress management programs will be proposed for implementation to alleviate the burden of lower abdominal pain and promote the overall well-being of female students. By addressing the root causes of lower abdominal pain, universities in Kwara State can create conducive environment that fosters academic success and female empowerment.

**Keywords:** lower abdominal pain, women, reproductive age, Nigerian universities, Kwara State.

**KU8-058: Physicochemical Status, Heavy Metal Content and Potential Ecological Risk of Irrigated Peri-Urban Gardens in Ilorin, North-Central, Nigeria**

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**Abstract**

Physicochemical properties and some selected heavy metals of soils and irrigation water were carried out in thirteen peri-urban gardens in Ilorin, Kwara State using standard analytical methods. The analyses were carried to determine the physicochemical properties and evaluate the potential ecological risk of those heavy metals in soils and irrigation water of the peri- gardens. The results showed the investigated physicochemical parameters were within the WHO standard limits for agricultural soils and water, and that most soils were contaminated of cadmium in both seasons indicating low to moderate potential ecological risk index ( $R \leq 150$  to  $R \geq 150$ ). All irrigation water samples in both seasons were contaminated of cadmium and lead indicating moderate to high potential ecological risk ( $R \leq 300$  to  $R \geq 150$ ). Analyses of the data generated revealed significant differences at  $p < 0.05$  of the parameters, and significant positive correlation between the physicochemical parameters and heavy metals between sites and seasons. The physicochemical parameters and heavy metal concentrations of the soils and irrigation water showed marked seasonal variations and non-uniform distribution from site to site. The study concluded the irrigation water sources as major routes of contamination, hence, are associated with health risk via the consumption of crops irrigated with water from those sources. Therefore, condemned those irrigation sources of water and suggested frequent monitoring of cadmium and lead based activities in those gardens.

**Keywords:** Physicochemical parameters; Heavy metals; Potential Ecological Risk; Irrigation water; Peri-urban gardens

**KU-060: The Occurrence and Distribution of Viruses Infecting Groundnut (*Arachis hypogaea* L.) Portend Danger to Food Security Status of Farmers in Kwara State – Nigeria**

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**Abstract**

Food security can be defined as the ability of individuals and households to meet staple food needs at all times. Groundnut (*Arachis hypogaea*) is an annual plant legume from the pea family of *Fabaceae* (Vijaya Kumar, 2007) and is grown in all parts of Kwara State Nigeria (Aliyu, 2019). Groundnuts improve soil fertility by fixing nitrogen and thereby increase productivity of the semiarid cereal cropping. It also requires few inputs, making it appropriate for cultivation in low-input agriculture by smallholding farmers (Smartt, 1994). Average yields of the legumes are very low and virus diseases have been identified as important production constraints in many areas (Okello et al., 2014). Virus surveys were carried out to ascertain the symptoms, occurrence and identity of viruses on groundnut in Kwara State. The results indicated that over 70% of the samples were positive to at least one of the 3 viruses tested either singly or in combination with significant symptom manifestations and yield loss. The socio-economic factors that affect groundnut production in the study area include farmers' age, household size, annual income, availability of inputs and extension services. There is the need for stake holders to develop preventive measures on virus disease incidence. It is also important to disseminate information to farmers on simple machines and inputs required for optimum production. This could ultimately be a panacea and assurance for food security and sustainable development.

**Keywords:** Food, Insecurity, socio-economic, sustainable development, inputs

**KU8-062: Availability and Utilization of Digital Health Technology for Improved Patients Care: Nurses' Perspectives at State General Hospital, Ilorin**

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**Abstract**

Digital health technology (DHT) is the application and implementation of the digital transformation strategy in the healthcare system, which entails incorporating both software and hardware services to facilitate different health needs. The utilization of digital health technology has not been fully explored in Nigeria resulting into the lagging behind of the delivery of healthcare for digitalized, improved patient care, and nursing practice. This research study was designed to assess knowledge, availability and utilization of digital health technology by nurses at a North-Central Hospital, Kwara state. A descriptive cross-sectional research design was adopted. A Self-developed administered questionnaire to elicit responses from a convenient sample of 125 nurses was used. Data was collected and analysed using descriptive and inferential statistics (with a 0.05 level of significance). Majority of the nurses had good knowledge (n=92; 73.6%) and positive perception (n=90; 72%) about digital health technology with fair adequate utilization (n=74; 59.2%) of the few available digital health technology devices. Significant association was found between knowledge of nurses about digital health technology and their highest academic qualification with p-value of 0.022, which is less than 0.05 level of significance. Significant association was found between knowledge of nurses and utilization of digital health technology with P value of 0.005. In conclusion, with good knowledge of digital health technology and utilization by nurses, an improved patients' health care service delivery is guaranteed.

**Keywords:** Knowledge; Availability; Utilization; DHT; Improved patient care.



**KU8-065: Ameliorative Property of Petroleum Ether Extract from Leaf of *Laurus Nobilis* on *Escherichia coli* Endotoxin-induced Toxicity in Rabbits**

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**Abstract**

This study investigated the ameliorative effect of petroleum ether extract from leaf of *Laurus nobilis* (Bay leaf) on *Escherichia coli* endotoxin-induced toxicity in rabbits. Thirty (30) male rabbits were randomly selected into six (6) groups of five rabbits each. Group A (control) orally administered with distilled water only, group B (standard) ascorbic acid plus 1000 EU/kg bw endotoxin, group C (Untreated) 1000 EU/kg bw endotoxin only, group D 0.09 mg/kg bw of the extract plus 1000 EU/kg bw of endotoxin, group E 0.27 mg/kg bw of the extract plus 1000 EU/kg bw of endotoxin and group F (positive control) 0.27 mg/kg bw of the extract only. Administration was done for 21 days, the first 7 days was oral co-administration of the plant extract, ascorbic acid and endotoxin to groups B, C, D and E respectively. The next 14 days were exclusive extract administration to groups D, E and F and ascorbic acid to group B. At the end of 21st day, serum superoxide dismutase, catalase, reduced glutathione, ALT, AST, urea, creatinine and TNF- $\alpha$ . Histology of the lung tissues of the animals and hematological parameters were determined. Phytochemical screening and GC-MS analysis of the plant extract were also carried out. The 0.09 mg/kg bw dose of the extract significantly ( $P < 0.05$ ) reduced serum concentration of TNF- $\alpha$  in the experimental animals in group D compared to animals in groups B and A. In conclusion, the administration of the extract caused a significant ( $P < 0.05$ ) amelioration of the observed endotoxin-induced toxicity in the experimental animals.

**Keywords:** Bay Leaf; Endotoxin-induced toxicity; oxidative stress; *Laurus nobilis*

**KU8-067: Laccase Mediated Synthesis of Silver Nanoparticles for Biomedicals Application and as Biocontrol Agent**

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**Abstract**

Green synthesis of various metallic nanoparticles from biological materials has gained a lot of attention in recent years due to their extensive applications. The present work aimed at laccase biosynthesis of silver nanoparticles (AgNPs), characterization and application as biomedical and biocontrol agent. The biosynthesis AgNPs was done using laccase enzyme. The obtained AgNPs were characterized using UV-visible spectroscopic techniques, Fourier Transform Infrared Spectroscopy (FTIR), Scanning Electron Microscopy (SEM) and Energy Dispersive X-ray Spectrometer (EDS). The antimicrobial activity of biosynthesized AgNPs was tested against pathogenic bacteria (*E. coli* and *S. aureus*) and fungi (*Colletotrichum sp.*, *Fusarium sp.*, *Penicillium* and *Aspergillus niger*). The synthesized AgNPs were used to suppress the growth of disease-causing fungi on pepper and pear fruits. The UV spectra were recorded at a range of 400–700 nm and the maximum absorption wavelength was determined at 407 nm indicating the synthesis of AgNPs. The FTIR spectra of the synthesized AgNPs reveal that the synthesized AgNPs contain natural compounds, SEM analysis showed a particle size (20 nm-100 nm) with spherical morphology. The EDS indicate a strong signal in the silver region and confirms the formation of AgNPs. The AgNPs showed effective antibacterial and antifungal activity against the tested organisms and subdued the growth of the microorganisms on the pear and pepper fruits. This study has demonstrated the potential of laccase to synthesize AgNPs for control of pathogenic bacteria and for biocontrol of fruits disease. The present study underscores the relevance of laccase in nanobiotechnology.

**Keywords:** Laccase; Silver; Nanoparticle; Biomedicals; Biocontrol

**KU8-069: Comparative Analysis of Five-Phase Synchronous Reluctance Motor and Permanent Magnet Assisted Synchronous Reluctance Motor**

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**Abstract**

The models of five-phase various permanent magnet-assisted synchronous machine and non-permanent assisted synchronous motor is presented. The machines are modelled for directly on-line starting using ACEBD winding arrangement. The models are modelled with a permanent assist of sixteen rectangular shaped magnets placed in the flux barriers. The various materials of Alnico, Strontium ferrite, samarium-cobalt, NdFe35 and graphite, were compared to the performance characteristics of a non-assisted Synchronous Reluctance motor. ANSYS Finite Element Software was used for the analysis and implementation of the model. The machine performance characteristics of vector potential, inductances, flux linkage and current were considered. The machine speed performances characteristic of the graphite assisted model show similar characteristic as the strontium ferrite model especially on loading and at loss of synchronism. The graphite assisted model records the highest flux linkage, value of  $0.760029\omega b$ , while the least value of  $0.752943\omega b$  is recorded by the NdFe35 magnet assisted model. Even with the recorded difference between the models, these are significance at the second place of decimal, recording a 0.9323% between the lowest recorded values and the highest recorded value. These recorded characteristics of the graphite-assisted model have invited further investigations as an improved model of material-assisted synchronous reluctance machine.

**Keywords:** Synchronous Reluctance Machine; Permanent magnet; Finite Element Analysis; Flux linkage; Graphite assisted

**KU8-070: Characterization and Evaluation of Antimicrobial Activities of *Musa paradisiaca* Peel Extract**

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**Abstract**

There is dearth of information on the antibacterial activities of plantain (*Musa paradisiaca*) peel and its bioactive compounds. This study investigated the antibacterial activities of the extracts (ethanolic and aqueous) of *M. paradisiaca* peel against selected clinical isolates- *Staphylococcus aureus* and extended-spectrum-beta-lactamase-producing *Escherichia coli*. It also characterized the extracts in order to determine and elucidate respectively, its major secondary phytochemicals and the mechanism responsible for its antibacterial activities. Antibacterial activity was done using agar well diffusion technique. Secondary metabolites and phytochemicals were identified using Gas-Chromatography-Mass-Spectrometry (GC-MS); while scanning electron microscopy (SEM) was used to assess the mechanism of action of the extracts. Both extracts exhibited varying degree of dose-response susceptibilities based on the zones of inhibition, MIC and MBC. For *S. aureus*, the MIC was 62.5 mg/mL and 125 mg/mL in ethanolic and aqueous extracts respectively; while MBC was 250 mg/mL in ethanolic extract and 1000 mg/mL in aqueous extract. *E. coli* was only inhibited at MIC 500 mg/mL of the ethanolic extract. GC-MS analysis showed the presence of hydroquinone, 9,12-octadecadienoic acid and other medically-important metabolites. Evaluation of SEM data revealed that the mode of action was cell-wall disruption characterized by stretched and pitted cells. Extracts of *M. paradisiaca* peel is rich in bioactive phytochemicals with broad-spectrum antibacterial activities but which is more efficacious on representative gram +ve skin flora organisms at low concentration. This study has, therefore, shown that the peel of *M. paradisiaca* can be employed as a cheaper antimicrobial alternative useful in topical pharmaceuticals and cosmetics.

**Keywords:** *Musa paradisiaca* peel; Antimicrobial activities; Phytochemicals; Scanning Electron Microscopy; Topical Cosmetics

**KU8-072: Proximate Profile of Mealworms (*Tenebrio Molitor*): A Potential Substitute for Compounding Fish Feeds**

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**Abstract**

Sustainable agricultural practices are salient to reducing hunger globally (SDG goal 3). Mealworms (*Tenebrio molitor*) have gained considerable attention as a potential alternative source of sustainable protein for human and animal consumption. This study, therefore, investigated the proximate profiles of *T. molitor* larvae reared using three different substrates (rice bran (RB), corn bran (CB) and wheat bran (WB)) for 90 days. The matured larvae were harvested after 30 days from the substrates, dried in an oven at 60°C and ground into powder. The proximate profiles of the larvae were evaluated and subjected to statistical analysis. Results showed that the highest protein value was recorded in larvae reared on CB (51.33±0.13) while the lowest in larvae reared on RB (46.74±0.11). Crude fat was highest in larvae reared on WB (2.13±2.40), while other parameters varied with substrate suggesting variance in digestibility assimilation of its nutrient by the larvae. This study suggests that the nutrient composition of *Tenebrio molitor* larvae is influenced by the substrate on which they were reared and optimizing the substrate composition can increase the proportion of a targeted nutritional response (protein, fat, fiber, etc.) in the mealworm's larvae. Also, the proximate profile of mealworms positions them as a potential substitute for compounding fish meals. The sustainable production of mealworms and their efficient conversion of feed into biomass make them an attractive alternative of protein for animal feed, contributing to the development of more environmentally friendly and economically viable fish feed formulations.

**Keywords:** Agricultural practices; *Tenebrio molitor*; Proximate profiles; Alternative source; fish feed

**KU8-074: Pedagogical Strategies and Resources for Teaching Large Online Classes**

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**Abstract**

Online teaching and learning offer flexibility and convenience to both teachers and students and provide unlimited opportunities for lifelong education regardless of status, age, and distance. The most often cited drawback of online learning is students' lack of physical interaction and motivation. Students' experience is generally worse in large online classes compared to smaller online classes or large face-to-face classes. This is because many students in large online courses feel neglected and isolated, some students don't have the opportunity to ask questions during lectures or engaged with teachers throughout the course. This paper discusses some learner-focused pedagogical resources and strategies that can improve the quality of students' online experience and grow their interest and performance in any online course regardless of the number of enrolments. The resources discussed by the authors include cluster-based teaching assistants, due date reminders, breakout rooms, office hours, discussion forums, and question-and-answer sections. The strategies recommended by the authors include switching between synchronous and asynchronous lectures, group assignments, in-lecture short quizzes, attendance for grades, using rubrics to model the best answers, wrap-up notes, do-it-your-own-way, and peer review assessments. The authors concluded that the use of group assignments and breakout rooms increase class interaction and better motivate students to attend classes and that taking attendance for grades and administering short quizzes at unspecified times during lectures keep students on their sit and focused throughout the lecture hours. It is recommended that a combination of the resources and strategies discussed in this paper should be used to improve students' online experience.

**Keywords:** online teaching and learning, large online classes, pedagogical strategies, do-it-your-own-way, learner-focused-resources.

**KU8-078: Levels and Health Risk Assessment of Heavy Metals in Abandoned Marble Quarry Water and Sediment from Oyo State**

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**Abstract**

The present study was conducted to investigate heavy metals, HMs (As, Cd, Cr, Co, Pb and Ni) concentration of the abandoned marble quarry pond surface water and sediment in Igbeti, Oyo State, Nigeria. Furthermore, the study aimed to determine the carcinogenic and non-carcinogenic health risk assessment that heavy metal levels pose to the public. The mean concentrations of all the sampling locations for water samples were lower than the WHO permissible limits except for As concentration at location 5 which is higher than the recommended limit. Apparently, the HMs levels of the sediment samples across all the sampling locations were lower than the FAO/WHO threshold limits. The contents of the HMs in the water samples were in the order: As>Cr>Ni>Pb>Cd>Co while for sediment samples: Pb>As>Cd>Cr>Ni>Co. The HQ values for children and adults via ingestion pathway for As at location 2 and location 6 indicate a disastrous situation (HQ>10) while the HQ values of the sediment samples show extremely low non-carcinogenic effects. On the other hand, the total cancer risk, TCR as a result of As exposure for children and adults for water samples analyzed indicates an unacceptable risk while As TCR of the sediment samples for children and adults poses no risks. Hence, the human health risk studies showed that the adult populace is more vulnerable to HMs exposure leading to carcinogenic effects in comparison to the children in the study area.

**Keywords:** Heavy metals; Pollutants; Assessment; Risks Assessment

**KU8-080: Burden of Intestinal Parasites from Soils Collected from Dumpsites in Ilorin South Local Government Area of Kwara State, Nigeria**

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**Abstract**

The generation and disposal of refuse in Nigeria is a major concern today. Multiple intestinal parasites are known to be found in refuse dumps posing major health challenges to inhabitants of the area. A survey aimed at determining the parasitological profile of refuse dumps and its effect on the inhabitants of Ilorin South Local Government Area of Kwara State, Nigeria was carried out between October 2022 to July 2023. It covers dumpsites in all the political wards in Ilorin South Local Government Area of Kwara State, Nigeria. A total of 450 samples of refuse sludge were collected from the study areas and were examined using standard parasitological processing. Out of the 450 samples of refuse sludge examined, 324 (72%) were positive. The species recovered were *Entamoeba histolytica*, *Ascaris lumbricoides*, *Enterobius vermicularis*, *Trichuris trichiura*, Hookworms, *Giardia lamblia*, *Stroglyoides stercoralis* and *Toxocara canis*. The location of the refuse dumps affects the level of prevalence ( $\chi^2=12.4$  and  $P<0.05$ ). The presence of these parasites in refuse dumps constitutes a potential hazard to individuals since these parasites become dispersed in the environment through flies, poor personal hygiene setting of unwashed fruits and vegetables and inefficient environmental sanitation. Community health education and mass awareness should be encouraged by relevant authorities.

**Keywords:** Refuse; dumpsites; parasites; Ilorin south; Kwara State

**KU8-082: Optimization of Solvent Extraction of Wax from Cocoa Pod Husk Using Response Surface Methodology**

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**Abstract**

This paper focused on the extraction of wax from cocoa pod husk. A qualitative analysis was conducted on the cocoa pod wax produced from different solvent extraction using the Gas Chromatography-Mass Spectrometer (GC-MS) and showed identical chemical composition profiles. Notably, the GC-MS analysis reveals that the extract from cocoa pod husk is wax. The extracts from cocoa pods are also made up of aldehydes, alkanes, alkenes, alcohols, and esters. The results show that the optimal conditions of wax extract were achieved at 4 h time of extraction, 60°C extraction temperature, and 300 ml of both n-hexane and ethanol in which 58.6% yield was obtained. The applied model correlated at  $p < 0.05$ . The predicted value was estimated to be 75.8% which is relatively higher than the actual value of 58.6%. The model could perfectly describe the data with 71% accuracy and an error of 29% was estimated. Therefore, cocoa pod husks are a potential source of sustainable products.

**Keywords:** Cocoa pod husk; Response surface methodology; Extraction; Optimization

**KU8-091: In-vitro antioxidant potential of *Xylopiya aethiopic* fruit: a reflection of its qualitative and quantitative bioactive compounds assessed by GC-MS**

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**Abstract**

Antioxidants are defense systems that mop up free radicals or reactive oxygen species. Gas chromatography (GC-MS) is a broadly applied technique in many branches of science for qualitative or/and quantitative identification, separation, and isolation of the bioactive components of a desired food or plant sample. For many years now, gas chromatography-mass spectrometry (GC-MS) has played a fundamental role in determining how many components and in what proportion they exist. **Aim:** This study aimed at investigating the phytochemical constituents of *Xylopiya aethiopic* fruit ethanolic extract (XAFEE) by GC-MS and determining its *in-vitro* antioxidant potential. **Methodology:** Pulverized (600 g) sample of dried *Xylopiya aethiopic* fruit was cold macerated in 6.0 L of 96 % ethanol (1: 10 w/v) over 48 hr periods on a shaker to ensure maximum mixture and extraction. The extract was filtered with clean Whatman No.1 filter paper. The filtrate was placed in a water bath to allow evaporation of the solvent and the consequent concentration was done using a rotary evaporator. XAFEE-GC-MS analysis and the *in-vitro* analysis against standard (vitamin C) on 2, 2-azinobis-3-ethylbenzothiazoline-6-sulphonic acid radical (ABTS<sup>•</sup>), 2, 2-diphenyl-1-picryl hydroxyl radical (DPPH<sup>•</sup>), nitric oxide (NO), hydroxyl radical (OH<sup>•</sup>), and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) were carried out. **Results:** XAFEE-GC-MS analysis revealed the presence of thirteen phytochemical constituents and showed more remarkable inhibition of ABTS<sup>•</sup>, DPPH<sup>•</sup>, NO, OH<sup>•</sup>, and H<sub>2</sub>O<sub>2</sub> than standard vitamin C. **Conclusion:** The free radicals-scavenging activities and bioactive components of the *Xylopiya aethiopic* fruit suggest it as an ideal anti-oxidant agent.

**Keywords:** Eeru; Ethiopian pepper; Free radicals; Negro pepper; *X. aethiopic*

**KU8-090: Isolation and Identification of Microorganisms in air of five fuel stations in Fate, Ilorin**

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**Abstract**

Air harbours large quantities of bacteria and fungi which makes it imperative to carry out microbiological analysis of outdoor air. In this study the microbiological quality of five filling stations air in Fate, Ilorin was assessed. All procedures were carried out aseptically with all materials used properly sterilized. Air samples were collected from two different spots. One spot was the air around the top of the fuel dispenser. The second spot was the air around the pavement of the dispenser. Samples were obtained in duplicates in each of the five selected fuel stations by the settling plate method. Petri plates containing nutrient agar for bacteria and potato dextrose agar for fungi were exposed to the air for thirty minutes. Sample collection was carried out once a week for five weeks. The bacterial counts in the selected locations ranged from  $9.6 \times 10^0$  cfu/m<sup>3</sup> to  $3.62 \times 10^2$  cfu/m<sup>3</sup>. The fungal count ranged from  $5.0 \times 10^0$  cfu/m<sup>3</sup> to  $1.5 \times 10^1$  cfu /m<sup>3</sup>. Fourteen bacterial isolates were isolated and characterized. Nine fungal isolates were isolated and characterized. Characterizations of the bacterial and fungal isolates were done according to standard protocols. All bacterial isolates came out positive after Gram staining. The organisms isolated in this study could be pathogenic or non-pathogenic. Hence, proper care should be taken to sanitize fuel stations.

**Keywords:** Air microflora; Bacteria; Fungi; outdoor air; fuel station

**KU8-093: *Carica papaya* stem: A Promising Bioresource for Crop Protection**

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**Abstract**

Some phytochemicals from agro-wastes have been established as natural candidates for crop protection. However, despite the medicinal and agricultural applications of *Carica papaya*, little is known about the active components of its stem. The phytochemical investigation of aqueous *Carica papaya* stem extract (ACPSE) revealed the presence of tannins, saponins, flavonoids, alkaloids, phenol, and steroids in varying proportions. The percentage saponins in ACPSE was 50.10% while 2.40%, 45mg/100g QE, and 4mg/100g GAE were obtained for alkaloids, flavonoids and total phenolics respectively. The components in the ACPSE and solvents fractions were identified using Gas Chromatography mass spectroscopic technique (GC-MS). The major active components identified through the GC-MS analysis of ACPSE and its fractions were 2, 6-di-ter-butyl-4-(dimethylaminomethyl) phenol (36.4 %),  $\beta$ -Sitosterol (21.60%), butanoic acid (21.17%) and 5-Eicosene (9.65 %). Moreover, in the agar-well diffusion experiment, ACPSE exhibited significant in vitro mycelia growth inhibition of 47.51–69.96 % against *Fusarium solani* and *Aspergillus fumigatus* at 50 mg/ml concentration. Therefore, the presence of the identified phytochemicals indicates that *Carica papaya* stem is a promising source of antifungal phytochemicals which can find important application in food preservation and crop protection.

**Keywords:** Antifungal; Phytochemical; *Fusarium solani*; *Aspergillus fumigatus*; Saponins

**KU8-101: Fractional Calculus Approach to Modelling Marburg Virus Disease Dynamics: A Novel Perspective**

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**Abstract**

Marburg virus disease (MVD) is a highly contagious and severe viral hemorrhagic fever caused by the Marburg virus. This research explores the potential of fractional calculus in studying the spread of MVD. We propose a novel approach that incorporates fractional calculus into the modelling of MVD dynamics. By introducing fractional derivatives and integrals, the aim was to capture the long-term memory effects and the non-local interactions observed in the spread of MVD. The formulated SEIRS model considers the fractional derivatives of the different compartments, enabling a more accurate representation of the disease's dynamics compared to traditional integer-order models. Optimal homotopy asymptotic method (OHAM) was used to solve MVD model for a closed-form series solution, which is indeed a field where OHAM has not been applied. The equilibrium points and basic reproduction number ( $R_0$ ) of the model were obtained, and the stability analysis was carried out on the model. The result gotten shows that backward movement of the recovered into the susceptible class has no significant impact on the dynamics of the disease. The results also demonstrate the superiority of fractional calculus-based approach in accurately representing the complex dynamics of MVD when compared to integer-order. The insights gained from this research can contribute to developing more accurate predictive models and inform public health interventions for the effective management of MVD outbreaks.

**Keywords:** Marburg virus disease; fractional calculus; approximate analytical solution

**KU8-103: Re-evaluation of structural features and Hydrothermal Alteration zones using High-Resolution Aeromagnetic and Aero radiometric Data over part of Chad Basin Northeast Nigeria**

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**Abstract**

Re-evaluation of possible hydrocarbon deposits in part of Nigeria Northeast has been performed in this work by mapping lithology, structures, and hydrothermal alteration regions from high-resolution aeromagnetic and aero radiometric data. Enhancement techniques such as First Vertical Derivative, Analytic Signal, Power spectrum and Center for Exploration Targeting grid and porphyry were used for data analysis and interpretation; in addition, ratios of radio elements and Radiogenic heat production were obtained to support the mapping process. The results obtained showed that the area is dominated by NE-SW, NW, NE, EW and NS structural directions, though the structures trending NE-SW were found to be most predominant and considered as orientations of mineral deposits in the area. Also, aero radiometric analysis based on the concentrations of equivalent Thorium, equivalent Uranium and Potassium, their ratios and radiogenic heat revealed lithological units, hydrothermal alterations and radiogenic heat anomaly of the basin. However, this study concluded that the value of radiogenic heat obtained is sufficient for hydrocarbon accumulation and maturation.

**Keywords:** aeromagnetic data; aero radiometric data; lineaments; Radiogenic heat; CET

**KU8-105: Identification of concealed mineral prospectively in Isanlu and environs, Northcentral Nigeria using Magnetic techniques**

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**Abstract**

Magnetic data of part of Isanlu and its Environs, Northcentral Nigeria has been studied to identify zones concealing mineral prospectivity using techniques such as Analytic signal, Euler deconvolution, Center for exploration targeting (CET) and porphyry analysis. In this work we were have applied Analytic signal to identify edges and distribution of magnetic sources that are equivalent to concealed mineral deposits, Euler deconvolution was used to identify and estimate depth to various magnetic source geometries using prescribed structural indices of 0.0, 1.0 and 2.0 respectively and lastly, the center for exploration targeting and porphyry analysis was used to obtain magnetic lineaments and porphyritic intrusives that may serve as structures concealing mineral deposits. From this study, we were able to identify several volcanic intrusions which appeared beyond surface exposure and at the same time of Cenozoic era. These intrusions resulted from the high magnetic content which serves as a contributing factor for the presence of positive magnetic anomalies in the area. In conclusion, magnetic data of Isanlu and its environs to identify structures concealing mineral deposits.

**Keywords:** magnetic technique; mathematical method; Intrusions; Isanlu; CET

**KU8-107: A Review of the Application of IOT in Quality Control and Shelf Life Prediction in the Food Industry  
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**Abstract**

This review paper offers a thorough analysis of how Internet of Things (IoT) technologies are used in the food industry for quality assurance and shelf-life forecasting. In order to guarantee food quality and maximize shelf life, the study explores the developments, difficulties and potential advantages associated with integrating IoT sensors and data analytics. In order to better understand the key IoT technologies and sensors used in quality control and shelf-life prediction, as well as their application in monitoring crucial parameters like temperature, humidity, and gas levels in food storage and transportation, a review of the relevant literature was conducted. With a focus on the real-time data collection, analysis, and decision-making capabilities provided by IoT for ensuring food safety and maximising shelf life, the benefits and drawbacks of using IoT in these fields were discussed. The review also covers the challenges and considerations involved in putting IoT-based quality assurance and shelf-life forecasting systems into practise in the food industry. In addition, case studies and stakeholder interviews are analysed to offer perceptions into actual implementations and viewpoints from professionals in the industry. The research adds to the body of knowledge by offering suggestions and directions for the use of IoT in food industry quality control and shelf-life prediction. It also identifies potential areas for improvement and suggests solutions to problems. In order to improve food safety and decrease waste in the food industry, this research aims to facilitate informed decision-making and drive advancements in the use of IoT for quality control and shelf-life prediction.

**Keywords:** Shelf-life; Potential; IOT-based quality; Forecasting; maximize



**KU8-108: Phylogenetic Characterization of Yoruba Ecotype and Exotic Breed of Chickens Using 18s Mitochondrial rRNA Genes**

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**Abstract**

This study used the genomics DNA extracted from two breed of chickens to obtained sequences with suitable 18s mitochondrial rRNA primers. The sequenced obtained were edited and aligned and used along with related sequences gotten from NCBI data base specifically from 18s rRNA published orthologues and phylogenetic tree was constructed to shows the relationships between the obtained sequences for exotic broiler and Yoruba ecotype chickens along with other related sequences from the NCBI domain. The results showed amplification of the component exons of the broiler and exotic chicken bases (5' and 3') and the regulatory motifs from the aligned sequences. The total numbers of nucleotide bases gotten from the sequences were 406, 534, 406, 632 for the exotic chickens, while Yoruba chickens were 152, 174, 126, 108 for ATCG at 41.8 and 52.5 % G-C content for the two sequence respectively. There were polymorphisms in the sequences obtained for the two chickens type when compared with the consensus. The phylogenetic tree showed the evolutionary relationship between the local and exotic breed and they were in the same monophyletic clade with *Melopstittacus undulatus* (Budgerigar Bird), *saccharomyces cerevisiae* (Brewer's yeast) and *Drosophila melanogaster* (Common fruit fly) in their ancestry line, the two chicken ecotypes are related along their dam line as shown with the use of 18s mitochondrial rRNA gene. This results also showed that Yoruba ecotype chickens have greater potential for higher productivity with use of appropriate genetic tools for improvement as done for exotic broiler over generations.

**Keywords:** Evolution, 18srRNA genes, Polymorphism, Chickens, Relationship

**KU8-109: Effects of Decorticated *Moringa Oleifera* Seed Meal on gut total bacteria count in two strains of Finishing Broiler Chickens**

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**Abstract**

One hundred and fifty broiler chickens of two strains {75 Arbor Acre (AA) and 75 Ross (RS)} were fed diet supplemented with Decorticated *Moringa Oleifera* Seed Meal (DMOSM) at the rate of 0, 0.010, and 0.015% for a period of 14 days (28-42 days of age). At 42 days, 6 broiler chickens were randomly selected per treatment, slaughtered and the content of the gut were taken and kept refrigerated for total bacteria count (TBC x 10<sup>6</sup>) using the pour plate method. The results of this study showed significant differences (p<0.05) in the TBC x 10<sup>6</sup> found in the gut content of AA with the control having highest TBC in their crop, jejunum and caecum, followed by those fed 0.010% DMOSM, while AA broiler chickens fed 0.015% had the least value for the Total Bacterial Count in the gut content examined. In RS those fed 0.015% DMOSM supplemented diet had the highest TBC (170.83X10<sup>6</sup>) in their crop compared to the control with a lower TBC content value in their Jejunum and Caecum (96.50x10<sup>6</sup> and 109.00 x10<sup>6</sup>). The TBC found in the Jejunum of RS fed 0.010% DMOSM was highest (147.50x10<sup>6</sup>) followed by the control with a value of 125.66x10<sup>6</sup>. This study showed that DMOSM was effective in reduction of the Total bacteria population found in the gut of AA broiler, therefore 0.015% supplementation of DMOSM is recommended in feeding of Arbor Acre broiler chickens.

**Keywords:** Broiler strains; total Bacteria Count; *Moringa Oleifera* Seed; Supplement

**KU8-119: Curbing the Menace of Drug Abuse among Students in Nigerian Universities**

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**Abstract**

Drug abuse is becoming a public health problem among students in Nigerian universities. Despite the known health risks associated with the use of these drugs, students go to any length to ensure they have access to them. Therefore, a holistic appraisal of the incidence of drug abuse among students in Nigerian universities is of the essence. For this review, relevant information was gathered from the documented scientific database. Drugs commonly abused by students in our universities and their associated health implications were reviewed. Furthermore, the causes and prevalence of drug abuse among university students were discussed. Following a sufficient literature search, it was observed that the incidence of drug abuse in Nigerian universities is little abated to date. Therefore, it is recommended that the Ministry of Education in collaboration with the National Drug Law Enforcement Agency (NDLEA) increase students' awareness and sensitization students to the negative effects of drug abuse. Also, university lecturers should be trained on how to handle students with behavioural problems. Finally, the inclusion of drug education as a compulsory course in Nigerian universities should be considered.

**Keywords:** Drug abuse; health problem; Students; University; Nigeria

**KU8-125: A Survey on Artificial Intelligence-Based Iris Recognition System**

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**Abstract**

Iris recognition system has five processes (acquisition, localization, normalization, feature extraction and feature matching) used in identification of individual. Researchers have worked in-depth on each process and have invented algorithms and adapted Artificial Intelligence techniques to ease the recognition process. However, a survey of each algorithms, techniques and methods in literatures needs to be conducted to determine the most efficient in terms of accuracy and performance. The study aims to present different works on AI- Based Iris recognition system, the techniques adopted, its efficiency, limitations and analysis of its performance based on selected metrics. Thus, the survey reviewed Twenty-Five (25) AI- Based Iris Recognition Articles published between the year 2017 and 2023. The survey concluded that AI techniques have been adapted majorly to the feature extraction and classification process. AI Techniques such as Deep Learning, Zernike and Pseudo-Zernike Polynomials, Independent Component Analysis (ICA), Support Vector Machine (SVM), K-NN and GLCM are mostly used for feature extraction and classification. It is also determined from the survey that Deep Learning algorithms demonstrate remarkable accuracy rates ranging from 76.3% to 99.99% and is recommended to be adopted to future works. The utilization of artificial intelligence techniques, particularly deep learning, has shown significant potential for enhancing the efficiency and effectiveness of iris recognition systems.

**Keywords:** Deep Learning; Encoding; Feature Matching; Iris; Normalization; Segmentation

**KU8-126: Industrialization of Fermented Food Processes in Nigeria: Prospects and Constraints**

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**Abstract**

The deliberate fermentation of foods by man predates written history. Food fermentation guarantees the availability of food for future use, shelf-life extension, ease of digestion, decrease cooking time, nutrient availability and aroma development of the food substrates. In sub-Saharan Africa, many foods are fermented before consumption and these foods form the staple diet of many. Fermented foods play an important socio-economic role, in nutritional and food security of many. Traditional fermented foods are made under primitive conditions with the use of crude handling and processing techniques, resulting in low yield, inconsistency in the final products, and unattractive presentation, thus leading to decrease in their popularity most especially outside Africa. With the contribution of researchers and food scientists towards the development and advancement of food technology, these challenges can be adequately addressed through industrialization via starter culture developments, controlled fermentations, and production of food processing enzymes. Researchers have reported modifications in the processing of some indigenous foods i.e. the manufacture of **soy-ogi**, resulting in improved nutritional qualities and packaging technology. **Ogi** and **iru** are examples of traditional fermented foods, which have been upgraded to semi-industrial scale and can be improved on. Given the considerable range of technologies for improving traditional bioprocessing, the prospects and constraints in the application of biotechnology in upgrading these foods will be discussed. There is a need for a synergy between researchers in higher institutions, their research outputs and food industries to achieve research breakthroughs that will ultimately improve the living standard of the populace.

**Keywords:** Africa; Fermentation; Food Security; Technology; *Ogi*

**KU8-127: Transforming University Education in Nigeria through positive deployment of Artificial Intelligence-AI**

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**Abstract**

The ease of availability of large volume of output from natural language processing tools driven by AI and other AI capabilities have been of great concern to the academic world. The reality is that the world can no longer avoid AI. It is therefore essential to quickly appreciate and positively deploy this rapidly progressive technology in transforming University education in the 21<sup>st</sup> Century. The need for a paradigm shift and to critically review the value placed on written scripts in assessing competency during university education would be stressed. A review of AI tools for education will be demonstrated and related to different scenarios; thereby increasing the yield and demand for AI driven education to improve quality of education. Various tools to demonstrate the usefulness, challenges, and mitigation of the challenges of AI for education will be presented. This will hopefully support the stakeholders in strengthening University education in Nigeria through improving apprenticeship, hard and soft skill-based learning. Paradigm shift occasioned by rapid advances in artificial intelligence technology is established. The race to catch up must be won in a timely manner by all stakeholders in education.

**Keywords:** Artificial intelligence; Higher Education; Tools

**KU8-128: Pipeline Leakage Prediction Using Artificial Intelligence: A Review**

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**Abstract**

Pipeline transportation is commonly utilized for the movement of liquids and gases due to its relatively low failure probability compared to other transportation methods. However, these pipelines' aging and insufficient maintenance can impact their durability, leading to leakages that result in economic losses and environmental pollution. Repairing these leaky pipes incurs significant costs, underscoring the importance of accurate maintenance planning to mitigate their hazardous consequences. A pipeline maintenance plan typically involves the prediction and detection of leakages. This study examines various artificial intelligence techniques employed for predicting pipeline leakages. Among the different methods of AI explored, Artificial Neural Network (ANN), Fuzzy Neural Network (FNN), Adaptive Neuro-Fuzzy Inference System (ANFIS), Recurrent Neural Network (RNN), Support Vector Machine (SVM) and ANN have demonstrated their effectiveness and efficiency as artificial intelligence techniques for leakage prediction in pipes. The study discovered that most researchers use pipe diameter, pressure, flow-rate, and temperatures as input parameters to the various AI techniques reviewed. It was also observed that the accuracy of the reviewed prediction models ranges 70% and 90%. It was observed that Artificial Neural Network (ANN) is the most suitable artificial intelligence technique for accurately predicting pipeline leakages.

**Keywords:** AI Techniques; Artificial Neural Network; Diameters; Flow-rate; Leakage

**KU8-130: Integrating Instructional Technology into Yorùbá Studies in Tertiary Institutions in Nigeria: University of Ilorin, a case study**

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**Abstract**

Language education is a key factor in the educational development of a nation. The preservation and spread of people's cherished cultural values for the sake of the present and unborn generation are sustained through the indigenous language education. This study emphasizes the need for Yorùbá language teachers to integrate appropriate instructional technology facilities into Yorùbá studies as one of the approaches to save it from going into extinction. The main objective of the study is to introduce a researcher-design multimedia that will help the teachers to sustain students' interest in the language. The study adopts a descriptive survey method to collect data on available instructional media in the teaching of Yorùbá in the Department of Linguistics and Nigerian Languages titled 'Yorùbá Language Instructional Media Questionnaire' (YLIMQ). The study used quantitative methodology. From the obtained data, it was observed that 90% of the teachers are aware of the values of the use of the instructional media such as video, realia and picture, but these facilities are not available, hence the need to introduce the researcher-design multimedia. The study concludes that the use of instructional technology in Yorùbá studies will ensure increase in enrollment for Yorùbá studies to prevent the language and culture from going into extinction. It is therefore suggested that to support the available ones, there is the need for teachers to improvise instructional technology that will make teaching seamless.

**Keywords:** Instructional Technology; Yorùbá Studies; Tertiary Institutions

**KU8-131: Radon Assessment of Water from Ifelodun Beryllium Mining, North-Central Nigeria**

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**Abstract**

Mining activities have been reported to contribute immensely to human exposure to ionizing radiation of terrestrial origin. Therefore, the Beryllium minefield in Ifelodun is believed to cause radiological impacts on the proximate communities. 24 samples of ground waters were collected within this area and analysed to assess the degree of the radon concentration and the ensuing effective doses. The <sup>222</sup>Rn activity concentration in the groundwater was analysed using a calibrated RAD7-Active Electronic detector big bottle system. The fact findings from the mean radon concentration and the estimated annual effective doses for adults, children and infants reveal values that were mostly above the recommended limits set by regulatory bodies. The order of radiological risk follows the pattern infant > children > adult. All the estimated values of the cancer risks for the groundwater using the Monte Carlo Simulation are higher than the recommended value of 0.2 (× 10<sup>-3</sup>) provided by ICRP and UNSCEAR. Owing to this radiation risk, strict and effective measures need to be put in place to safeguard the populace in the area and the workers at the mining site.

**Keywords:** Cancer; Radioactivity; Radon; Annual Effective Dose; Beryllium; Monte Carlo

**KU8-132: Utilization of Phenol by *Bacillus cereus* in Halophilic and Non-halophilic Culture**

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**Abstract**

Pollutants from petroleum hydrocarbons are a major source of environmental pollution. This has led to research into techniques to repair the damage caused. Biodegradation is the use of microorganisms to detoxify and remove contaminants. *Bacillus cereus* was isolated from phenol-contaminated soil. Phenol utilization by *Bacillus cereus* using mineral salts medium was set up in vitro. Exactly 37 µl to 40 µl of phenol at various NaCl concentrations (0 M to 4 M) were introduced into the *Bacillus cereus*-spiked reaction medium and incubated at 37 °C. The experimental set up was observed for fourteen days with sampling done at intervals starting from day 0. The utilization of phenol occurred with readings for absorbance obtained as 0.5 nm to 0.02 nm (0 M), 0.5 nm to 0.01 nm (1 M), 0.4 nm to 0.03 nm (2 M), 0.4 nm to 0.02 nm (3 M) and 0.2 nm to 0.03 nm (4 M). This was done with the aid of SP-UV52 Spectrophotometer. The obtained results showed that *Bacillus cereus* has the potential to utilize phenol in halophilic cultures.

**Keywords:** Utilization; Phenol; *Bacillus cereus*; Halophilic; Non-Halophilic

**KU8-136: Synthesis, Spectral Analysis, DFT Studies, Antioxidants, and Molecular Docking Antioxidant Investigations of Ruthenium Polypyridyl Complexes with Mercaptopyrimidine Ligand**

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**Abstract**

The anti-inflammatory potency of ruthenium polypyridyl complexes was examined through the synthesis, spectroscopic, molecular, and in silico biological evaluation of [Ru(bpy)<sub>2</sub>(dmmp)(PF<sub>6</sub>) (A1) and [Ru(phen)<sub>2</sub>(dmmp)](PF<sub>6</sub>) (A2) using a mercaptopyrimidine ligand. The electronic properties of the synthesized complexes were investigated using density functional theory at the ωB97XD/def2SVP level of theory. The lower energy gap (E<sub>gp</sub>) of A2 of magnitude 2.850 eV shows that it is more reactive than A1 with an E<sub>gp</sub> of 3.866 eV while the quantum descriptors show A2 to have a higher chemical softness and lower hardness compared to A1. Furthermore, the anti-inflammatory potency of A1 and A2 was evaluated experimentally and elucidated in silico using molecular docking approach with the 2F38 receptor where the binding affinities of -12.00 and -11.90 Kcal/mol for A1 and A2 respectively, help corroborate the anti-inflammatory potential of A1 and A2 as already shown by the experimentally determined anti-oxidant effect of A1 and A2.

**Keywords:** Ruthenium complex; DFT; Antioxidant; Molecular docking; spectroscopy

**KU8-137: Cellulose-Grafted Hydrogels Prepared in Two Different Solvents from *Gmelina arborea* exhibited Remarkable Swelling Properties**

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**Abstract**

The term "hydrogel" refers to a three-dimensional hydrophilic network of polymers that can swell as water is absorbed. It has a wide range of applications in the agriculture, biotechnology, food, and pharmaceutical industries. In this study, cellulose, one of the components of hydrogel was prepared from *Gmelina arborea* cellulosic waste (GmCW). Two different hydrogels were prepared by dissolving the Gmelina cellulose (GmC) obtained from the GmCW in two separate solvent systems (NaOH/Urea and IL/DMSO) followed by direct crosslinking with polyvinylpyrrolidone (PVP) polymer. The hydrogels obtained were labelled GmC/PVP-NaOH and GmC/PVP-IL. Different parameters tested include; Percentage yield, Swelling capacity, pH and density. The products were also subjected to Fourier Transform Infrared (FTIR) and Scanning Electron Microscopy (SEM) and Energy Dispersive Spectroscopy (EDS) spectroscopic analysis. The hydrogels obtained were transparent with GmC/PVP-NaOH having remarkable swelling ability (2,250 %) than GmC/PVP-IL (925 %). Furthermore, the GmC/PVP-NaOH had higher pH, percentage yield and density. This study revealed cellulose dissolution solvents for the preparation of hydrogel have a remarkable effect on hydrogel's properties and possibly, their potential applications. In conclusion, the hydrogels prepared in NaOH/Urea are useful potential materials for drug delivery system in pharmaceuticals and can serve as soil conditioner and water storage agent for plant roots. Hydrogels prepared in IL/DMSO on the other hand, can serve as good starting materials for the production of photo-catalysts due to their better transparency and poor water uptake ability which makes it easier for UV light passage especially when blended with some transition metals.

**Keywords:** Cellulose; Hydrogels; Ionic liquids; NaOH/Urea; Hydrogel properties

**KU8-141: Predicting Thyroid Cancer using Stacking Generalization: An Ensemble Machine Learning Approach**

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**Abstract**

Thyroid cancer, a prevalent endocrine carcinoma affecting the thyroid gland, necessitates improved diagnostic approaches, as thyroidectomy remains the primary treatment method. However, the current reliance on human assessment for determining thyroid nodule malignancy is susceptible to errors. This research work focuses on predicting thyroid cancer using a stacking generalization approach, an ensemble machine-learning method. The study utilized a specific dataset curate for thyroid cancer prediction, with the main objective of developing an accurate predictive model. The target column chosen for prediction was the Mal column, which represents the malignancy of thyroid nodules. Stacking generalization was selected as the primary technique for model development, leveraging its ability to combine multiple base models to improve overall performance. The research followed a comprehensive methodology that involved data preprocessing, feature selection, model training, and evaluation. Results from the study demonstrated the effectiveness of the stacking generalization approach in predicting thyroid cancer. The proposed model achieved high accuracy (0.7931), and AUROC (0.8541) indicating its effectiveness in detecting malignant nodules This study contributes to the field of machine learning-based healthcare applications, emphasizing the significance of ensemble techniques for enhancing predictive performance in the context of thyroid cancer prediction.

**Keywords:** Thyroid cancer; Stacking generalization; Ensemble machine learning; Healthcare applications

**KU8-146: Review of the Hadejia Basin in Northeastern Nigeria**

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**Abstract**

The Hadejia River Basin (HRB) in northeastern Nigeria plays a vital role in sustaining the livelihoods of approximately 15 million people through its water resources. However, increasing demands on the basin's freshwater resources, exacerbated by natural and human-induced factors have led to a significant imbalance between supply and demand. The study adopts a systematic literature survey approach of academic journals. It encompasses studies on gravity and magnetic surveys, hydrological analyses, climate variability, geological settings, and water resources management strategies in the HRB. The study discovered that the HRB possesses significant surface water resources, influenced by geological differences and rainfall variability. The integration of geophysical exploration techniques, such as gravity and magnetic surveys, has played a crucial role in understanding the subsurface structures and potential groundwater resources. Based on findings, this review recommends the application of riverbank filtration, aquifer recharge and recovery, and rainwater harvesting to harmonize the flood and drought predicaments as well as improving the surface water quality of the river. This review also suggests the use of hydro-climatological models which can contribute to a deeper understanding of the dynamic interactions between climate and water resources. The integration of geophysical exploration techniques with hydrological and geological data offers valuable insights into water resource development and management in the region. The research findings are significant in formulating informed decisions to address the challenges and ensure the availability of adequate and clean water for the communities in the HRB.

**Keywords:** Hadejia River Basin; Geology; Hydrology; Geophysical investigation; Water resources management

**KU8-148: Biosynthesis, Characterization and Antifungal Application of Zinc Oxide Nanoparticles Synthesized from Sweet Potato (*Ipomoea batata*) Peel Extract**

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**Abstract**

The aim of this research is to develop a sustainable and environmentally friendly approach for the green synthesis of ZnO NPs, overcoming the limitations of non-biological methods using sweet potato peel extract as the capping agent. The sweet potato peel extract (SPP) proved to be an effective reducing and stabilizing agent for the synthesis of ZnO NP, also promoting waste valorization. This research is novel because this is the first time SPP-synthesized ZnO NPs is used as an antifungal against sweet potato pathogens. In this study, fungal isolates were isolated from spoiled sweet potatoes using serial dilution techniques. Green synthesis of ZnO NPs was carried out and evaluated for antifungal activity towards sweet potato pathogens. The synthesized ZnO NPs were characterized using UV-vis spectrophotometer. Plate assay method was used to compare the antifungal activity of ZnO NPs against Ag NPs and a conventional antibiotic. A total of four pathogens were isolated; *Aspergillus*, *Mucor*, *Penicillium*, and *Rhizopus* genera. UV-visible spectrum of the ZnO NPs synthesized displayed clear peak at 360.0 nm in tandem with results from previous researches. ZnO NPs exhibited higher inhibitory effects against isolated fungal pathogen (*Aspergillus sp.*) compared to Ag NPs and standard antibiotic when compared at two different concentrations of 0-1 and 0.4 mls. These findings indicate that the biosynthesized nanoparticles could serve as an eco-friendly alternative for controlling fungal infections. This study recommends that further research exploring the utilization of other waste biomass sources for the biosynthesis of nanoparticles contributing to sustainable nanomaterial synthesis.

**Keywords:** Green synthesis; Sweet potato peel extract; zinc oxide nanoparticle; waste management

**KU8-149: Insight into Mechanical Stability of some Cubic Lead Halide Perovskites Using First Principle Approach**

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**Abstract**

Lead halide perovskites are one of the suitable materials used in photovoltaic cells due to their high efficiency and tunable optical and electronic properties. This study assesses the mechanical parameter of cubic Lead Halide Perovskites, including APbX<sub>3</sub> (A = Li, K, and Cs and X = F and I) due to their potential application for photovoltaic materials. Using density functional theory, the structural stability of these perovskites was examined by obtaining their mechanical response parameter; elastic constants (C<sub>11</sub>, C<sub>12</sub>, and C<sub>44</sub>) and various mechanical parameters, including isotropic bulk modulus, shear modulus, young modulus, poison's ratio, and anisotropic ratio. The result obtained agrees with available experimental data and other studies. However, for lead fluoride (LiPbF<sub>3</sub>, KPbF<sub>3</sub>, CsPbF<sub>3</sub>, and RbPbF<sub>3</sub>) and Lead Iodide (LiPbI<sub>3</sub>, KPbI<sub>3</sub>, CsPbI<sub>3</sub>, and RbPbI<sub>3</sub>), the elastic constants (C<sub>11</sub>) obtained are 94.7, 98.91, 102.06, 106.79 and 105.13, 88.70, 85.06, 81.79 GPa, respectively. For the shear stress (C<sub>12</sub>), 14.44, 16.05, 18.43, and 22.44 GPa was obtained for lead fluoride and 16.57, -0.35, -1.59, and -3.03 GPa for lead iodide, except for LiPbI<sub>3</sub>. Our study also suggests structural instability of lead iodide in the cubic phase. Furthermore, our findings reveal that the poison's ratio, which is less than 0.33 for KPbI<sub>3</sub>, CsPbI<sub>3</sub>, and RbPbI<sub>3</sub>, indicates a favorable covalent bond. Overall, these results provide valuable insights for designing and optimizing the performance of cubic Lead Halide Perovskites as photovoltaic materials.

**Keywords:** Lead Halide; Perovskites; Elastic Constant; Poisons ratio



**KU8-153: Catalytic and Thermodynamic Properties of Purified *Cucumis melo* rind Peroxidase**

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**Abstract**

Peroxidases are oxidoreductases enzymes capable of oxidizing a wide range of substrates hence they have multifaceted applications in several industrial and biotechnological processes. *Cucumis melo* rind (an agrowaste) are thrown away after the fleshy mesocarp have been consumed. This rich source of peroxidase has not been converted to wealth for peroxidase production. Therefore, this study investigated the kinetic and catalytic properties of purified peroxidase from *Cucumis melo* rind. *Cucumis melo* rind peroxidase was purified and characterized by ammonium sulphate precipitation, DEAE cellulose ion exchange and sephadex G-75 gel chromatography while ABTS (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid), pyrogallol and guaiacol were used as substrates. The study revealed that *C. melo* rind peroxidase had an optimum pH of 8.0 after 24hrs of incubation, an optimum temperature of 50°C and a recovery time of 30 mins (at 80°C) before a concentration dependent loss of activities. It retained approximately 60% of activity after 60 minutes exposure to 15Mm Urea while its peroxidase activity reduced significantly to 6.5% in a concentration dependent manner in the presence of 100mM Sodium azide. It has thermodynamic profiles with a half-life of 64.18 mins observed at 40°C (for 90mins) which decreased as the temperature increased. The free energy ( $\Delta G$ ) values of 72.42, 77.16 and 81.71Kj/mol and entropy ( $\Delta S$ ) values of -0.23 were obtained for *Cucumis melo* rind peroxidase. It also displayed activation energy ( $E_a$ ) values of 33.3, 33.39 and 33.29Kj/mol at 40°C, 60°C and 80°C respectively. These properties suggest it as an ideal candidate for industrial and biotechnological applications.

**Keywords:** Peroxidase; Agrowaste; *Cucumis melo*; kinetics; activation energy.

**KU8-155: Artificial Intelligence in Agriculture: Building an IoT Soil-Crop Monitoring Device for Farmers**

S. D. Adesola, A. M. Aibinu, and F. S. Bala

**Abstract**

Agricultural productivity is one of the most important factors that contribute to the economic growth of a nation and minimizes hunger. It is important the available land is put to good use to have maximum yield. Looking at Nigeria with 70% of farmers being subsistence, there is a need for these local farmers to increase their productivity even with the lack of basic infrastructures and services that help in crop yield, these farmers do not carry out soil and crop analysis before planting thereby causing low productivity. The solution presented in this research is aimed at harnessing the power of Artificial Intelligence and Embedded Systems to design and construct a device that will be equipped with sensors for soil parameters measurement. The farmer can then put a soil sample into the device which will then analyse the soil sample using the sensors and make crop recommendations for farmers. The device will be trained with the needed nutrients required for different plant growth and the device sensor will be used to measure the nutrients available in the soil sample. A Raspberry Pi Zero board is used as the central control unit of the device, the recommendation model was trained using supervised machine learning and with 96% accuracy. The device can help farmers to analyse their soil without the service of soil scientists.

**Keywords:** Agriculture; Artificial Intelligence; Farmers; Internet of Things

**KU8-156: Synthesis and Characterization of Zirconium MOFs Encapsulating Zirconium Nanoparticles for Adsorptive Removal of Pesticides (2,4-Dichlorophenoxyacetic Acid) from Water**

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**Abstract**

Zirconium metal-organic framework encapsulating Zirconium nanoparticle  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  was successfully synthesized by one-pot synthesis of  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  and  $\text{ZrO}_2$ . The synthesized  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  was characterized using FTIR, XRD, TGA, EDX, SEM, BET, and UV techniques to investigate the functional group, structural crystallinity, thermal stability, Elemental composition morphology, surface area and adsorption capacity of the material, respectively. Adsorptive removal of 2,4-Dichlorophenoxyacetic acid (2,4-D) using  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  was studied to understand its applicability in the removal of 2,4-D from contaminated water. The outcome of this study showed that  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  exhibited fast adsorption capacity (t, 15 min) and importantly the adsorption of 2,4-D over  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  was favourable at low concentrations. The high adsorption capacity of  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$  could be due to its high pore volume, and smaller particle sizes which gave it a high surface area and high crystalline nature as evidenced in the BET analysis. The effects of different experimental parameters, (pH, adsorbent dose, contact time, temperature, and initial 2,4-D concentration) studied by using batch experiments showed the adsorbent as suitable for actual industrial application. Adsorption isotherm experiment showed fitness to the Freundlich model while kinetics study showed the pseudo-second-order model as best fit. These suggests a chemisorption mode of interaction. Thermodynamic parameters showed that the adsorption of 2,4-D on the adsorbent is spontaneous and exothermic. Recovery result shows negligible matrix interference from the water samples. The compound is thus presented as a promising adsorbent for the removal of 2,4-D in water.

**Keywords:**  $[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}\text{-O-Zr-O-}[\text{Zr}(\text{melamine})_3(\text{OH})]^{3+}$ , Adsorbent, 2, 4-D, Adsorption isotherm, Freundlich model, Pseudo-Second-Order model

**KU8-157: Biometric-Based Class Attendance Management System (BCAMS)**

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**Abstract**

Attendance management has been the major means of curbing indiscipline in Educational Institutions in Nigeria. The common means of effecting attendance management has been through the conventional / traditional mean (Paper-based System, Barcode/QR code scanning, Radio Frequency Identification (RFID) Technology) which has proven to be time-consuming, allow impersonation, does not have the best way of authenticating the real student and so on. Despite the evolving technology, most Nigerian Educational Institutions still engage in the use of paper and pen (i.e., the manual system of attendance monitoring) in compiling class attendance. Thus, there is need for the introduction of Biometric System. Biometric System involve identification and authentication of individuals using Physical or Physiological traits and has been empirically proven over the years that no two human beings have the same traits. There are several Biometric traits, however Finger Print has been proven in literatures to be the most efficient in terms of affordability and reusability. This study proposed the development of a robust Biometric-Based Class Attendance Management System (BCAMS) for monitoring staff and students' attendance in various level of Education in the Country. And performance evaluation of the system will be conducted after the development.

**Keywords:** Authentication; Biometric; Identification; Physiological; RFID Technology.

**KU8-158: Enhancing Energy Optimization in Summit University through AI-Driven Solutions**

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**Abstract**

With rising concerns over energy efficiency, sustainability, and environmental impact, integrating Artificial Intelligence (AI) technologies holds significant promise in addressing energy consumption challenges within educational institutions. The paper focuses on the development and deployment of AI-powered solutions tailored to the specific energy needs and usage patterns of a Nigerian tertiary campus taking Summit University, Offa, Kwara State, Nigeria as study. The AI system collects and processes real-time energy consumption data, enabling precise demand forecasting and load management. By analyzing historical energy data and identifying patterns in usage, the AI-driven optimization model identifies opportunities for energy conservation and cost reduction. The intelligent system intelligently adjusts lighting systems, as well as other power-consuming devices, to achieve energy efficiency without compromising user comfort. The study investigates the integration of renewable energy source such as solar system, supplemented by energy storage solutions to ensure a continuous and reliable energy supply. This approach not only reduces dependence on fossil fuels but also enhances the sustainability profile of the educational institutions. The implications of this research extend beyond Nigerian tertiary institutions, offering valuable insights and practical guidelines for similar AI-driven energy optimization initiatives in educational institutions worldwide. As Nigeria strives to achieve its sustainable development goals, the successful integration of AI technologies in energy management underscores the role of advanced solutions in fostering a greener and more energy-efficient future.

**Keywords:** Artificial Intelligence; Energy; Optimization; Sensor

**KU8-159: Antioxidant and Anti-Inflammatory Properties of Neem Seed Methanolic Extract**

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**Abstract**

The anti-inflammatory and antioxidant potentials of neem seed methanolic extract were investigated *in vitro* and *ex vivo*. Neem seed methanolic extract (NSME) was extracted from neem seed with methanol and was subjected to phytochemical screening, *in vitro* and *ex vivo* antioxidant and anti-inflammatory assays. Oxidative hepatic injury was induced by incubating liver homogenates with 0.1mM FeSO<sub>4</sub> for 30 minutes at 37°C. Treatment of the oxidative hepatic injury was done through co-incubation of the oxidative hepatic tissues with different concentrations of NSME. High-performance liquid chromatography (HPLC) technique was used to identify the major bioactive compounds present in NSME. The phytochemicals contained in NSME were alkaloids, flavonoids, phenolics, steroids, tannins, and terpenoids. The total flavonoids and phenolic contents of NSME were 65.25 ± 3.19 (mg/querctin) and 442.33 ± 3.06 (mg/gallic acid equivalent) respectively. NSME dose-dependently scavenged 2,2-diphenyl-1-picrylhydrazyl, 2,2'-Azino-bis (3-ethylbenzothiazoline-6-sulfonic acid), hydroxyl radicals, and reduced ferric ions. NSME also inhibited nitric oxide production, protein denaturation, and proteinase activities while increasing membrane stabilization. The induction of oxidative hepatic injury led to a significant (p<0.05) decrease in the levels and activities of catalase, superoxide dismutase, and glutathione while the concentrations of malondialdehyde, TNF- $\alpha$ , and interleukin-6 significantly increased (p<0.05). These activities and levels were significantly reversed following treatment with the various concentrations of NSME. HPLC results revealed the presence of 12 compounds in NSME with quercetin and beta-caryophyllene being the most abundant. These results suggest that neem seed methanolic extract possesses anti-inflammatory and antioxidant activities against iron-induced oxidative injury by modulating oxidative imbalance and inflammatory markers.

**Keywords:** Anti-inflammation; Antioxidant; Inflammation; oxidative stress; Neem Seed

**KU8-160: Microbiology Laboratory Management and Research Development: A Review**

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**Abstract**

The microbiology laboratory is a crucial setting in the understanding of microorganisms, their diversity, and roles in several fields including biotechnology, green nanotechnology, environmental chemistry etc. Study and research on microbiology is significant to healthy living of both plant and animals. Functional microbiology laboratories are also essential to advance the understanding of how microbes interact with the ecosystem and to achieve sustainable development goals. Hence, there is need for the funding of standard Microbiology laboratory and managements. Furthermore, laboratories' infrastructure must include the locations of emergency showers, fire extinguishers, first aid kits, and chemical spill kits. However, good laboratory administration and adherence to standards is still lacking. Thus, affects accuracy of results, personal safety making good laboratory management crucial. This study aims to underpin the need for funding to achieve good microbiology management and an atmosphere that facilitates collaborations between academics and industry. Literature work from different database will be accessed. Through this review, laboratory automation, standard operating procedure, organization of workshop will be produced and implemented to support laboratory users. Assessment from the students, laboratory user will be done in other to measure the implementation of this research. It is expected that the implementation of this research will increase institutional visibility and internally generated revenue through collaborations and research outputs.

**Keywords:** Laboratory; Microbiology; Microorganisms; Operating procedures; Research

**KU8-164: Developing Effective Resource Access Management System for Academic Institutions**

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**Abstract**

Academic resources encompass a wide range of materials, information, and publications that are created and employed within the academic community to support educational and research endeavors. The surge in the use of the internet has exposed academic resources to unprecedented cyber-attacks and loss of data. Effective resource access management system in academic institutions provides for improved efficiency, reduced human error, centralized control and visibility and enhanced security of academic resources. Conventional methods of managing resource access such as physical access controls and paper-based access request forms lack the capability of managing identity and access as well as managing and securing privileged accounts and access. This study therefore focuses on the development of an effective and efficient resource access management system for academic institutions. The methods to be employed include requirement gathering, data classification and categorization. The system will use a centralized database and provide a user-friendly interactive interface. It will comprise four users: students, lecturers, academic institution administrators, and central administrators and allow for storage of resources and access management. The adoption of this system by academic institutions is recommended to help improve productivity and enhance learning among students.

**Keywords:** Resource access management; Academic institutions; Students

**KU8-162: The Effects of Annealing Temperature and Polyethylene Glycol on the Properties of Zinc Oxide Films**

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**Abstract**

Zinc Oxide (ZnO) porous films were prepared on a glass substrate at room temperature through sol-gel spin-coating techniques with polyethylene glycol (PEG 6000) surfactant as a structure control agent to modify its structural formation, and annealed at 550 °C for one hour. The influence of PEG surfactant, and annealing temperature on ZnO films were analyzed by UV-V is spectroscopy, and scanning electron microscopy (SEM). Optical properties of pristine, PEG-modified, and annealed ZnO nanostructures such as optical transmittance, absorbance, and band gap were discussed. Optical characteristics of ZnO films show an increase in optical transmittance and a decrease in absorbance of annealed ZnO film relative to unannealed ZnO film while the optical behavior of PEG-modified ZnO is contrary to the annealing treatment effect on ZnO film probably due to induced structural and morphological change. Annealing temperature influences the optical band gap performance of the ZnO film, it leads to a wide optical band gap of ZnO film. Besides, absorption spectra of PEG-treated ZnO films reveal a drastic reduction in optical transparency in the visible range with corresponding redshift in the absorption band edge in relation to pristine ZnO film. PEG polymer addition narrows the optical band gap of ZnO films. The SEM studies reveal a coagulated, porous structure of PEG-modified ZnO films and the formation of the hexagonal wurtzite crystal structure of the annealed ZnO film.

**Keywords:** PEG 6000; Surfactant; Zinc Oxide (ZnO); annealing temperature; Thin Films

**KU8-161: Phytochemical and Toxicological Evaluation of Aqueous Extract of Nutmeg (*Myristica Fragrans*)**

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**Abstract**

Aqueous extract of Nutmeg (*Myristica fragrans*) was evaluated for its phytochemical, nutritional and antinutritional constituents, as well as toxicological attributes. Phytochemical screening was conducted on the extracts. Thereafter, male Wistar rats (180-240 g) were distributed across six groups (n=5): group one (control) received distilled water (vehicle), whereas groups two – six received graded doses (100, 200, 300, 400 and 500 mg/kg body weight) of the extract, respectively. After 28 days, rats sacrificed, liver and serum were processed for analyses. Findings revealed that alkaloids, phlobatannins, anthraquinones, cardiac glycosides and flavonoids were present, in the aqueous extract. The phytate and tannin contents were 0.38 mg/100 g and 0.15 mg/100 g, respectively while the calculated phytic acid to zinc ratio was 0.124. Proximate analysis of the extract revealed moisture, ash, fat, protein, protein and carbohydrate contents to be 10.61%, 45.42%, 5.95%, 1.81%, 13.78%, and 22.43%, respectively. Appreciable quantities of minerals were detected. The extract reduced significantly (p<0.05) the activity of AST, ALP, total protein and albumin levels in the liver and increased significantly the serum ALT, AST, ALP activity and bilirubin levels compared to control group. Also, hematological evaluation showed that PCV, Hb, RBC, MCV and platelet count were not significantly different (p>0.05) in treated groups when compared with the control. The findings of this study suggest that nutmeg popularly consumed as food and for various medicinal purposes may have therapeutic potentials due to its bioactive components. However, prolonged use at doses above 400 mg/kg body weight could present with hepatotoxicity.

**Keywords:** Nutmeg; Phytochemical; Tannins; Phytate; Metabolites; Antinutrients

**KU8-167: A Framework for Sustainable Integration of Information and Communication Technologies in Nigerian Universities**

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**Abstract**

The quest for the acquisition of the required 21<sup>st</sup> century skills and knowledge capable of transforming learners through a life-long learning approach has been revealed by several researchers worldwide particularly in Higher Education Institutions (HEIs). Therefore, 21<sup>st</sup> Century higher education aims to improve society through quality education. However, the expected productivity in the teaching, learning, and evaluation transformational processes in HEIs can only be achieved through a full-fledged implementation of breakthrough-technologies in 21<sup>st</sup>-Century. Information and Communication Technology (ICT), Artificial Intelligence and Augmented-Virtual Reality as major components of 21<sup>st</sup> century education transformation, come with both opportunities and challenges particularly in developing and underdeveloped countries like ours with uneven infrastructural developments. Thus, the leadership of HEIs in promoting ICT-integrated pedagogy, staff training and upgrading of infrastructure requires a sustainability model to allow seamless sustainable 21<sup>st</sup> century higher education practices and processes. Failure to address this challenge accounted for lack of values in most of ICT projects in our tertiary institutions. Therefore, this article discusses possible sustainability measures for integrating ICT in Nigerian university system with due consideration to our digital and infrastructural gaps as a developing nation drawing evidences from the literature coupled with opinions of stakeholders in ICTs integration in HEIs.

**Keywords:** Sustainable, Framework, ICT Integration, Nigerian Universities

**KU8-169: Use of Differential Transform Method (Dtm) in Analysing Effects of Magnetohydrodynamic (Mhd) Navier Slip Problem on Entropy Generation**

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**Abstract**

This paper examines the use of Variation of Parameters (VOP) for the solution of the Navier Slip problem. The Navier Slip equations are a system of non-linear partial differential equations that describe the motion of incompressible viscous fluid where exact solutions may not be easily accessible. Many numerical and approximation methods have been proposed for solving such problems, among which is VOP, which has been in use since the mid-19th century and has been extensively studied in the literature. The VOP approach is based on the concept of treating the unknown functions in the solution of partial differential equations, as parameters to be determined in the solution process. The VOP was used to get the exact solution of the Navier slip problem and Differential Transform method (DTM), a semi-analytical numerical approach was used in getting numerical values for the exact solution of the model equations for the momentum and energy, alongside the entropy generation. The results gotten were compared with existing data with an excellent agreement. This paper provides suggestions for future research and applications in this field. In particular, it discusses the potential of minimising energy loss due to entropy and also, the potential of using VOP to solve more complex problems, such as the ones involving non-linear terms.

**Keywords:** Navier Slip; Entropy; Variation of Parameters (VOP); Differential Transformation Method (DTM)

**KU8-170: Efficient Artificial Intelligence Optimization of Solar Based Water Systems in Selected Hostels of Summit University**

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**Abstract**

Access to clean and reliable water sources is of utmost importance for hostel communities, and harnessing solar energy for water supply offers a promising solution while minimizing environmental impact. The research employs advanced artificial intelligence (AI) algorithms, including machine learning and optimization techniques, to analyze key factors influencing the performance of solar-powered water supply systems. By analyzing historical data and incorporating real-time inputs, the AI model identifies patterns, assesses environmental conditions, and adjusts system parameters to achieve optimal water production and distribution. The AI-powered optimization process focuses on maximizing energy utilization, minimizing wastage, and accurately predicting water demand patterns to enhance system efficiency. Additionally, sustainability considerations aim to minimize the ecological footprint of the system, promote the adoption of renewable energy sources, and ensure long-term viability. Key findings demonstrate significant improvements in water supply system performance, increased utilization of solar energy, and reduced operational costs. The adaptive capabilities of the AI model enable real-time response to changing environmental conditions, ensuring consistent water availability even in challenging circumstances. This research contributes to the emerging field of AI-driven sustainable solutions and provides valuable insights for policymakers, water resource managers, and technology developers seeking to implement effective solar-powered water supply systems in school hostels. The study underscores the immense potential of AI technologies in addressing pressing global challenges, particularly in the context of resource management and sustainable development and showcases how AI significantly enhance efficiency, reduce costs, and promote sustainable practices in school hostel communities.

**Keywords:** Artificial Intelligence; Optimization; Solar; Summit University Hostels; Water system

**KU8-172: Encrypted System for Mitigating Student Assault in Nigerian Universities**

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**Abstract**

Student sexual assault is a pervasive and alarming issue that poses severe physical, emotional, and psychological risks to students worldwide. To combat this growing problem, this study focuses on the development of an automated system aimed at mitigating student sexual assault. The system comprises a secure website that enables individuals to report incidents and provides the necessary tools to initiate prompt action in support of victims. The objectives are in three-folds. Firstly, the system is designed to create a user-friendly reporting interface, ensuring ease of use and accessibility for individuals to submit information securely. Secondly, the implementation phase involves constructing a robust database system, which utilizes firebase to securely store and manage reported cases since data privacy and security are of paramount importance in handling sensitive information related to sexual abuse. The system incorporates robust encryption techniques to safeguard the confidentiality of reported incidents and personal details of the individuals involved. Access to this information is strictly controlled and limited to authorized personnel responsible for investigation and support, preserving confidentiality and data integrity. Lastly, the system's performance is evaluated through comprehensive testing, including the evaluation of response time, effectiveness of incident tracking, and feedback collection from users. Ultimately, the successful implementation and evaluation of this automated system will help protect the well-being and rights of students, making a significant impact on university's efforts to eradicate this heinous act and encourage a culture of accountability within the university community.

**Keywords:** Encryption; Firebase; Data privacy; Data integrity; Mitigation

**KU8-173: ICT Network Services and Broadband Utilization and Challenges in Transforming Nigerian University Education**

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**Abstract**

The role of ICT resources in the advancement of university education technology is apparent. However, the accessibility and challenges to network services in these institutions remain a significant issue. This paper aims at examining the current state of network accessibility and the challenges faced by Nigerian institutions. An online questionnaire was used to collect institutional data including number of students and staff, the internet bandwidth subscription, availability of a data centre, local site/cloud hosting of institutional websites, functional capabilities of institutional portals, learning management systems LMS and servers for their deployment. The sources and adequacy of electric power supply and human resources. The challenges encountered are documented and recommendations offered. Twenty-five (25) institutions from the six geopolitical zones were included in the study. Internet bandwidth subscription was STM-1(155Mbps) or lower in 10 institutions with an average undergraduate enrolment of 8,750 students. It was between STM-2 and STM-4 in 4 institutions with an average enrolment of 17,406 undergraduates and 2 Gbps by 3 institutions whose average undergraduate registered was 35,800. In 13 (%) of the institutions, in addition to the university ICT staff, third-party ICT organization were involved in routine management of their website, portals and LMS. Available power backup was solar for 5(%) institutions, inverter in 10 and generator in 8 institutions. This is grossly inadequate. Identified area of improvement required by 12 of the institution include the provision of Uninterruptible power supply. Upgrade of Network Operating Centre (NOC) to Data Centre and ICT staff development.

**Keywords:** Network Operating System; Enrolment; Questionnaire; Accessibility; Grossly

**KU8-176: Fuzzy System for Resolving Persistent Water Supply Issues in Students Hostel: A Concept**

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**Abstract**

Water distribution systems are significant in providing efficient, safe and reliable water to the community. Despite the implementation of solar-powered systems, the female hostel has long been plagued by persistent water supply issues caused by factors such as low pump pressure, excessive demand rates, power supply interruptions, poor weather conditions and inadequate storage capacity, creating significant challenges for its residents in the university. However, the need for an effective alternative solution is not only crucial for the well-being of the hostel residents but also aligns with SDG 6: Clean Water and Sanitation. This study proposed a need to design a comprehensive fuzzy system that leverages fuzzy logic and fuzzy rules to intelligently manage water distribution, incorporating linguistic variables, subjective judgments, and imprecise data. This approach provides an advantageous relevance in handling imprecision and ambiguity which are common to water distribution systems. Thus, the study proposes the utilization of input variables for the development and optimization of fuzzy system intended towards providing an effective management of water distribution system employing algorithm such as Genetic algorithm. The proposed system will significantly improve sufficient water supply, reduce water wastage and enhance the reliability of the water distribution system for the well-being of the female residents.

**Keywords:** Fuzzy logic system; Fuzzy rules; Water distribution; Optimization technique



**KU8-177: Research Grant Management for Driving Scientific Innovation and Research Development in Nigeria Universities: A Case for Study**

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**Abstract**

Driving scientific innovation and research development in Nigerian institutions requires efficient research grant management system. However, the prevailing lack of dedicated project manager has been identified as a significant factor contributing to the failure of grants in most institutions in Nigeria. The absence of dedicated project managers results in unclear project objectives, inefficient resource allocation, and limited monitoring and evaluation exercise. This research intends employing a qualitative approach, utilizing comparative analysis of case studies of successful grant management practices in Nigerian universities. The findings will reveal factors responsible for poor grants management and the key success factors. Some of the factors to be considered include: the need for dedicated project management system, setting clear project objectives, efficient resource allocation, the need for specialized expertise in managing grant funds, effect of monitoring, visitation, and evaluation processes. Furthermore, comparative analysis that would demonstrate the positive impact of dedicated project management roles with clear project objectives, efficient resource allocation, and effective monitoring and evaluation practices would be considered. Case studies of successful grant management practices from Nigerian universities further underscore the transformative effects of effective project management on research and innovation outcomes. This study will present the reports on the comparative analysis and suggest necessary means of curbing the causes of poor project managements in Nigeria.

**Keywords:** Comparative Analysis; Grant Management; Research; Evaluation.

**KU8-179: Multifactor IOT Authentication Systems for Smartphones Systems, and Smart Homes Based on IRT, FRT, AND ARM7TDMI-S**

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**Abstract**

The objective of this research is to assess a multi-factor authentication system for smartphones and smart home systems using Iris Recognition Technology (IRT) Fingerprint Recognition Technology (FRT), and ARM7TDMI-S. The survey includes Biometric Authentication and Fingerprint Recognition. As the use of smart homes becomes more prevalent, it is important to address the security concerns associated with their operation. Manual authentication methods such as passwords and ID cards are becoming less reliable due to their susceptibility to misuse, loss, and duplication. In contrast, biometric authentication systems, especially IRT and FRT, have proven to be highly reliable and accurate. As the cost of technology decreases, the adoption of these biometric technologies in smart homes has become a more stable and secure solution to address security challenges. In this study, a smart home authentication system based on IRT, FRT, and ARM7TDMI-S is proposed, which uses two biometric factors for high reliability. Users are required to register their fingerprints and iris with the system, which are then compared with the images stored in the database during the authentication process. If the images do not match, the system will not authorize access. This method results in a 50% improvement in speed compared to manual authentication systems based on open key cryptography. The proposed system scans a user's biometric data and compares it with data stored in a database to verify their identity and determine whether they have access.

**Keywords:** ARM7TDMI-S, Authentication, Fingerprint Recognition Technology, Iris Recognition Technology, Smart Homes

**KU8-180: Fourth Industrial Revolution and University Education in the 21st Century: Implications, Opportunities, Challenges, and the Role of Stakeholders**

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**Abstract**

The Fourth Industrial Revolution (4IR) is marked by the convergence of various technological advancements, such as artificial intelligence (AI), the Internet of Things (IoT), and automation. The impact of the revolution is being felt across various sectors, including education, with universities at the forefront. The 4IR is transforming the way we live, work, and learn. However, in the context of university education, there are problems with adapting to the changing needs of the job market. These include rethinking curricula and teaching methods and providing students with the necessary skills to thrive in an age of automation and digitalization. This paper seeks to explore the implications, opportunities, challenges, and role of stakeholders in the context of the 4IR and university education in the 21st century. The methodology for the study involves a thorough analysis of the implications, opportunities, and challenges through a review of the existing literature on the topic and an examination of case studies of universities that have adapted to the 4IR. It will also involve understanding the perspectives of stakeholders, including governments, industry partners, and academic experts. The findings and recommendations can be used to develop a framework for transforming university education to align with the 4IR. In conclusion, the 4IR presents both opportunities and challenges for university education. While the stakeholders need to create an enabling environment that encourages innovation, universities need to adapt to changes to ensure that students are prepared for the future.

**Keywords:** Fourth Industrial Revolution; University Education; 21st Century; Stakeholders; Emerging Technology

**KU8-183: Insecticidal Potential of *Hyptis suaveolens* and *Tithonia diversifolia* Against *Tribolium castaneum*: A Study on their Efficacy as Natural Pest Control Agents**

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**Abstract**

*Tribolium castaneum*, commonly known as the red flower beetles, is a significant pest of stored grains and agricultural commodities worldwide, causing substantial economic losses. The use of synthetic insecticides for its control poses several challenges, including environmental concerns and development of insecticidal resistance. Therefore, there is growing need to explore natural alternatives for effective pest management. This study investigates the insecticidal efficacy of two ethanolic (leaves) extracts of *Hyptis suaveolens*, *Tithonia diversifolia*. A gray against *Tribolium castaneum*. The Storage experiment was a factorial experiment laid out in a randomized complete block design with three replications at the Crop Protection laboratory, Faculty of Agriculture, University of Ilorin, Ilorin in the year 2020. The treatments include botanical pesticides (*Hyptis suaveolens* and *Tithonia diversifolia*), aluminium phosphide and an untreated control. The effect of the extracts on the survival of *Tribolium castaneum* was assessed by recording mortality rate, larva, pupa, adult emergence and wheat weight loss, all numerical data were subjected to analysis of variance (ANOVA) and means was separated Tukey's Honest Significant Difference. The findings highlight the potential of *H. suaveolens* and *T. diversifolia* as a natural source of insecticidal compounds against *T. castaneum*. Although there were no significant differences between the different botanical used but wheat treated with botanical is significantly effective than their control counterpart especially with respect to weight loss, reducing the pest damage and pest population which is environmentally friendly.

**Keywords:** *Hyptis suaveolens*, Insect pest, Postharvest loss, *Tithonia diversifolia*, *Tribolium castaneum*.

**KU8-187: Antimicrobial Activity of Extracellularly Synthesized Silver Nanoparticle from Soil Actinomycetes**

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**Abstract**

The quest for improved biosynthetic agent for disease treatment regimens that are non-toxic, environmentally benign, effective and can eliminate the side effect of chemically synthesized therapeutic agents on human health is salient to achieving the sustainable development goals 3; Nanoparticles techniques have presented to be potential routes for effective drug delivery. This study therefore explored the potential of silver nanoparticles (AgNPs) synthesized using a combination of *Streptomyces griseus* metabolite and silver nitrate solution to alter the DNA of selected multi-drug resistant pathogens. The synthesised AgNPs was characterized at room temperature in a dark condition for two days by UV-vis at 2.237 Abs and 3.567 and its antibacterial activity was evaluated using agar well diffusion assay method. A concentration of 0.01M and 0.02M of the AgNPs was tested against *Enterobacter cloacae* and *Staphylococcus aureus*. The cytogenetic impact of the AgNPs was confirmed by DNA analysis of the targeted organisms using Polymerase Chain Reaction (PCR). UV-vis results showed an effective metabolite-nanoparticle conjugation at 597 and 392nm and FTIR revealed the presence of -N-H, -OH, -C=O functional groups. Antibacterial assay profiling of AgNPs revealed that *Enterobacter cloacae* was most susceptible (26.3mm±3.5) followed by *Escherichia coli* (23.7mm±4.1) and *Staphylococcus aureus* with (18.7mm±3.8). Furthermore, DNA analysis revealed an alteration in cell wall proteins of the test organisms, a probably consequence of an alteration in the DNA nucleotide which give room to better harnessing and incorporation into orthodox medicine which is eco-friendly and non-toxic in the treatment of microbial infections.

**Keywords:** Nanoparticles; *Streptomyces griseus*; *Enterobacter cloacae*; Transmission Electron Microscopy (TEM); DNA nucleotide.

**KU8-189: Transforming Nigeria University Education Through Improved System of Employment and Promotion of Academic Staff**

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**Abstract**

Any university integrated program should enhance the educational experience of students (as the product) and satisfaction of industry (as the end user). Among the core stake holders to enhance such experience in the university education system are the academic staff. Most means of employment in Nigeria are done through the human resources experts or special employment unit/outfit. Employment of academic staff for university in Nigeria is done relying solely on the academic performance of the candidates, less emphasis is placed on expected quality of teaching and teaching impact on students and the society. Whereas, discharge of academic responsibilities need not be based on brilliant academic performance only, but by passion for impacting and by extension on ability to discharge academic duties effectively must be ensured appropriately. In the same vein, requirements of promotion of academic staff are tailored towards personal development of the academic staff, with less emphasis on quality of academic rendering. Additionally, most academic staff find themselves in the academic employment perhaps due to unemployment situation of the nation. The resultant effect of this is finding the square peg in the round hole and consequent selfish and personal development pursuits in the academia. These will have effects on the discharge of academic responsibilities of academic staff, and satisfaction by the students and their end users. This study therefore appraises the current mode of employment and promotion of academic staff in KU8 Universities with the aim of improving it towards transforming university education system in Nigeria.

**Keywords:** employment; promotion; academic staff, university education.

**KU8-191: Chemical Characterization and Comparative Analysis of Alkyd resins from *Gossypium hirsutum* seed oil using Maleic and Phthalic anhydrides**

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**Abstract**

A significant source of raw materials for industry is oilseeds. Because of the overuse of edible fixed oil of plant origin in cosmetics, paints, and other manufacturing industries, the price of edible oils has increased, creating a considerable imbalance in the domestic-industrial share. To lessen dependency on imports, local production of industrial intermediates such as alkyd resins is necessary. Alcoholysis methods were used to prepare alkyd resin from underutilized seed oil of *Gossypium hirsutum* using maleic and phthalic anhydride. The prepared alkyd resins were characterized, physiochemical and chemical stability were compared to industrial grade commercial alkyd resin. Alkyd resin made from the seed oil and maleic anhydride (COTMA) has the highest yield of 70.44%, compared to the one made from phthalic anhydride (COTPA) 58.88%. The two alkyd shows better total solids between 82.68 – 85.75% compared to 51.56% for commercial alkyd resin indicating possibilities of getting paint form the prepared alkyd. Alkyd formed also shows comparable drying time (60 – 75 mins) relative to the commercial counterpart (70 mins). Fourier-transform infrared spectroscopy (FT-IR), Ultraviolet Visible Spectroscopy (UV-Visible) <sup>1</sup>H Nuclear Magnetic Resonance (<sup>1</sup>H NMR) and <sup>13</sup>C Nuclear Magnetic Resonance (<sup>13</sup>C NMR) were used to characterized the modified products confirmed successful reaction. The study shows *G. hirsutum* seed oil can replace dietary vegetable oils currently being used in the vegetable oil dependent industry.

**Keywords:** Alcoholysis, Alkyd resin, Maleic anhydride, Phthalic anhydride, *Gossypium hirsutum*

**KU8-194: The Impacts of Information and Communication Technology at the University of Ilorin**

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**Abstract**

Information and Communication Technology (ICT) has played a vital role in revolutionising teaching, learning and research at universities across the globe, particularly in recent years, after the pandemic. Universities' use of the Internet and other ICT technologies has allowed them to adapt and develop in response to various challenges and opportunities. Taking the University of Ilorin (UNILORIN) as a case study, this paper examines how ICT has impacted teaching, learning and research at the University. The study uses data analysis from annual reports published by the university for 2015/2016 and 2019/2021 academic sessions to explore how UNILORIN has integrated digital tools, like online classes, via Google Classroom, Learning Management Systems (LMS) and ICT-enabled resources and technologies. Furthermore, the paper examines how ICT platforms and tools have improved research methods, eased access to research resources and improved collaboration among researchers. According to the annual reports, the available infrastructure, the upgrades and new services rendered by the Computer Services and Information Technology (COMSIT) directorate from 2015/2016 to 2019/2021 sessions under review, were summarised. This study offers insightful information about the great impacts of ICTs deployment at the UNILORIN. It emphasises the importance of integrating ICT tools and platforms into administrative and academic activities. It also highlights the pressing challenges, such as infrastructure limitations, insufficient funding, and poor power supply. Detailed recommendations on how to resolve the challenges to optimise ICT's benefits in UNILORIN were equally given.

**Keywords:** ICT; UNILORIN; Teaching; Learning; Research

**KU8-195: Sequestration of Cd<sup>2+</sup> onto Ash Rice Husk Supported Zerovalent Iron Nanocomposite (ARH-nZVI)**

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**Abstract**

The application of nanotechnology in combatting the present menace and challenges posed by cadmium ions toxic heavy metals in the environment is our primary pivotal in this study. To this end, ash rice husk-supported zerovalent iron (ARH-nZVI) nanocomposite has been specifically structured towards sequestration of Cd<sup>2+</sup> from their aqueous solutions. ARH-nZVI nanocomposite was characterized by point of zero charge (PZC), BET surface area 75.87 m<sup>2</sup>/g, pore width 107.32 Å, BJH pore diameter 114.02 Å, X-ray Florescence (XRF), scanning electron microscopy – energy dispersive X-ray (SEM/EDX), and FTIR analyses. Batch adsorption of Cd<sup>2+</sup> was investigated vis-à-vis experimental optimization of operational parameters. The kinetic models fitted well to Pseudo second-order, Elovich, and Fractional power. Intraparticle and external diffusion models well portrayed the mechanism as confirmed by Bangham and Boyd models. Equilibrium data were fitted to Langmuir, Freundlich, Jovanovic, Temkin, and Dubinin-Raduskevich models. Both kinetic and isotherm models were validated by the sum of square error (SSE), Chi-square test ( $\chi^2$ ), and normalized standard deviation ( $\Delta q$ ) statistical models. Maximum adsorption capacities of ARH-nZVI superseded most nanocomposites reported for adsorption of Cd<sup>2+</sup>. The thermodynamic parameters,  $\Delta G^\circ$ ,  $\Delta S^\circ$  and  $\Delta H^\circ$  revealed the feasibility, spontaneity, and endothermic nature of the adsorption process. The study showed that ARH-nZVI is a promising nanocomposite that could be utilized on an industrial scale for water remediation.

**Keywords:** Nanotechnology; Adsorption; Heavy metals; Kinetics; Isotherm; Thermodynamics

**KU8-196: A Hybrid Linear Programming Model and Genetic Algorithm Approach for Resources Allocation in Disaster Response**

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**Abstract**

Efficient allocation of resources such as emergency personnel and equipment plays a major role in disaster scenarios by minimizing the response time. Limited resources concerns using resources as productively as possible. This research focuses on the novel development of a hybrid linear programming model and genetic algorithm approach for resource allocation in accident disaster response. The objective is to optimize the total response time for the allocation of resources to affected areas and populations and to enhance the efficiency and effectiveness of disaster response operations. This model combines the strengths of integer linear programming, which provides a systematic framework for the minimization of the total response time, and Genetic Algorithms, which handle the case of complex and dynamic problem spaces. The GA leverages the model formulated in the ILP trade-off to handle the complex-based spaces that are utilized to search for near-optimal solutions within the problem space. The model considers various factors such as the distance between resources in several of the affected areas, the capacity of the affected area, and resource capacities  $s$ . The objective function minimizes the response time by optimizing the distance between the **resources** and the number of affected areas, while the constraints are, resource allocation, and capacity area. The result shows an improved and efficient outcome in response operations to minimize response time in reaching the affected area and maximizing coverage area with available resources. The outcomes of this research contribute to the advancement of resource allocation strategies in disaster response, enabling decision-makers to make informed and optimized choices during critical situations by improving overall response outcomes.

**Keywords:** Integer Linear Programming; Genetic Algorithm; Resources Allocation; Disaster response; Optimization techniques

**KU8-197: A Sustainable Approach of *Acalypha wilkesia* Silver Nanoparticles Development Via the Green Synthetic Route**

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**Abstract**

The advancement of nanotechnology as well as green synthesis has brought about an increase in research on the synthesis of silver nanoparticles using varieties of plants. Green synthetic approach eliminates the use and generation of hazardous substances by employing eco-friendly and environmentally benign plant materials. This study investigated the development of *Acalypha wilkesia* Silver Nanoparticles (AW-AgNPs) via a green synthetic route as a sustainable approach using a combination of silver nitrate (AgNO<sub>3</sub>) and *Acalypha wilkesia* leaf extract. The effect of concentration, contact time, volume ratio, pH and temperature confirmed the dependence of the green synthetic approach on experimental operational parameters. Contact time of 90 minutes, concentration of 0.001 M and 0.01 M AgNO<sub>3</sub>, pH 9, and volume ratio 1:9 were observed as the optimal reaction conditions for the synthesized nanoparticles to attain completion. The development of AW-AgNPs at various operational parameters was monitored using Ultraviolet-Visible Spectroscopy measured from 200 – 800 nm. Stable surface plasmon resonance (SPR) confirming the growth of AW-AgNPs was observed at 460 nm. Fourier Transform Infrared (FTIR) Spectroscopy confirmed the presence of functional groups responsible for bioreduction of Ag<sup>+</sup>. Scanning Electron Microscopy (SEM) revealed the surface morphology of AgNPs. The use of *Acalypha wilkesia* extract is a sustainable environmental friendly approach which provides easy, simple, cost effective and rapid green synthesis of nanoparticles. Successful development of silver nanoparticle using *Acalypha wilkesia* is found to be a sustainable approach.

**Keywords:** Sustainability; Nanoparticles; Green synthesis; Operational parameters

**KU8-198: Role of Universities in Achieving Sustainable Development Goals: An Analysis**

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**Abstract**

Sustainable development goals (SDGs) are designed to bridge the gap in the provision of equal basic social and physical amenities globally. Universities, as influential agents of change, have the potential to leverage their research and innovation capacities to address pressing global concerns as itemized in the SDGs. This study aims to explore the significant role that higher education institutions must play in achieving the SDGs. By examining the transformative power of universities, this research seeks to shed more light on their ability to drive sustainable development on a global scale. To achieve this aim, a comprehensive literature review is undertaken, SDGs awareness among students and lecturers is assessed using a structured questionnaire, and the availability of resources on SDGs in University School Libraries is determined. Furthermore, the study seeks to assess the likely modalities of disseminating information on SDGs to communities by the University through interviews. The findings are synthesized to provide a comprehensive understanding of the role of universities in sustainable development. The results of this study highlight the crucial role universities play in achieving the SDGs. It is anticipated that universities' research capabilities contribute to an in-depth understanding of societal and ecological challenges, leading to evidence-based solutions. Furthermore, universities' focus on innovation is likely to result in the development of transformative technologies and sustainable practices. The study recommends intensified efforts by universities in creating more awareness of SDGs, especially among communities to enhance collective efforts in achieving the goals, especially in developing countries like Nigeria.

**Keywords:** Education, Innovation, University, Research, Sustainable development goals.

**KU8-199: Numerical Solution of Second-Order Fredholm Integro-Differential Equations using Chebyshev Polynomial Method**

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**Abstract**

This paper explores the reliability of the Chebyshev Polynomial Method (CPM) as a numerical approach used for solving a specific class of equations known as the second-order Fredholm Integro-Differential Equations (FIDEs). A series expansion of the Chebyshev polynomial is derived, used in solving these integral equations, and later on examined in terms of accuracy and convergence of solutions. This method transforms FIDEs and the conditions into the matrix equations which correspond to a system of linear algebraic equations with unknown Chebyshev coefficients. The selected FIDEs encompass diverse practical scenarios hailing from various scientific disciplines. These equations undergo a rigorous numerical analysis to evaluate both the convergence and accuracy of the obtained numerical solutions. The evaluation process involves a hybrid approach, combining manual methods and mathematical programs like MAPLE and MATLAB. In addition, to ensure the analysis is thorough, three numerical examples were solved in which two truncation points are considered per each example. Furthermore, the performance of the CPM is reported in terms of accuracy, convergence, suitability, reliability and effectiveness in the context of the exact solution. Moreover, the numerical results obtained show that the CPM yields high-accuracy solutions, with good convergence and requires little computational effort, thereby confirming its reliability as a good approach for the numerical solution of second-order FIDEs. Finally, it is concluded that the CPM is very effective and simple.

**Keywords:** Accuracy; Convergence; Hybrid approach; Reliability; Series expansion

**KU8-200: Instrumentation of Photovoltaic Panel with Cloud-based Data Logging**

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**Abstract**

A Photovoltaic (PV) panel is an electrical device that converts solar energy to electrical energy. The current research focused on the application of artificial intelligence (AI) to generate maximum electrical energy from the sun with the PV panel using a solar tracker, hence this prompts the instrumentation of PV panel with cloud-based data logging to collect adequate data online for research purpose. The developed system was designed to monitor the voltage signal, current signal, and temperature using a voltage sensor, current sensor, and waterproof temperature sensor respectively. Considering the 150W 12V PV panel, the voltage sensor was designed to measure the voltage level ranging from 0V to 18V while the ACS712 current sensor rated at 20A was used to measure the current signal. The waterproof temperature sensor was used to measure the temperature of the PV panel ranging from -55°C to 125°C. The ESP32 IoT-based 12-bit ADC microcontroller was used to retrieve sensed signal from the sensors, process the sensed signals and log the processed data on the developed online platform. The voltage sensor was modelled, simulated on MATLAB, and calibrated using LONGWEI Adjustable D.C power supply. The performance metrics of the calibrated voltage sensor for SSE,  $R^2$ , Adjusted  $R^2$ , and RMSE were 0.38, 0.996, 0.996 and 0.1042 respectively. The logged data on the cloud server can be easily visualized and downloaded for further research purposes. The research will enable the collection of adequate data to train AI models using AI algorithms such as KNN, SVM and ANN.

**Keywords:** Photovoltaic (PV) panel; ESP32 Microcontroller; Sensor; Cloud Server

**KU8-202: Access Control Using Facial Recognition: A Review**

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**Abstract**

Facial recognition system is a technology that identifies and verifies individuals based on their unique facial features and has gained significant attention in recent years due to its potential for enhancing access control systems. It is a biometric technology that analyzes and compares facial patterns from images or video frames with a database of known faces to determine the person's identity.

This paper provides an in-depth review of the methodologies and techniques used in developing facial recognition systems for access control within the last ten years. By analyzing a collection of research papers, we highlight the advancements, challenges, and performance evaluations of different approaches. The integration of artificial intelligence (AI) techniques and algorithms plays a crucial role in achieving accurate and reliable facial recognition. Some of the reviewed approaches include: Principal Component Analysis (PCA), Haar-Cascade Algorithm (HCA), Viola Jones (VI), Convolutional Neural Network, and Radial Basis Function Neural Network (RBFNN). Available literature shows that PCA and CNN techniques have been widely adopted with almost 100% accuracy in cases reported. It was also observed that accuracy obtained has correlation with the background lighting condition with high accuracy in most cases with very good lighting condition and lower accuracy when the illumination is very low.

**Keywords:** Access Control, Artificial Intelligence (AI), Convolutional Neural Network, Facial Recognition, Principal Component Analysis

**KU8-203: On Efficient Technique for Conservation of Orange Species to Achieve Sustainable Development in Nigeria**

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**Abstract**

In this study, the efficiencies of six techniques for preserving orange species were examined. The six conservation methods considered are the *Treated Wooden Box* (TWB), *Untreated Wooden Box* (UWB), *Treated Paper Carton* (TPC), *Untreated Paper Carton* (UPC), *Treated Native Basket* (TNB) and *Untreated Native Basket* (UNB). A number of sweet orange fruits were preserved for five consecutive weeks using the aforementioned techniques. Some quality characteristics on the orange specie were observed and recorded at the end of each week. The effectiveness of each preservation method relative to others was determined by the amount of the observed quality characteristics in the oranges that was preserved at the end of the study period. Various results obtained from analysis of variance on the data revealed that the six preservation methods performed differently at preserving the observed quality characteristics on the sweet orange specie over time ( $p < 0.0001$ ). Among the six preservation methods considered, results from this study showed that the *treated paper carton* was the best method for preserving sweet orange specie in Nigeria. Further results showed that the quality of the oranges, based on the six measured quality characteristics, depreciated as the length of preservation period increases irrespective of the method of preservation used. Data for this study were collected as extracts from the record of the Nigerian Stored Products Research Institute (NSPRI), Ilorin, Nigeria.

**Keywords:** Sweet orange specie, Titrate-able acidity, Percentage of sound oranges, glucose, fructose and Vitamin C contents



**KU8-205: Effect of Seawater on the Mechanical property of Rice Husk Ash-Modified Concrete**

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**Abstract**

Aggressive environments are known to influence concrete durability, this has been a widely debated issue for concrete in seawater environment from the time the disintegration of concrete in seawater first became evident. Rice husk ash (RHA) is readily available in Nigeria and has been associated with many essential assets such as increased compressive and flexural strength, reduced permeability, and increased resistance to chemical attack among others. However, there are substantial numbers of studies focused on application of RHA as partial replacement for cement, this study aimed to give an analysis of the performance of RHA as an additive in concrete exposed to seawater. In this study, concrete was modified with different percentages of RHA (0%, 5%, 10%, 15%, 20%) and the compressive strength, flexural strength and water absorption property of the concrete were evaluated through experimental analysis. The samples were cured for 56 days in both fresh and sea water, the results showed that 10% RHA gave the highest compressive strength (41.21% to 56.6% increases) while 15% RHA produced significant improvement in the flexural strength (27.44% to 29.78% increase) of concrete for all the curing ages. The samples with 5% RHA showed the lowest ratio of water absorption from 5.32% to 4.21% indicating a drastic enhancement of the permeability properties of concrete comparable to ordinary concrete. Subsequently, SEM analysis of RHA concrete showed a dense micrograph with even-layered C-S-H and C-A-S-H gel formation leading higher resistance of concrete structures to seawater attack, durability and subsequently, their service life.

**Keywords:** Rice Husk Ash; Compressive strength; Flexural strength; Concrete durability; Sea water

**KU8-212: Exploring the Role of Horticulture in Agriculture, Food Security, and Sustainable Development**

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**Abstract**

This work delves into the pivotal role and substantial contributions of horticulture to agriculture, food security, and sustainable development. Horticulture, encompassing the cultivation of fruits, vegetables, flowers, and ornamental plants, has emerged as a critical sector with significant potential to address key challenges facing the nation. Through an in-depth analysis of the current agricultural landscape, this study highlights how horticulture plays a vital role in diversifying food production, enhancing nutritional outcomes, and fostering economic growth. Ultimately, it is found that understanding and harnessing the transformative power of horticulture can pave the way for a resilient agricultural sector, improved food security, and sustainable development in Nigeria.

**Keywords:** Horticulture, Agriculture, Food Security, Sustainable Development

**KU8-214: Optimisation of Lactic Acid Production from Biologically-Pretreated *Prosopis Africana* Pods by *Rhizopus oryzae* Using Response Surface Methodology**

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**Abstract**

This study investigates the potential of producing lactic acid from biologically -pretreated *Prosopis africana* pods (BPAP). Firstly, seventeen fungal isolates were isolated from different sources and subjected to a lactic acid production screening test. The most promising isolate was then molecularly characterised. Next, *Prosopis africana* pods previously pretreated with *Ganoderma lucidum* were subjected to Dilute Acid Hydrolysis (DAH) using a Full Factorial Design (FFD) for process and factor optimisation. The factors optimised were acid type (HCl and H<sub>2</sub>SO<sub>4</sub>) and concentration (1 %, 3 % and 5 %), solid loading ratio (5 %, 10 % and 20 %) and hydrolysis reaction time (15, 30 and 60 minutes). Next, the generated hydrolysate was fermented into lactic acid, and factors affecting lactic acid production were screened using a half-factorial design. The significant factors were then optimised using the Box-Behnken Design (BBD) of Response Surface Methodology (RSM). The isolated lactate producer was identified as *Rhizopus oryzae* AK-22. The optimum conditions for BPAP hydrolysis were 3 % HCl, 20 % solid loading and a hydrolysis time of 15 minutes, which resulted in the highest reducing sugars concentration of 42.5 g/L. The optimum conditions of inoculum of  $1 \times 10^7$  spores/mL, incubation time of 96 h, and an agitation rate of 115 rpm resulted in a maximum lactic acid concentration of 19.7 g/L, which was 39.1 % higher than the concentration obtained from non-optimised conditions. This report is the first on the biotechnological production of lactic acid from the pods of *Prosopis africana*, an abundant yet under-utilised tree crop.

**Keywords:** *Prosopis Africana*; Response Surface Methodology (RSM); *Rhizopus oryzae*; Optimization

**KU8-216: Insider Threat Detection Using Ensemble Model Classification**

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**Abstract**

Insider threat refers to any malicious activities that can cause havoc to an organization's IT assets by its employee, contractor or vendor who has authorized access to the organization's IT assets. Studies have shown the average cost of insider threats to be \$11.45 million per year. Over 34% of businesses worldwide experience insider threats yearly. Insider threats have increased by 47% over the last two years. Literature have demonstrated the use of inhomogeneous domains such as system log files, File processes, Logon, HTTP, Email, etc. to design techniques that can identify insider threat with a zero or reduced number of false positives. Hence, this study aims at developing an effective and efficient system for insider threat detection using KNN, Naïve Bayes and Stack ensemble models. A more robust approach to monitor strange deviations from the normal flow of data packets on organization's network thus classifying deviations as malicious or benign. KDDCUP'99 dataset was collected in this study and normalized using Recursive Feature Elimination (RFE). KNN, NB and Stack ensemble models were used to classify deviations in users' behaviour on the network. Evaluation metrics include classification accuracy, sensitivity, specificity, F1-score and error rate. Python programming language was used to implement the system model. Our result shows a prediction accuracy among other performance metrics of 98.58%, 91.88% and 98.63% for the model KNN, NB and Stack Ensemble respectively. Confusion Matrix highlighted a lower false positive rate of 40 instances in the Ensemble model. Further study includes developing an enhanced model to not just identify insider threats but also mitigate them. Our research reinforces the significance of network-based anomaly detection systems as a vital component of a comprehensive cybersecurity strategy, demonstrating that this approach can provide early warnings of potential threats, enabling IT teams to respond swiftly and effectively.

**Keywords:** Matrix; Ensemble; Python programming; Logon; F1-score

**KU8-222: Neem-derived Azadiradionol as Candidate Mitogen-activated Protein Kinase Kinase 1 Inhibitor in Novel Development of Small Molecule Melanoma Therapeutics**

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**Abstract**

The progressive rise in deadly melanoma and the low marginal safety profile of current synthetic small molecule chemotherapeutic agents is increasing the scientific drive for the development of novel agents from natural sources such as the diverse anticancer chemotypes-containing *Azadirachta indica*, while MEK1 kinase overexpression is known to characterize the phenotypically diverse and treatment-resistant melanoma. This study thus aims to examine whether there is a potential small molecule MEK1 inhibitor in *Azadirachta indica* alcohol derivatives and delineate the exact potential mechanism (s) of the anticancer constituent (s) in *Azadirachta indica* on melanoma conditions. Neem constituents retrieved from the NCBI PubChem database and MNSD were docked into retrieved MEK-1 crystal structure through multiple Maestro Glide modular steps for optimal pose-free energy calculations and mechanistic interactions in this study. Azadiradionol with binding energy (MMGBSA  $\Delta G$  bind: -103.2215973) compared to the control (MMGBSA  $\Delta G$  bind: -49.0491496) exhibited the highest binding free energy in this study, as well as binds to the conserved residue isoleucine 171 of MEK1 active site, while TK1 (control) binds to the conserved arginine 189 residue, thereby suggesting the compounds exert different binding mechanisms in altering the MEK-1 kinase active site conformation and its consequential activity modulation. The findings of this study thereby reveal azadiradionol as mainly responsible for various initially observed anticancer activities of *Azadirachta indica* which was also supported by its drug-likeness and lead-likeness metrics, with positive implications towards putative potency of azadiradionol against MEK-1 for further novel melanoma chemotherapeutics development.

**Keywords:** Melanoma, Mitogen-activated protein kinase kinase 1 (MEK1), Neem (*Azadirachta indica*), Maestro Glide Extra Precision module, Azadiradionol

**KU8-223: The First Tetrafluorinated Azobenzene-Imidazolium Ionic Conjugates as Potential Thermotropic Liquid Crystalline Drugs: Self-Assembly Properties and Cytotoxic Effects**

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**Abstract**

A new series of tetrafluorinated azobenzene-imidazolium ionic liquid crystals (ILCs) of varying alkyl chain length ( $n = 10-18$  in even parity) in the imidazolium cationic head group was prepared and characterized using FTIR and NMR spectroscopy, as well as elemental microanalysis. Their thermal and phase properties were investigated using differential scanning calorimetry (DSC) and polarized optical microscope (POM). Their phase properties and morphology were influenced by fluorination and alkyl chain length. Long alkyl chains were necessary to induce liquid crystalline behaviour in these salts. All samples in the series were mesogenic, exhibiting stable smectic A phase with broad temperature range. Cytotoxic effects of these ILCs against human cervical cancer (HeLa) cells and normal fibroblasts was evaluated using the MTT assay. The cytotoxicity of these ILCs was dependent on the alkyl chain length in the imidazolium cationic head. All the salts were less toxic towards normal fibroblasts and exhibited 7-27-fold enhancement in cytotoxicity against HeLa cells (24hr  $IC_{50}$  ranged between 0.61  $\mu M$  -2.84  $\mu M$ ) as compared to the standard therapeutic drug, Etoposide ( $IC_{50} = 25.67 \mu M$ ). Long homologues ( $n = 16, 18$ ) were selective towards cancer cells with selectivity index  $\geq 3$ . These thermotropic ILCs could be doped with room-temperature mesomorphous polymers for the formulation of safe and selective anticancer drugs.

**Keywords:** Tetrafluorinated; azobenzene; imidazolium; Ionic liquid crystals; Cytotoxicity

**KU8-224: Blood Brain Barrier-penetrable *Ginkgo biloba*-derived Genkwanin Exhibited Putative Viable Anti-angiogenic Alternative in Supportive Secondary *Glioblastoma multiforme* Chemotherapy**

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**Abstract**

Secondary *Glioblastoma multiforme* (SGBM) remains a difficult-to-treat brain cancer with a very poor prognosis and there are growing efforts to scientifically explore diverse chemical scaffolds -containing medicinal plants as cost-effective supportive alternatives. Two-dimensional structure coordinates of curcumin (from *Curcuma longa*), epigallocatechin-3-gallate (*Camellia sinensis*), resveratrol (*Polygonum cuspidatum*) baicalein and baicalin (*Scutellaria baicalensis*), as well as 117 compounds extracted from conventional therapy -enhancing *Ginkgo biloba* were extracted from PubChem database, subjected to druglikeness and ligand efficiency indices, toxicity potential and blood-brain-barrier (BBB) penetrability properties screen module and OSIRIS DataWarrior, and the resultant 11 compounds were flexibly docked, with Glide standard precision, into the prepared crystal structure of onco-angiogenesis-mediating platelet-derived growth factor receptor-alpha (PDGFR-alpha), while binding free energy of compound poses were calculated post-docking, using Prime MM-GBSA module. *Ginkgo biloba*-generated genkwanin exhibited the highest putative binding affinity values for PDGFR-alpha with respect to imatinib (PDGFR-alpha co-crystal) and binds in common to active site residues V607 (through Pi-sigma bond), A625 (Pi-alkyl), F837 (Pi-Pi T-shaped), L825 (Pi-alkyl), while Genkwanin binds closer and stronger (carbon-hydrogen bond; 4.01 Å) than imatinib (alkyl bond; 4.10Å), to leucine 599 of the protein active site, thereby revealing genkwanin as a putative natural product anti-angiogenic agent in the advancement of supportive SGBM therapy and improvement of its prognosis. More preclinical and clinical evaluation of the pharmaco-dynamo-kinetic properties of BBB-penetrable genkwanin is, however, needed for further confirmation of its potency and safety profile in animal and human models of PDGFR-alpha for SGBM chemotherapy.

**Keywords:** Secondary *Glioblastoma multiforme*, Platelet-derived growth factor receptor-alpha, *Ginkgo biloba*, Glide Standard Precision module, Genkwanin

**KU8-225: Human and Environmental Impact of Mining: Insight from Heavy Metal Contamination of Selected Mining Fields in North-Central Nigeria**

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**Abstract**

This study evaluates the carcinogenic and non-carcinogenic health risks associated with heavy metals in soil samples collected from beryllium-mining field in Ifelodun and gold-mining field in Moro, Kwara State, North-central Nigeria. The samples were collected manually and analysed using Atomic Absorption Spectrophotometry. Seventy-two (72) samples were analysed which presented different levels of heavy metal concentration. The analysed metal elements are Arsenic (As), Cadmium (Cd), Chromium (Cr), Nickel (Ni), Iron (Fe), Manganese (Mn), Magnesium (Mg), Zinc (Zn), Copper (Cu) and Lead (Pb). The estimated mean values of Ni, Cu, Pb, Mn, Mg, As, Zn, Cd, Cr and Fe are 6.37, 24.61, 448.75, 15.86, 174.56, 23.17, 202.63, 46.37, 62.45 and 127.58 ppm for the gold-mining field in Moro, and 10.03, 5.67, 10.83, 14.00, 127.77, 25.01, 147.50, 30.01, 46.13 and 65.67 ppm for the beryllium-mining field in Ifelodun respectively. All the non-carcinogenic Hazard Indices (HI) estimated for the soil samples are less than one (< 1) which is the standard set by USEPA. The estimated carcinogenic risks for both locations are higher than the acceptable range of 10<sup>-4</sup> and 10<sup>-6</sup>. Considering the non-degradable nature of the HMs and their ability to bioaccumulate, a strict and effective measures need to be put in place to minimize these mining activities.

**Keywords:** Dataset; Heavy metal; Soil; Beryllium; Gold; Mining

**KU8-226: Creating Reliable Artificial Intelligence Model for Cloud-Assisted Electronic Health Records Using Blockchain Technology – A Survey**

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**Abstract**

Numerous benefits, such as increased accessibility and efficient storage of electronic health records (EHRs), have been the results of the digitalization of health care records and the adoption of cloud computing. Concern over data privacy, security, and the integrity of healthcare information have however emerged as critical challenges. In this context, the integration of blockchain technology with cloud-assisted EHR systems presents a promising solution. Electronic health records (EHRs) are typically shared among healthcare stakeholders and face problems such as power failure, data misuse, lack of privacy, security, and audit trail. On the other hand, blockchain offers a distributed and decentralized setting to communicate among nodes in a list of networks without a central server. Blockchain can address the limitations of EHRs management for exchanging EHRs data. This study reviews research works that have been carried out using blockchain technology and artificial intelligence to address the inherent drawbacks in cloud-assisted electronic health records (EHRs).

**Keywords:** Blockchain, Artificial Intelligence, Electronic Health Records, Model, Cloud

**KU8-227: Sustainable Facilities Management Practices: Fostering Cost-Effective and Environmentally Responsible Operations at Summit University Offa Kwara State Campus**

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**Abstract**

With the escalating concerns of environmental impact and operational expenses, educational institutions face a crucial challenge to balance financial constraints with sustainable practices. This research investigates the successful implementation of sustainable facilities management at Summit University Campus, aiming to achieve cost-effectiveness alongside environmental responsibility. The study's main objective is to assess the impact of Summit University's sustainable facilities management practices, examining various initiatives, analyzing financial implications, identifying challenges, and exploring benefits for the campus community. Employing a mixed-method approach, data is gathered from campus records, financial reports, surveys, and interviews. Preliminary findings reveal that Summit University's sustainability efforts have led to significant cost savings by integrating renewable energy, implementing waste reduction strategies, and conserving water. The study emphasizes the positive impact on the overall campus environment and stakeholders' collective sense of responsibility. The research recommends educational institutions prioritize sustainable facilities management for cost-effectiveness and environmental preservation. Future work could explore innovative technologies to enhance sustainable initiatives while continuously evaluating their effectiveness. In conclusion, Summit University's approach offers valuable insights for institutions seeking to balance cost optimization with environmental stewardship, promoting greener and economically efficient campuses.

**Keywords:** Cost Effectiveness, Educational Institution, Environmental Responsibility, Sustainable Facility Management.

**KU8-228: Soil-to-plant transfer of  $^{40}\text{K}$ ,  $^{238}\text{U}$  and  $^{232}\text{Th}$  and radiological risk assessment of selected mining sites in Nigeria using Monte Carlo simulation**

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**Abstract**

One of the major routes through which humans are exposed to ionizing radiation is via food chain, which is consequent of soil-to-plant transfer of radionuclides. This work reported the activity concentrations of  $^{40}\text{K}$ ,  $^{238}\text{U}$  and  $^{232}\text{Th}$  in samples of water, soil and guinea corn grains collected from Beryllium and Gold mining sites in Kwara, Nigeria. In-situ measurements at approximately 1 m in the air was carried out using a well-calibrated portable Gamma Spectrometer (Super Spec RS-125), while the soil, water and the guinea corn samples were analyzed using a '3 x 3' inch lead-shielded NaI (TI) detector. The measured activity concentrations of the natural radionuclides in the soil from both mines are lower than the in-situ measurements. This was attributed to the contribution from other terrestrial materials on-site. The estimated mean transfer factors (TFs) for  $^{40}\text{K}$ ,  $^{238}\text{U}$  and  $^{232}\text{Th}$  are 0.21, 0.17 and 0.31, and 0.46, 0.19 and 0.28 respectively for the Beryllium and Gold mining sites. While the TFs for  $^{238}\text{U}$  and  $^{232}\text{Th}$  exceeds the mean value of 0.0062 and 0.0021 for  $^{238}\text{U}$  and  $^{232}\text{Th}$  respectively, the TFs for  $^{40}\text{K}$  are well below the 0.74 for cereals grains provided by International Atomic Energy Agency (IAEA). The radiation impact assessment using the Monte Carlo simulations reveals values that were generally less than the limits recommended by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). Hence, the risk of cancer inducement due to radiation exposure is within the acceptable limits for both mining sites.

**Keywords:** Cancer; Radioactivity; Gamma Spectroscopy; Risk Assessment; Monte Carlo

**KU8-229: Determination of Stress enzymes and Bioaccumulation potentials of *Zea mays* (L.) walp. grown in copper nanoparticles-amended soil**

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**Abstract**

Copper is a nutrient required in small quantity by maize during growth but it is not readily available to maize. Nanotechnology may however be helpful in the effective delivery of this nutrient. This study investigates the impact of copper nanoparticles (CuNPs) on growth attributes, stress enzymes, and the bioaccumulation potential of maize grown on CuNPs amended soils. The research was conducted in a greenhouse located at Kwara State University, Malete with the following coordinates (latitude 8° 43' 8 "and longitude 4° 29' 11 "). The Experiment was a Randomized Block Design experiment (RBD) with four seeds of maize planted separately in 2 kg of sandy loam soil pre-treated with 4, 8 and 12 mg/kg CuNPs while the control was the pots without CuNPs and these were replicated thrice making a total of 12 pots. Chlorophyll content, enzymatic antioxidants, bioaccumulation potential and proximate contents were determined following standard methods. Data obtained from the experiment were subjected to one-way Analysis of variance (ANOVA) while its mean value were analyzed with Duncan Multiple Range Test (DMRT) at  $P \leq 0.05$ . Bar chart was drawn using Origin Scientific Graphing and analysis software. CuNPs greatly enhanced plant growth, productivity, chlorophyll content, stress enzymes: [Malondialdehyde (MDA), Catalase (CAT), Hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) and Superoxide dismutase (SOD)] and bioaccumulation. This study concludes that at high concentrations, application of CuNPs on maize can hinder or arrest its growth and productivity as well as the death of the entire plants despite the fact that it is a micronutrient.

**Keywords:** Nanoparticles; Maize; Growth; Bioaccumulation; Stress

**KU8-230: Efficient Artificial Intelligence Integration in University's Portal Backend System**

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**Abstract**

Integration of intelligent systems into backend processes has become crucial in modern software applications. By leveraging Artificial Intelligence (AI) algorithms, machine learning models, and advanced decision-making techniques, backend systems can achieve improved performance and responsiveness. The research work addresses the challenges and considerations associated with adopting AI in backend development, emphasizing the importance of ethical and privacy concerns. This study delves into key aspects of AI implementation in consonance with Summit University Students' data base through the backend, such as data processing and storage, resource management, security enhancements, performance optimization, and the integration of personalization and recommendation engines. Real-world case studies and success stories showcase the practical applications and benefits of AI in backend systems. The study concludes by discussing future trends and opportunities, highlighting the potential for AI to revolutionize backend development and offering insights for developers and organizations seeking to harness AI for scalable and efficient backend solutions.

**Keywords:** Artificial Intelligence, Backend Development, Privacy concerns, Security Enhancement

**KU8-232: Efficient Photocatalytic Degradation of Methylene Blue using Nanocellulose/Metal Oxide Composite ZnO and TiO<sub>2</sub> Assisted by UV Light**

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**Abstract**

This study aimed to develop a cost-effective and readily available photocatalyst for the mineralization of methylene blue, a common organic dye pollutant. A nanocellulose/metal oxide composite of TiO<sub>2</sub> and ZnO was synthesized using cellulose extracted from sugarcane bagasse (SBC). Photocatalytic degradation experiments were conducted using nanocellulose, TiO<sub>2</sub>, ZnO and their nanocellulose composites at different concentrations of methylene blue solutions prepared and irradiated with UV light while monitoring degradation spectrophotometrically at various time intervals. The photo-catalytic efficiency and characterization of the composites were evaluated using Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), scanning electron microscopy (SEM), Brunauer-Emmet-Teller (BET) analysis, and gas chromatography-mass spectrometry (GC-MS). FTIR and XRD results obtained confirmed that the nanocrystalline cellulose prepared has crystallinity index and the crystallite size of 83.2 % and 2.074 nm respectively. The SEM results showed that these metal oxide composites prepared were of different morphologies compared to their respective individual constituents. The BET surface area of ZnO/cellulose composite was 879.4 m<sup>2</sup> /g with 0.3092 cc/g pore volume. This large surface area and pore volume enhanced the adsorption of methylene blue (MB) during the degradation process. From the various absorbance values obtained via the UV spectroscopic monitoring, the cellulose composites had a better photocatalytic activity than the metal oxides (ZnO and TiO<sub>2</sub>) in the presence of UV light. The ZnO/cellulose composite was the best photocatalyst having the highest % degradation. The GC-MS established that methylene blue was completely mineralized.

**Keywords:** Mineralisation, Sugarcane bagasse, Spectrophotometrically, degradation, Photocatalytic

**KU8-233: Intelligent Biometric System for Perimeter Surveillance**

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**Abstract**

In this project, an intelligent security surveillance recognition software has been designed to run simultaneously on multiple cameras for perimeter surveillance purpose. The developed system gives the operator flexibility to choose which Internet Protocol (IP) camera's and Close Circuit Television (CCTV) camera details to view. In addition, users can view up to four camera feeds displayed on the dashboard. A new user-friendly Enrollment system with just the click of a single pushbutton has also been incorporated into the developed system. Upon enrollment, a progress bar is displayed to indicate the status, and once completed, a success message is shown. In enhancing the system's accuracy and tracking capabilities, the history feature that incorporates the unique Identity (ID) assigned to each camera has been added. Thus, when human movement is detected by a camera, the system logs the name, role, department, time and date, along with the camera ID. This enables effective tracking even across different cameras within the monitored area. Unrecognized faces are flagged as unknown and put on red alert with increasing surveillance across cameras. The performance analysis of the system shows seamless operation, efficient monitoring, and comprehensive tracking of individuals across multiple cameras in a monitored environment.

**Keywords:** Camera, Identity, Facial, Environment, Surveillance

**KU8-235: The Psycho-Social Influence of Smoking among Undergraduate Student of Kwara State University, Malete**

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**Abstract**

(WHO) estimates that tobacco kills nearly seven million people annually and hundred million deaths were recorded over the course of the 20<sup>th</sup> century. Over 80% of smokers live in low to middle income countries like Nigeria. The WHO attributes about five million deaths per year to tobacco smoking. To determine the psycho-social influence of smoking among undergraduate students of Kwara state university Malete. A Tobacco smoking is a major public health problem and the most important cause of preventable and premature death. The World Health Organization descriptive cross-sectional study was carried out among 500 undergraduate students of Kwara state university, Malete. Data was collected with the aid of a pretested, validated, structure, interviewer administered questionnaire and key informant interview. Data was analyzed with SPSS statistical software package and the result were presented with tables and charts, cross-tabulation was done and chi-square test was used to determine any association between the dependent and independent variables. About 22.4% of the respondents identified that they have experimented smoking before with 68.8% and 20.5% of them have smokers cigarette and shisha respectively. Smoking is becoming more and more common among undergraduate student at Kwara state university and other campuses of Nigeria university, its urgent to address this social vice since it is permeating the academic atmosphere in Nigeria to a great extent.

**Keywords:** Cigarette Smoking; Chi-square; Psycho-social; Tobacco



**KU8-236: Democratization of Unmanned Aerial Vehicle (UAV) Technology in Nigerian University**

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**Abstract**

Unmanned Aerial Vehicle (UAV) Technology popularly called Drone Technology is an innovative Artificial Intelligence-based technology used in the monitoring and documentation of deployed devices on the research field. Nigeria Workforce/Industries are faced with a shortage of skilled professionals in STEM related fields. Education system in Nigerian universities often lacks practical and hands-on learning experiences which are the major cause of the deployment of unskilled Graduates in to the workforce and lack of enthusiasm of students. These Challenges can be curbed if innovative technologies are introduced into the Education system and ensuring engagement of students in capacity development activities alongside their respective field of study. Incorporating UAV technology into the education system will enable students to apply theoretical concepts to real-world scenarios. This research focuses on introducing students to the fundamental principles of drone technology, aerodynamics, electronics, and programming. Using educational medium such as workshops and seminars. The impact of the research is measured and evaluated through surveys, assessments, and feedback questionnaires conducted on the participants and an accuracy score of 85% is achieved. This research highlights the significance of integrating drone building and piloting activities into university curricula. By exposing students to this dynamic field, universities can equip the students with valuable skills and knowledge needed in today's emerging industries and workforces.

**Keywords:** Accuracy Score, Artificial Intelligence-Based, Education System, Unmanned Aerial Vehicle

**KU8-237: Design and Implementation of a Private Tutor Finder System**

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**Abstract**

The Design and implementation of a private tutor finder system is a web-based platform that facilitate the search for qualified tutors using a recommendation engine and geolocation services based on the student specification. The system also offers administrative tools for platform management. Finding qualified tutors can be challenging, especially for students in rural areas with limited transportation options. This project aims to create a system that streamlines the tutor-student matching process and reduces private tutoring costs, by developing a web-based platform utilizing a recommendation engine and geolocation for personalized tutor recommendations, providing administrators with efficient tools for platform management and lowering the overall cost of private tutoring. The system uses a recommendation engine to analyses tutor profiles, academic demands, and student preferences, generating personalized tutor recommendations. The geolocation feature pairs students with nearby tutors, enhancing convenience and enabling in-person tutoring opportunities. The system is designed to be user-friendly and efficient, serving as a valuable tool for private tutoring services to simplifies the process of finding qualified tutors for students and reduces the financial burden of private tutoring.

**Keywords:** Private tutor finder; Tutor; Students; recommendation system

**KU8-238: Thermodynamic Studies on Adsorption of Pb(II) Ions from Aqueous Solution Using Hydroxyapatite Prepared from Animal Bone**

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**Abstract**

This study investigates the potential of waste animal bone as a natural hydroxyapatite (HAP) for removal of Pb(II) ions from aqueous solution. Bones has potential for producing hydroxyapatite, a primary component present in bone and teeth of vertebrates. HAP is an excellent material used in bone restoration and tissue regeneration. Characterization of Animal bone were done by Fourier Transform Infrared (FTIR), Scanning Electron Microscopy coupled with Energy Dispersive X-ray (SEM-EDX), X-ray diffraction (XRD), X-ray Fluorescence (XRF) and Thermogravimetric analysis (TGA). The adsorption of Pb(II) ion from aqueous solution onto animal bone powder was investigated using batch adsorption experiment at room temperature. The effects of pH, initial metal ion concentration, contact time, adsorbent dosage, and temperature were evaluated. SEM micrograph revealed the microstructure of bones were made up of irregular-rod-like particles, XRF analysis indicated CaO and P<sub>2</sub>O<sub>5</sub> as major oxides present. TGA analysis indicated no inflection point which confirms purity. The maximum adsorption capacity (Q<sub>max</sub>) of 40.0 mg g<sup>-1</sup> was obtained for adsorption process at pH 2 within 20mins. The isotherm study was best explained by Langmuir adsorption isotherm and fitted into pseudo-second-order kinetic model. Thermodynamic result revealed reaction is endothermic as evident in the positive value of ΔH (2.113 kJ mol<sup>-1</sup>) and ΔS (0.012 kJ mol<sup>-1</sup> K<sup>-1</sup>) means there is an irregular increase in the randomness at the solid-solution interface of the adsorbents. Thus, hydroxyapatite prepared from waste animal bone can be effectively utilized as an excellent non-toxic and cheap adsorbent for the removal of Pb (II) ions from aqueous medium.

**Keywords:** Hydroxyapatite, Animal bone, Adsorption, Thermodynamics, Lead

**KU8-241: Thermodynamic studies on Adsorption of Pb (II) Ions from Aqueous solution using hydroxyapatite prepared from Animal Bone**

<sup>1\*</sup>Oyewumi-Musa R.T., <sup>2</sup>Abdus-Salam N., <sup>2</sup>Bello O.M., <sup>3</sup>Alkali I., and <sup>4</sup>Jimoh A.A

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**Abstract**

This study investigates the potential of waste animal bone which is a natural hydroxyapatite (HAP) for the removal of Pb (II) ions from aqueous solution. Animal bone has potential for producing hydroxyapatite, a chief component present in bone and teeth of vertebrates. HAP is an excellent material used in bone restoration and tissue regeneration. Characterization of Animal bone were done by Fourier Transform Infrared (FTIR), Scanning Electron Microscopy coupled with energy dispersive X-ray (SEM-EDX), X-ray diffraction (XRD), X-ray Fluorescence (XRF) and Thermogravimetric analysis (TGA). The adsorption of Pb (II) ion from aqueous solution onto animal bone powder was investigated using batch adsorption experiment at room temperature. The effects of pH, initial metal ion concentration, contact time, adsorbent dosage, and temperature were evaluated. Results from morphological analysis by SEM revealed that the microstructure of the apatite is made up of irregular-rod-like particles, whereas XRD analysis presented a pure monophasic hydroxyapatite powder. The maximum adsorption capacity (Q<sub>max</sub>) of 40.0 mg g<sup>-1</sup> was obtained for the adsorption process at pH 2 within 20mins. The isotherm study was best explained by Langmuir adsorption isotherm and fitted into pseudo-second-order kinetic model. Thermodynamic result revealed reaction is endothermic as evident in the positive value of ΔH (2.113 kJ mol<sup>-1</sup>) and ΔS (0.012 kJ mol<sup>-1</sup> K<sup>-1</sup>) means there is an irregular increase in the randomness at the solid-solution interface of the adsorbents. Thus, hydroxyapatite prepared from the waste of animal bone can be effectively utilized as an excellent nontoxic and cheap adsorbent for the removal of Pb (II) ions from aqueous medium.

**Keywords:** hydroxyapatite, animal bone, adsorption, thermodynamics, lead

**KU8-247: Design and Implementation of Realtime Webchat for Universities**

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**Abstract**

The design and implementation of a real-time chat website for Universities is an essential aspect of modern education which aids in designing a website that enables seamless communication between students and instructors in a university setting. There are a number of tactics that are examined in this study. The main aim of the real-time chat website is to establish a communicative and dynamic online space where users may engage in live conversations, look for academic assistance and exchange resources. The design process considered a number of factors, such as user interface, functionality and security in order to accomplish this. The chat website's user interface was designed to be simple to use, visually appealing, and responsive on a variety of devices. Functionality for users were able to monitor ongoing conversations, browse between chat rooms and channels, and access pertinent resources with ease in University environment. The usability and streamlining of communication procedures was improved by integration with already-existing University systems, such as student information systems. When creating a chat website for Universities, security is a key consideration. To guarantee the confidentiality and integrity of user data, strong authentication systems and encryption techniques was used. Content filtering was also used as a proactive measure to reduce the dangers connected with unsuitable or hazardous information. In conclusion, focusing on the various factors listed above the chat website has really served as an effective communication tool, fostering collaboration within the University system.

**Keywords:** Implementation; Proactive measure; Content filtering

**KU8-251: Local Kaolinite Clay Efficacy as Adsorbent for Spent Oil Treatment**

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**Abstract**

Disposed motor vehicle engine oil is an environmentally harmful waste according to Government regulations. This research evaluated the recycling of Spent Lubricating Oil to New Lubricating Oil using Adsorption technique. The processes include Pounding and Sieving of Kaolin, Impregnation, Neutralization, Drying and Activation and Adsorption. The regeneration investigation result showed changes in the colour and metal components of the Spent Lubricating Oil. There was a variance in the weight of the Adsorbent and highest weight gain experiment removed black color and changed the spent oil to brownish yellow which is similar to Fresh Oil that has crystal yellow colour. UV- Spectrophotometer was used for the colour analysis. The metal impurities observed were Cr, Pb, Ca, Mg and Fe. There was reduction in the metal concentration at all weight ranging from 5g, 10g and 15g. Atomic Absorption Spectrophotometer was used to analyse the Metal content.

**Keywords:** Indigenous kaolinite, Used lubricating oil, Adsorption, Activation

**KU8-253: Molecular Identification of Culex Mosquitoes in Selected States in Nigeria**

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**Abstract**

Culex mosquitoes are important vectors transmitting many disease-causing agents such as flaviviruses, arbor viruses, bacterial, protozoans and filariae of public health importance but distinction between these species have relied mainly on morphological characteristics. There is limited information on the molecular diversity of Culex mosquitoes in Nigeria which is required for reliable vector control. This study was designed to investigate the molecular diversity and genetic relatedness within and among Culex mosquito populations using mitochondrial DNA (*COI*) and *ITS2* gene markers. A total of 1,411 adult *Culex* mosquitoes were collected from five selected states in the ecological zones of Nigeria. Samples were morphologically identified as *Culex spp* using standard methods. Genomic DNA of each *Culex* mosquito was extracted and the *COI* and *ITS2* gene regions were amplified by polymerase chain reaction (PCR). PCR amplicons were sequenced and analyzed using standard molecular methods. DNA sequencing, subsequent alignment and phylogenetic analysis of *COI* gene sequences revealed that genetic relatedness between Culex species when compared with sequences from DNA reference library. Evolutionary divergence of 0.008 was observed between *Culex perexiguus*, while a higher divergence of 0.332 was observed between *Aedes aegypti* and *Culex perexiguus*. Phylogenetic analyses of *ITS2* gene sequences revealed genetic variations between *Cx.quinquefasciatus* and showed delineation of Culex species which indicated that *COI* and *ITS2* gene marker are useful molecular markers for precise and reliable species identification required for effective vector surveillance and control.

**Keywords:** *Culex*; *Phylogenetics*; *Polymerase Chain Reaction*; *Internal transcribed spacer 2*; *Cytochrome oxidase subunit I*

**KU8-254: Population Genetic Structure and Molecular identification of Freshwater Snail *bulinus* species in Northern Nigeria**

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**Abstract**

Freshwater snails of the genus *Bulinus* serve as intermediate hosts in the transmission of schistosomiasis, a widespread disease in Africa. There is paucity of information on the genetic diversity of freshwater snails in Northern Nigeria. This study investigated the population genetic structure of freshwater snails among selected states in Northern Nigeria. Freshwater snails were sampled across 13 water-contact points in five states of northern Nigeria. Ecological water parameters were taken. Genomic DNA was extracted, samples screened for schistosome infection using PCR amplification of schistosome *DRA1* repeat sequence. Cytochrome c oxidase subunit 1 gene (*COI*) and six pairs of microsatellite markers were used to investigate the population genetic structure, pattern of gene flow, phylogenetic relationship and genetic variability among the freshwater snails. Snails of ten genera were identified using morphological characteristics: *Bulinus*, *Lymnaea*, *Pila*, *Lanistes*, *Gabiella*, *Cleopatra*, *Aplexa*, *Potadoma*, *Melanoides*, and *Indoplanorbis*. One hundred and fifty snails samples were screened and 77 (51.33%) of the screened snails were positive for schistosomes infection. Results revealed that 100% genetic variation exists within individuals of each population and low population differentiation exists among population. Phylogenetic analysis revealed that *Bulinus globosus* and *Bulinus truncatus* clustered into distinct lineages while some *Bulinus* clustered with other snails that were morphologically identified to belong to different genera and exhibited significant clustering and divergence patterns. This study concluded that molecular variability exists among the studied snail species and that molecular approach is more reliable for species identification which has implication for effective vector control strategies of schistosomiasis in Northern Nigeria.

**Keywords:** *Bulinus globosus*; *Bulinus truncatus*; *Phylogeny*; *Schistosomiasis*; *Microsatellite*

**KU8-255: Development and Validation of Model Equations for Predicting Sensory Responses and Nutritional Qualities of Foam-Mat Dried Kunun-Zaki**

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**Abstract**

Foam-mat drying is an emerging technique for preserving traditional beverages like kunun-zaki, which presents unique challenges in predicting its nutritional qualities and sensory attributes due to its complex composition and processing parameters. This study aims to develop and validate model equations that can accurately predict the sensory responses of foam-mat dried kunun-zaki, based on its ingredient formulation and processing conditions. Model equations were developed to adequately relate the responses to the mixture component proportions and processing parameters. The adequacy of the model equations were evaluated by the adjusted and predicted R. Numerical optimization, via desirability technique was utilized to determine the optimum formulation/process parameters for the foam-mat dried kunun-zaki. Graphical optimization was also used to display the prediction of all responses in the mixture-process factors space, Foam-mat dried kunun-zaki of 9.595 % moisture content 2.552% ash content, 28.195% crude protein, 54.443% carbohydrate, 11.949% fat and 5.828% crude fibre at a drying temperature and steeping period of 40.00°C and 12.0hrs respectively, using 48.435 % of millet and 51.565% of soya bean with 0.000% of maize and 0.625 desirability index gave the optimum quality. This provides a basis for obtaining the optimum processing parameters for optimal production of foam-mat dried kunun-zaki.

**Keywords:** Optimization; Adequacy; Nutritional; Validate; Predicted; Steeping

**KU8-256: Artificial Intelligence (AI)-Based Learning Management System**

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**Abstract**

Adoption of Artificial Intelligence (AI) in education has revolutionized all sectors of human endeavor in this century. Traditional Learning Management System (LMS) and online learning management systems lack efficiency and personalized learning experiences. While the two systems have provided a centralized hub for learning materials, assessment, and student management, there still exists a gap in meeting learners' diverse needs. This problem can be eradicated and minimized by adopting an AI-based LMS for teaching and learning. An AI-based learning management system leverages on a recommendation system with an advanced learning algorithm. The recommendation system provides feedbacks based on analyses of learner data, including preferences, historical interactions, and performance. This study focuses on the development of an AI-based recommendation system for enhancing learning experiences and providing continuous assessment with real-time feedback and adaptive learning. Adaptive learning is achieved by monitoring learners' progress in real-time and adjusting the level of difficulty of learner tasks based on their level of assimilation. The integration of a recommendation system within an AI-powered LMS revolutionizes learning experiences and can also be used to provide reports and grading on essay-based examinations. By harnessing AI and recommendation algorithms, AI-based LMS become a powerful tool for personalized and transformative learning.

**Keywords:** Artificial Intelligence; Learning Management System

**KU8-257: Evaluation of Phytochemical Constituents, Amino Acid Composition and Antioxidant Potentials of Aqueous Extract of *Phoenix dactylifera* Fruit**

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**Abstract**

The study investigated the phytochemical constituents, amino acid composition and antioxidant potentials of the aqueous fruit extract of *Phoenix dactylifera*. The aqueous fruit extract was prepared and subjected to standard analytical test to assay for the secondary plant metabolites. Qualitative and quantitative phytochemical screening was carried out using standard method while the amino acids profile was carried out via High Performance Liquid Chromatography (HPLC). The antioxidant effects of the extract on free radicals were determined on radicals 2,2-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid) (ABTS), 2, 2-diphenyl-1-picrylhydrazyl (DPPH), Nitric oxide (NO), and Hydroxyl radical (OH<sup>-</sup>). Results from standard analytical test revealed the presence of seven secondary metabolites with a relatively high steroid ( $52.58 \pm 0.08$ ) and flavonoid ( $25.77 \pm 0.13$ ) content and low Coumarins, Glycosides, Alkaloids, Saponin, and Terpenoid concentration. HPLC analysis of its amino acid constituents showed that it contained seventeen (17) amino acids (Glycine, alanine, serine, proline, threonine, cysteine, isoleucine, leucine, aspartic acid, lysine, glutamic acid, histidine, methionine, phenylalanine, arginine, tyrosine, and tryptophan) while the free radical scavenging activity of the aqueous fruit extract inhibited ABTS, DPPH, NO, and OH<sup>-</sup>, in a concentration dependent manner. Hence the results indicate that the fruit possess good nutritional properties as well as a good number of secondary metabolites which might be the reason behind its wide range of therapeutic properties.

**Keywords:** *Phoenix dactylifera*; Free radical; Phytochemical; Antioxidant; Amino acids

**KU8-263: Reducing Drop-Out Rates in Nigerian Higher Education Institutions with the Use of AI**

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**Abstract**

Drop-out rates in Nigerian universities have become a pressing issue, impacting the quality of education and hindering national development. This study aims to explore effective strategies to reduce drop-out rates and enhance student retention. This work aims at identifying the main causes of drop-outs, examine existing interventions, and propose practical measures to mitigate this problem in Nigerian universities. A mixed-methods approach will be employed, consisting of a comprehensive literature review and a survey of university students. The literature review will analyze previous studies on drop-out rates, exploring factors such as financial constraints, academic challenges, and social factors. A survey would be conducted to collect data on student experiences and perceptions, allowing for a deeper understanding of the issue. The literature review and survey results would then be compiled and an AI would be trained based on the results to identify the classes of students most likely to drop out and the cause of the drop out. Based on the collected data, solutions would be identified for reducing the rate of student drop out in the Nigerian higher education institutions. This study aims to collect data from higher education institutions from all geopolitical zones, either federal, state, or privately owned. This is because the demographic is a bit different from each other this would result in slightly different results for each institution. Thus, this study will shed light on the persistent issue of drop-out rates in Nigerian universities.

**Keywords:** Drop-out rates; Nigerian universities; Student retention; Infrastructure; academic support

**KU8-265: Dietary Effect of *Hunteria umbellata* on the Histology of the Intestine, Liver and Kidney of African Catfish Hybrid**

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**Abstract**

This study assessed the histomorphology of African catfish hybrids fed diets supplemented with *Hunteria umbellata* over a 56-day feeding trial. Fingerlings (n=225) were acclimatized, weighed, and divided into five dietary treatments (0%-Control, 0.5%-DT2, 1.0%-DT3, 1.5%-DT4, and 2.0%-DT5 *Hunteria umbellata*). The diets were isonitrogenous and isolipidic, with each treatment replicated thrice (n=15 fish/replicate). The fish were fed twice daily at 5% body weight. Histological analysis revealed that both the control and DT5 (2% supplementation) diets maintained well-preserved mucosal layers in the intestine, featuring interconnected villous structures lined by columnar epithelium and scattered goblet cells. Muscular layers remained intact, with no signs of injury. In contrast, diets DT2, DT3, and DT4 exhibited slender villous structures, preserved mucosal layers, columnar epithelium, goblet cells, and intact muscular layers. Liver sections from the control to DT4 diets displayed normal hepatocytes with abundant cytoplasm and uniform round nuclei, while DT5 showed reduced-sized hepatocytes with dense eosinophilic cytoplasm, and focal hepatocyte loss, suggesting acute injury. The kidney histological examination revealed preserved architecture, including normal glomeruli, renal tubules, and haemopoietic tissue in the interstitial region. Haemosiderin deposits were observed without signs of acute or chronic injury. These findings highlight that *Hunteria umbellata* supplementation up to 2% supplementation maintains histological integrity in the intestine, liver, and kidneys of African catfish hybrids.

**Keywords:** *Hunteria umbellata*; African catfish hybrid; Intestine; Liver; Kidney

**KU8-267: A Comprehensive Framework for the Assessment of Trustworthiness in Robotic Systems: Review, Evaluation, and Case Studies**

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Btech (Computer Science), Ms (Software Engineering)

**Abstract**

AI is a special knowledge area of interest in computer science that is fast growing because of its capability to model machines to behave like and better than humans. AI is widely used in virtually all facets of life, such as health, security, and other critical applications. The recent large-scale deployment of complex AI applications has made many people concerned about the level of trust in the systems. Building trust in AI is crucial to business, government, social, and political agendas. Therefore, my research project involves developing a framework for assessing, modeling, and designing secure robotic systems. The objectives of this research will be to (1) understand the factors that influence security in robotic systems based on findings from the literature; (2) build an assessment framework to help individuals and organizations better manage security in robotic systems; and (3) evaluate the framework in a real-world environment. The proposed research methodology consists of four chronological phases, which are as follows: Data collection through a multivocal literature review (MLR); analysis, rationalization, and structuring of the findings from the MLR; evaluation through relevant case studies; and the development of the secure robotic systems' assessment framework.

**Keywords:** Evaluation; Framework; AI applications; Methodology; Robotic system

**KU8-270: Isolation, Characterization and *In vitro* Albumin Denaturing Inhibition Activity of Compounds from the Root and Stem-bark of *Vernonia Amygdalina***

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**Abstract**

*Vernonia amygdalina* has been used for treatment of diabetes with some empirical evidences in folkloric medicine. This study was aimed at isolating bioactive compounds from the stem-bark and root of *V. amygdalina* and the evaluation of the anti-diabetic potential of both the crude extracts and isolated compounds. The plant materials were subjected to cold extraction using methanol. The isolation of compounds was carried out using column chromatographic technique while characterization and elucidation of structure were done based on data obtained from fourier transform infrared (FT-IR) as well as <sup>1</sup>H and <sup>13</sup>C nuclear magnetic resonance (NMR) spectroscopies. The *in vitro* antidiabetic activity established via albumin denaturation assay was carried out on the crude extracts using bovine albumin fraction and diclofenac as control drug. Three compounds, luteolin-7- $\alpha$ -o-glucuronide, vernoamioside D, and a new glycoside, vernotolaside were isolated. These compounds recorded significant inhibitions at varying degrees and possess half-maximal inhibition concentration (IC<sub>50</sub>) values of 549.8, 379.5 and 201.7  $\mu$ g/mL respectively compared with declofenac with IC<sub>50</sub> of 167.8  $\mu$ g/mL.

**Keywords:** Vernonial amygdalina; Albumin; Root; Compounds; Medicine

**KU8-273: Implications of the Increasing Atmospheric Methane Concentration: Need for Climate-Related Online Courses in the University Programs**

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**Abstract**

This study aims at examining the recent and future impacts of atmospheric methane concentration on both ecological resources and human well-being. This review was based on the understanding of how different methodological approaches are used in the study of the impacts of methane concentration on the ecology and socioeconomic well-being of the people. The study assessed a total of 125 peer-reviewed published articles and books that linked the impacts of atmospheric methane concentration on Earth's sustainability and social/health resilience in developing countries. The major finding of this study is that there are significant variations in magnitude and patterns of responses to the increasing concentration of atmospheric methane in different parts of the world. The result further shows that developing countries may likely continue to experience the highest impacts of global warming because of the large margin of uncertainties in the actual footprints of the atmospheric methane. Notwithstanding the uncertainties associated with the data gap in several parts of the world, the consensus viewpoint is that the chances of meeting up with the Paris Agreement targets within the first half of this century can only be achieved by mainstreaming climate-related online courses in the existing university course contents.

**Keywords:** Atmospheric methane; Global warming; Online courses



**KU8-275: Prevalence of Malaria and Anaemia among Pregnant Women in Maternal and Child Care Unit of Randle General Hospital, Lagos**

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**Abstract**

Malaria is a serious health problem particularly in pregnant women in the tropical and subtropical regions throughout the world. This study was conducted to compare the prevalence of the co-existence of malaria and anaemia in pregnant women attending the Maternal and Child Care Unit of Randle General Hospital, Surulere, Lagos. This study was carried out between March and April 2014. Using 50 subjects between the ages of 16-40, questionnaires were administered. In this study out of 50 (100%) subjects recruited, only 22(44%) had malaria why the prevalence of anemia was 21(42%). However, only 1 (2%) had the co-infection of malaria and anemia. In demographics, prevalence of malaria and anemia in less than 20yrs of age was 28.75% and 14.28% respectively. Primigravidae was 59.25% and 71.45% compared to multigravidae; the prevalence of malaria was 26.08% while anaemia was 28.57%. The prevalence of malaria and anaemia for those using insecticide treated nets was found to be 15.62% and 57.14% respectively while those that did not use treated nets were found to be 94.44% and 42.85%. The prevalence of malaria and anaemia for those who responded to the use of IPT were found to be 22.85% and 71.425 while those that did not use IPT were 93.33% and 28.57%. The study revealed that pregnant women are most vulnerable and more susceptible to malaria parasite and anaemia. The result also showed that malaria infection is higher in older pregnant women than the younger ones.

**Keywords:** Malaria; Anaemia; Child Care; Pregnant Women

**KU8-277: Catalytic and Non-catalytic Pyrolysis of *Scenedesmus* sp. Grown on Nitrogen-Stressed Condition for High-Quality Biofuel Production**

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**Abstract**

Nitrogen stressed growth condition is the most widely used strategy to enhance lipid accumulation in microalgae and as a result could be employed in manipulating the biomass composition to produce high-quality biofuel via thermal conversion process. In this study, *Scenedesmus* sp. was grown using modified BG11 media under different nitrogen stressed conditions; N1 (150mg/L), N2 (250 mg/L), N3 (750 mg) and N4 (1500 mg/L) as the control medium. Pyrolysis experiments was carried out on the biomasses without catalyst and with HZSM-5 catalyst in a fixed bed reactor. The effects of pyrolysis parameters such as temperature and catalyst to biomass ratio on product yield were studied. In all the biomasses studied, the oil yield of the catalytic pyrolysis was lower than that of the non-catalytic pyrolysis at the corresponding temperature studied. The yield was observed to gradually decreased as the catalyst to biomass ratio further increased. The catalytic process resulted in higher conversion of 92.82%, 92.08%, 99.13%, 99.49% for N1, N2, N3 and N4 at 600°C compared to 82.11%, 86.77%, 87.01% and 89.88% obtained for the non-catalytic pyrolysis respectively.

**Keywords:** Nitrogen stressed; Microalgae; HZSM-5; Pyrolysis; Biofuel.

**KU8-280: Diversifying the Economic Sector through Solid Minerals: A Catalyst to Nigeria's Development**

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**Abstract**

Apart from crude oil, Nigeria is abundantly blessed with vast reserves of solid minerals with approximate reserves include iron, cassiterite, lepidolite, limestone, boltwoodite, gemstones, lead, zinc, wolframite, kaolinite, among other minerals. The aforementioned minerals are pertinent strategic and industrial raw materials useful in defense, high-tech, chemicals, domestic, and allied sectors. Despite these minerals' availability, the utilization of these resources to aid the country's economy and industrialization has been far less explored. Additionally, the country has numerous opportunities for investing in mineral sectors due to the approximate reserves of untapped indigenous mineral potential. It is therefore saddening that these potentials have been side-lined since crude oil was discovered. In recent times, the decline in the global crude oil price due to the *covid-19 pandemic cum subsidy removal* has translated to the interest shown by the Federal Government of Nigeria in its effort to diversify the country's economy from crude oil exploration to other sectors of the economy, particularly the mineral sector. There is hope that the use of abundant domestically-sourced solid minerals for our local industries would contribute to the nation's growth and economic sustainability. Hence, Nigerian governments both at state and federal levels need to critically look into the various mineral ores exploration for economic sustainability and development.

**Keywords:** Utilization; Sustainable; Pertinent; Wolframite; Boltwoodite

**KU8-282: Development of Lightweight 3D Printed Artificial Lower Limb**

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**Abstract**

An enormous global need for reasonably priced prosthetics still exists. Amputations frequently occur owing to severe infections, complicated wound, and road accidents. However, because of the cost of importation, most amputees still cannot afford to get a prosthetic, particularly in Nigeria. With the high demand for Lower Limb socket prosthesis, this project aimed at designing a lightweight, cost effective artificial lower limb socket to increase the effectiveness and capability of amputees. A photogrammetry method was used to acquire the data used for the design of a lower limb model. The design and simulation were done using Autodesk inventor and the 3D printing of the socket prototype was achieved using Ender 3 FDM printer by Creality. A model of a subject's lower limb was generated and printed to hold the designed socket. The simulation shows that thermoplastic polyurethane (TPU) of 85A shore hardness is more suitable for the socket when compared to polylactic acid (PLA) A life size prosthesis socket was achieved using additive manufacturing technology. It is hoped that indigenous socket that is cheap and less time consuming would be readily available through this process.

**Keywords:** 3D printing; Additive manufacturing; Fused deposition modelling; Lower limb; Prosthetic socket

**KU8-285: S-Burger: Nourishing University Students with an affordable and homely Meal for on-Campus Entrepreneurship**

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**Abstract**

The Sustainable Development Goals (SDG) 8 and 9 include promoting inclusive and sustainable economic growth, employment, and decent work for all as well as promoting sustainable industrialisation and fostering innovation. Academic institutions in Nigeria are typically characterized by fast-paced curricular, extra-curricular and rigorous academic activities which are usually time-consuming. This makes access to cost-effective, hygienic and readily available fast foods desirable to cater for the quick and easy consumption needs of the academic community. Sun burger (S-Burger) is a recently established burger business made locally from bread and bean cake debuting in Summit University, Offa, Kwara State, Nigeria. Similar business ventures within the University campus are faced with the challenges of market uncertainties, lack of innovative approach and intense competition which threaten profitability and impede sustainability. S-burger aims to bridge this gap by building competitive advantages, and leveraging on innovative technology to maximize profit. This innovative venture operates a mobile cart model, offering affordable and comforting meals to the University community and has positioned itself as a viable alternative to major meals, filling the void of difficulty in providing homely and readily available burger. Proximity to target customers is greatly enhanced by its flexible and mobile cart system thereby bringing its services to the doorsteps of consumers. Owing to the simplicity, flexibility and cost-effectiveness of S-burger, the model is recommended for Nigerian academic institutions to promote local content, provide market for local farm produce, and boosting small and medium scale enterprises (SMEs) within our academic institutions.

**Keywords:** S-burger, SMEs, SDG

**KU-286: Different means of identification in Nigeria: A case for harmonization**

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**Abstract**

One of the major roles of the government is to ensure the social well-being of all citizens and this will not be achieved without an effective means of identification. In Nigeria today, Government and industries have introduced different means of identification such as National Identification Number (NIN), Bank Verification Number (BVN) and so on. The numerous means of identification leads to data redundancy and also does not encourage a unified means of identification. Thus, there is need to carry out a comparative study on these various means of identification so as to pinpoint the strength and weakness of each of them and also to encourage data unification. The need for unification of record became so vivid as proven in several literatures to be the way forward to achieving a centralized record system for identification. This study proposed a robust means of record harmonization with the use of National Identity Number (NIN) so as to foster a more enhanced means of record tracking and better identification process in Nigeria.

**Keywords:** Comparative; Harmonization; Identification; Unification; Verification.

**KU8-287: The Fourth Industrial Revolution for the Nigerian University System**

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**Abstract**

Artificial Intelligence (AI), the Internet of Things (IoT), Robotics, and Big Data Analytics are the 4th Industrial Revolution (4IR) technologies that are transforming education globally. Including these technologies in the universities' curricula will produce job-ready and future-compliant graduates with creative thinking abilities and digital skills. To achieve this, Nigerian universities must go beyond the traditional classroom boundaries to adopt innovative teaching and learning methods. This paper presents 4IR technologies that should be adopted in the Nigerian university education system. First, AI for lecture attendance management, senate proceedings, university personnel quality assurance management, and prediction of students' grades for academic counseling services using the already existing automated result processing system. Second, IoT for university resource allocation and management, smart campuses, virtual laboratories, and personalized learning. Third, Robotics for lecture delivery (cobots and humanoid assisted instructions and student support services), autonomous robots for facility cleaning services, campus tour guides, accessibility and inclusion assistants for staff/students with disabilities, and university surveillance/security services. Fourth, data generated from these systems would be curated and analyzed by the Big Data Analytics Systems for insights generation and recommendations using machine learning and deep learning algorithms. These example applications bring to the fore the need for universities to integrate these advanced technologies into their systems and thrive in this transformative age. Staff and students must be oriented to embrace these applications such that tech skills become compulsory irrespective of the course of study.

**Keywords:** Artificial Intelligence, Internet of Things, Robotics, Big Data Analytics, 4th Industrial Revolution

**KU8-291: Mathematical Approach to the Role of Stakeholders in Transforming University Education in the 21st Century**

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**Abstract**

The role of stakeholders in transforming university education in the 21st century can be likened to multiple variables in a complex equation. The stakeholders in this equation include university administrators, faculty members, students, employers, policymakers, and the wider community. Each stakeholder brings their own set of values, expectations, and interests, which must be balanced to achieve meaningful transformation by equation: overall benefit  $R = \alpha S + \beta E + K(P + A + F + W)$  where

$\alpha$  = weights assigned to the students' satisfaction;

$\beta$  = weights assigned to the employers' satisfaction;

$S$  = satisfaction levels of students;

$E$  = satisfaction levels of employers; and

$K$  = function that depends on policymakers, university administrators, faculty members, and the wider community

solving this equation, we identify the variables and their interrelationships such that the university administrators play a critical role in setting the direction and objectives of education transformation. They need to collaborate with faculty members who possess the expertise and knowledge to shape the curriculum based on emerging needs and trends. Students should be empowered to provide input, share their perspectives, and actively engage in the learning process. This technique can be employed to study potential scenarios, evaluate different strategies, and forecast the impact of decisions on various stakeholders. These mathematical tools can help guide decision-making, identify potential barriers or conflicts, and propose solutions that maximize the overall benefit.

**Keywords:** University education, variables, complex equation, function, stakeholder

## **HUMANITIES, ARTS AND RELIGIONS**

### **KU8-005: *Da'wah* on social media in Southwestern Nigeria: Facebook as a Case Study**

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#### ***Abstract***

*Da'wah* is a fundamental tool for the propagation of Islam and the dissemination of its pristine message to Muslims and non-Muslims alike. Previous studies on *da'wah* in Yoruba land have approached it focusing mainly on its presentation on traditional and mainstream media such as in open ground with physical audiences as well as on television, radio, newspapers, magazines, pre-recorded audio-visual tapes, etc. with little attention paid to the emerging or new media otherwise known as social media networks. Therefore, this work examines *da'wah* on social media in southwestern Nigeria using Facebook as a case study while adopting historical, descriptive, and analytical methods. Among the challenges identified vis a vis *da'wah* on social media in Yorubaland is the total absence of regulation in the new media which has given way to some unqualified, half-baked, and unprofessional *da'wah* presenters leaving a wide room for anarchy, unguarded utterances and behaviours as well as questionable and controversial contents. The research found out, among others, that many notable *du'at* and scholars in all the six southwestern states of Nigeria being studied have embraced social media, especially Facebook, and are putting it into effective use for the dissemination of their *da'wah* activities for the benefit of the virtual or remote audience. It recommended effective, organized, and result-oriented *da'wah* activities on the various social media platforms in southwestern Nigeria's cyberspace, and Facebook in particular, and that a proper regulative framework needed to be put in place to check the excesses of virtual *du'at*.

**Keywords:** *Da'wah*; social media; Southwestern Nigeria; Facebook; Islam

### **KU8-007: Nigerian Universities' Role in Actualizing SDG-4 (Quality Education) Through *Waqf* Within Nigerian Laws: Lessons from Al-Azhar University, Cairo**

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#### **ABSTRACT**

Arguably, for any nation to develop socially, economically and politically, the equality education of its citizens must be prioritized. For this reason, the realisation of quality education (SDG-4) forms part of the 17 Sustainable Development Goals. However, due to underfunding of the education sector, Nigeria, as one of the United Nations state members, lags behind in the implementation of the SDG-4. Thus, the aim of this paper is to explore the roles Nigerian universities can play in achieving SDG-4 through *Waqf*, in the light of lessons from Al-Azhar University in Cairo, Egypt. *Waqf* is an Islamic endowment, where a religious and charitable dedication of a person's assets, without expectation of any material gain, is made to sustain educational development. It is a form of philanthropy with potential for greater education investments in Nigeria. This paper adopted both library and qualitative research methodologies. As regards library-based research methodology, in-depth review of primary source such as the Northern Endowment laws, the 1999 Nigerian Constitution; and secondary source, such as articles in journals, electronic materials, text books, was conducted. Qualitative research methodology involved the conduct of semi-structured interviews on selected participants. The paper revealed that *Waqf* could be used to fund and implement projects related to improving quality education in Nigerian universities drawing lessons from Al-Azhar University in Cairo, Egypt. The paper also highlighted legal challenges that could be encountered by Nigerian universities when playing their roles in achieving SDG-4 in the country. Therefore, the paper recommended imperative legal reforms and policies.

**Keywords:** Quality Education, Nigerian Universities, *Waqf*, Al-Azhar University, Legal Instruments.

**KU8-008: Generic Structure Analysis of Anthems of Selected Private Universities in Kwara State**

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**Abstract**

The numerous linguistic examinations of University Anthems in recent times are giving more credence to the notion that anthems of schools constitute a distinct genre. This study seeks to identify the Generic Structure Potentials (GSP) of the anthems of three private universities in Kwara State by coming up with the optional and obligatory elements in the anthems in a bid to demonstrate university anthems as a sub-genre of anthems. The three anthems that serve as data for the study are anthems of Al-Hikmah University, Crown-Hill (Ojaja) University and Landmark University. Generic Structure Potential Model of Halliday and Hassan 1985 is used as the theoretical framework. Data for the study which are school anthems were collected from the websites and official documents of the selected universities. The study discovered three obligatory elements-Orientation, Mission and Ideology and two optional elements-prayer and eulogy in the anthems examined. Beyond being an identity, anthems travel far; this study however recommends that budding private universities can employ optional elements like allegiance and exhortation that were not used in the anthems examined.

**Keywords:** Anthems; Private universities; Genre; Generic structure; Potential model

**KU8-013: People, Process and Technology: The Making of the 21st Century University**

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**Abstract**

The University is a human institution classified under the educational institution in Nigeria. It is regarded as the highest level of education in the Nigerian society. It is obvious that every institution comprises human and non-human, material and non-material assets which aid in the day to day activities within the system. Hence, it is an indisputable fact that people, process and technology are germane components in the making of the 21st century University. Therefore, the study examines these fundamental components of the University system and their relevance to the smooth running in the Nigerian Universities. The research adopted historical and descriptive methods which enable the trace in the origin of the Nigerian University Education and give a meaningful description of the state and importance of the three compositions in the 21st Century University. The findings presented that without People (teaching and non-teaching staffs and students) Process (instructions) and Technology University remains a decapitated yet working institution at a low productive rate. It is therefore recommended that making of university should be treated with uttermost regards given prompt attention to needs and conditions of services, making good judgment to enhance smooth process and provisions of the technological facilities to aid teaching-learning process.

**Keywords:** People; Process; Technology; Making; University

**KU8-017: Ict, Da‘Wah, and Covid-19: An Examination of Some Notable Muslim Scholars in Ilorin**

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**Abstract**

The COVID-19 pandemic has profoundly impacted the world, and its effects have been felt in almost every aspect of life, including religious practices. This study examines the role of Information and Communication Technology (ICT) in the *Da‘wah* activities of Muslim scholars in Ilorin, Nigeria, during the COVID-19 pandemic. The study also explores the challenges and opportunities ICT has presented for *Da‘wah* activities, and how Muslim scholars have adapted their strategies to reach their audience during the pandemic. The study employs a qualitative research design, using semi-structured interviews to gather data from a sample of notable Muslim scholars in Ilorin. The data collected are analyzed using content analysis to identify themes and patterns in the responses. The findings reveal that Muslim scholars have used ICT tools such as social media platforms, online lectures, and webinars to continue their *Da‘wah* activities during the pandemic. However, they also faced challenges such as poor internet connectivity, limited access to technology, and the need to adapt their teaching styles to suit online platforms. Overall, the study highlights the importance of ICT in facilitating *Da‘wah* activities during the COVID-19 pandemic and suggests that Muslim scholars should continue exploring the opportunities technology presents to spread their message effectively.

**Keywords:** ICT; *Da‘wah*; Covid-19; Muslim Scholar

**KU8-022: Digital Linguistics and the Development of Nigerian Languages**

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**Abstract**

Digital linguistics has rapidly grown in recent years with the increasing use of digital tools and techniques in language research. This ever-expanding field leverages various computational tools and techniques like Natural Language Processing (NLP), Machine Learning (ML), Computer Assisted Translation Tools (CATS), etc., to analyse linguistic data. This paper examines the potential for digital linguistics to impact the development and preservation of Nigerian languages positively. Nigeria has over 500 languages, the majority of which are still unwritten. Unlike other countries such as China, India, South Africa, Rwanda and Ghana, Nigeria does not have an active digital and coordinated roadmap for developing her languages. In this paper, the authors discussed the roles of digital and computer-assisted language learning tools in supporting the preservation of endangered Nigerian languages through digital archives, online repositories, and other social media initiatives. We also discussed the potential challenges associated with the use of these tools. The framework for this study is descriptive and comparative. The research methodology is qualitative, using both primary and secondary data. The primary data are collected through surveys of works done on Nigerian languages. From interactive online courses to multimedia resources and collaboration tools, the research finds that digital linguistics offers a range of benefits that can help develop and preserve Nigerian languages. This paper provides recommendations on how stakeholders can harness digital linguistics to develop Nigerian languages. It concludes that digital linguistics has proven to be an effective method that could be used for developing and preserving Nigerian languages.

**Keywords:** Digital Linguistics; Nigerian Languages; Language Preservation; Endangerment; Online Repositories

**KU8-029: Religions and Peaceful Coexistence in Nigerian Universities: The Need for Sustainable Development**

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**Abstract**

Every Nigerian in the University system is an adherent of either African Religion, Islam or Christianity whose tenets do not support any acts of violence. Unfortunately, some individuals expected to provide the needed harmony and national stability have become promoters of religious crises for selfish reasons. Findings have shown that, religious crises in some Universities in the past have led to destruction of lives and properties which had gotten negative effects on both human and capital resources of affected institutions, and the nation at large. To forestall this ugly occurrence, the paper examines how religious harmony could be employed to promote sustainable peace in Nigerian Universities, being the apex of academic attainment in Nigeria. To achieve this, attempts are made to examine, cases of violence in Nigeria, challenges for the future and how the teaching of religions in Nigerian Universities can provide the needed peace and stability that will make future Nigeria an enviable nation free from violence. Both historical and descriptive methods have been employed for the study. It concludes that, as the popularly acclaimed giant of Africa with over a hundred universities owned by the Federal and State governments, Missions and individuals, concerned stake holders in the new political dispensation should provide meaningful avenues and programs like interfaith relations that would promote religious harmony among all and sundry in these institutions and the nation at large.

**Keywords:** Religious Harmony; Sustainable Peace; Religious Crises; Religion; University

**KU8-033: Combating Corruption in Universities for Development: A Case Study of University of Ilorin, Ilorin, Kwara State, Nigeria**

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**Abstract**

The history of University Education in Nigeria has shown, that the institutions are owned by the Federal, State and Private bodies. The University of Ilorin is a Federal Institution established in Ilorin in 1975. Education is important for socio-economic, technological and human development of the nation. However, in spite of huge investments, the challenge of corruption is being witnessed in the public and private universities. The research methodology adopted historical and participant observation. Findings concerning corruption on campus, indicated that both Academic and Non-academic staff are involved in some sharp practices which are hindering the development of the University. The University Management, Council members appointed by the Federal Government cannot be exonerated from corruption on the Campus. Incessant strikes by the University Unions, ill-trained security officials, unidentified cleaners and illegal villagers having easy access to the campus are threat to the University. The harsh economic situation is also affecting the students, in course of their studies. Therefore, many of them are corrupting the system through bribes and other vices. In conclusion, the University Management, Council, and the different unions should work together for the growth of the University. It is therefore recommended that anti-corruption agencies such as EFCC, ICPC and other intelligence agencies should be placed on campus to operate and report corrupt officials to the University Management; Due process of justice and law should be involved if any member of the management team is found to be corrupt.

**Keywords:** Corruption; University Management; Union leaders; Strike; ICPC; EFCC



**KU8-030: Promotion of Inter-Faith Dialogue as a Veritable Tool for Peace, Security and Development on Nigerian Universities' Campuses**

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**Abstract**

It is a statement of fact that the threat to peace and security has been responsible for the lack of attainment of development in most, if not, all human organisations including Universities campuses. A few Nigerian University campuses have witnessed clashes between Christians and Muslims. Examples of the Cross in front of the Chapel of Resurrection, University of Ibadan, Ibadan which either by omission or commission stands in front of the University's Central Mosque and that of a Christian student who disguised as a Muslim Worshipper, joined and disrupted the Congregational Jumu'at prayer at the same university readily come to mind. Effects of such clashes include the destruction of properties and loss of lives, which threatened the peace and security of those institutions and their communities. This presentation, therefore, aims at proposing the promotion of interfaith dialogue as an antidote to such clashes. To achieve that aim, the paper through aggressive literature search and observation, will look at the concepts of peace, security, development and interfaith dialogue; identify a few cases occasioned by a religious misunderstanding on Nigerian Universities' campuses; discuss the effects of clashes arising from such misunderstanding and recommend measures through which residents of the universities can live in peace so that their security and development can be enhanced. The study reveals that religious misunderstandings in Nigerian universities have resulted in violent clashes, property damage, and loss of life. These conflicts have negatively affected the universities and their communities, creating fear and tension. Interfaith dialogue emerges as a crucial solution to resolve religious conflicts and promote peaceful coexistence. By encouraging open conversations and embracing religious diversity, universities can create an inclusive environment. Interfaith forums, workshops, and cultural exchanges are recommended to bridge the gaps between religious groups. Implementing these measures will foster a safe and harmonious atmosphere for learning, ensuring the overall development of Nigerian Universities and Their Surrounding Communities.

**Keywords:** Peace and Security; Development; Interfaith dialogue; Religious conflicts; Nigerian universities.

**KU8-041: Brain Drain and Development of Universities: The Mirage of Overseas Academic Scholarship Awards**

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**Abstract**

The investment in overseas academic scholarship programs by governments or the motivation of young academics to seek funding to travel and study abroad has often been tied with a few assumptions in terms of benefits and risks. On the one hand, recipients return home after completion of studies with greater knowledge and new experiences. Secondly, returnees become pivotal forces of influence for people around them and their workforce through the application of innovative ideas. Thirdly, academic institutions such as Nigerian universities as a result of the investment become more developed and are better able to operate as centers of excellence. On the other hand, recipients may not return home and may as well have not made any productive use of the overseas experience, knowledge, and opportunity. This paper is an interrogation of the stated assumptions and risks in relation to the development of Nigerian universities. It argues that overseas travel and study appear to have largely contributed to the brain-drain process and underdevelopment in Nigerian universities for so many reasons including the stated general risks. Based on an analytic examination of the processes of the investment in scholarship schemes and awards as well as the modalities guiding the release of recipients common to some of the KU8 universities, the paper will conclude with suggestions towards strategies that may be adopted to secure the benefits of overseas scholarship and minimize the risks.

**Keywords:** Brain drain; Universities; Development; Scholarships; Overseas

**KU8-045: The Nigerian University: A Change Agent in the Era of Cultural Holocaust**

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**Abstract**

This paper examines the role of Nigerian universities in countering the erosion of cultural heritage and values in Nigeria. Despite challenges, Nigerian universities can be key agents of transformation in this cultural crisis. The study reviews literature on how these universities can contribute to preserving and revitalizing cultural heritage. It explores integrating cultural education programs into curricula, emphasizing indigenous knowledge systems. The research investigates the role universities can play in research, documentation, and archiving of cultural artifacts and practices. It also explores their role as platforms for intercultural dialogue, promoting diversity and challenging dominant narratives that contribute to cultural erosion. The study highlights initiatives such as cultural festivals, exhibitions, and performances that raise awareness and appreciation for Nigeria's diverse cultural heritage. The research underscores the impact Nigerian universities can have as agents of positive change, leveraging academic resources, research capabilities, and social influence to drive transformation, empower communities, and reclaim Nigeria's cultural identity. The study concludes by advocating for increased collaboration between universities, policymakers, cultural organizations, and local communities to combat the cultural holocaust and foster a sustainable future that embraces Nigeria's cultural tapestry.

**Keywords:** Nigerian universities; Cultural heritage preservation; Cultural education; Intercultural dialogue; Cultural crisis mitigation

**KU8-059: Indigenous African Culture in the Throes of Neo-colonial Eurocentrism**

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**Abstract**

This paper examines the impact of the Eurocentric cultural arrogance on indigenous African culture. Despite gaining political independence from colonial powers, the culture of many African nations has remained ensnared in the clutches of neo-colonialism. This paper employs a multidisciplinary approach, drawing on historical analysis to interrogate the dynamics and functionality of indigenous culture vis-à-vis the manifestations of neo-colonial Eurocentrism and its effects on aspects of indigenous African culture. Findings of the study are that today, aspects of the indigenous African culture such as the trado-medic practice and indigenous African judicial system are pejoratively dubbed "Alternative Medicine" and "Alternative Dispute Resolution" respectively. Indeed, this denigration is considered a mere perpetuation of the agelong racism, chauvinism and European cultural arrogance, only exacerbated by neocolonialism. By shedding light on the ongoing challenges faced by indigenous African cultures, this paper aims to contribute to a broader understanding of the complexities of indigenous societies and promote the recognition and appreciation of diverse cultural expressions in both material and non-material culture. However, while the research delves into the resistance and revitalisation efforts by indigenous communities, it concludes that this ugly cultural phenomenon cannot obliterate African culture such as languages, cuisines, attires, hairstyles, and indeed religions as they are being carefully preserved by African ex-slaves, those described as black/Africans in diaspora, and those helping us to destroy ourselves! As such, what we lost, they have gained. It recommends cultural preservation and the reclamation of indigenous identities towards a cultural revolution and revival.

**Keywords:** Indigenous African Culture, Eurocentrism, Alternative Medicine, Alternative Dispute Resolution

**KU8-061: NUC'S CCMAS for Law Programs in Nigerian Universities: A Reflection on the Present and Future Delivery of Islamic Legal Education**

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**Abstract**

NUC CCMAS for Law programs as currently constituted has decimated to an almost bare minimum the core content delivery of Islamic legal education in Nigeria generally. Not only are the recognised Islamic law components of the Common and Islamic law curriculum too skeletal, but the surface level approach of the curriculum also appears not to be sufficiently responsive to the requirements of an in-depth grounding for students studying for a combined law degree. Unlike the BAMAS which CCMAS replaces, there are very few Islamic law courses to be taken by the combined law students. This makes their program closely similar with the common law degree program. A combined law program is supposed to be one through which the graduates produced would be proficient in both legal systems and be well prepared for professional services in the two fields. But, the CCMAS has defeated this purpose. Adopting the doctrinal research methodology, this study is a critical review of the CCMAS for Law programs on the ways it may negatively impact the delivery of Islamic legal education in the Nigerian universities. The paper will clearly identify core Islamic law courses absent in the CCMAS without which no one can claim proficiency in Islamic law and suggest necessary reviews.

**Key words:** CCMAS, NUC; Islamic law; Legal Education; Nigeria Universities

**KU8-085: Russia-Ukraine Crisis: The Impact on Africa Security and Economy from Legal Perspectives**

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**Abstract**

The unceasing conflict between Ukraine and Russia continues to have ripple effects across the world. This ravaging effect of the Russian invasion of Ukraine is felt across the globe, a long shadow is cast across Africa as a result of this armed conflict. While Africa is still struggling to recover from the socio-economic shocks of the COVID-19 pandemic, the Russia-Ukraine conflict no doubt further jeopardizes Africa's security and economy. As this crisis continues to linger, Africa is definitely susceptible to more economic damage and risk of internal conflicts. Despite the intense efforts made by the international community towards deescalating the crisis and putting a stop to the war coupled with the tough sanctions that are continuously imposed at an astronomical rate on Russia by the West in order to cripple its economy and finance to sustain the war, the Russia-Ukraine war still persists. The aim of this paper is to examine the impact of the Russia-Ukraine conflict on the African continent. More specifically, the paper explicates the implications of the armed conflict on Africa's security and economy. This paper employs a doctrinal and qualitative methodology of legal research where relevant primary and secondary sources of legal materials are subjected to descriptive and content analysis. The role of international law and key stakeholders in cushioning the presently felt repercussions of the armed conflict in Africa is also appraised in this paper. Among other reflections, the paper recommends the pathway to be threaded towards minimizing the effect of the crisis on Africa as a whole.

**Keywords:** Russia-Ukraine Conflict; Africa; Security; Economy; Impact

**KU8-073: Underdevelopment of African Religion: A Paradigmatic Study of Nigerian Universities.**

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**Abstract**

African Religion is the aboriginal religious consciousness of the Nigerians. This religion has been handed down from generations to generations through oral transmission, observations and practices. Two of the major religions that were introduced into Nigeria are Islam, through the trans-Saharan trade routes and Christianity, which came in via the transatlantic trade route. These two religions had education as the substratum of the machinery advancing the cause of the religion and propagating the cultures of the professors of these religions. It is on the basis of this that the religions became the bedrock of Universities that were started in Nigeria. Unfortunately, the Indigenous religion of the people began dwindling in fortunes with dire consequences. This research aims at examining how African Religion as a discipline has fared in the Universities. The research is based on a qualitative methodology with both descriptive and historical approaches. The work examined twelve conventional Universities each from the Federal, State and Private Institutions with a view to examining the courses, faculty staff and students of African Religion in the Universities. Primary data generated in libraries and the internet was useful to the enquiry; so are government documents from the Universities Commission. Findings indicate that African Religion as a course was not part of the initial courses at the beginning of the conventional Universities. Later, some of the Universities develop curriculums to cover the courses while some prefer to lump the course under elective courses in Christian or Islamic Studies. The resultant effect of this is that the relevance of the course will be missing in the lives of future generations.

**Keywords:** Paradigmatic Study, African Religion, Nigerian Universities, Underdevelopment.

**KU8-086: Transforming university education in the 21<sup>st</sup> century: The role of stakeholders  
Perceptions of Mass Communication Lecturers on Unbundling of Mass Communication Curriculum in Nigeria**

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**Abstract**

Studying mass communication in Nigeria, prior to 2015, was broad-based and omnibus, incorporating scholarship in all facets of journalism, communications and allied professional fields and leading to the award of B.A. or B.Sc. degree in mass communication without a clear-cut indication of area of specialisation. However, in 2015 the National Universities Commission (NUC) evolved the policy of unbundling by which the programme was split into eight specialised departments with the aim of enriching the discipline with reengineered town and gown interactions that deliver information economy-imperative graduates. Although, the plan to begin implementation of the policy was slated for September 2021, not many mass communication degree-awarding institutions have complied with the option due, in part, to multiple perspectives that greeted the policy and other varying reasons. This study, therefore, examined the attitudes of mass communication lecturers on the unbundling policy, with a view to deducing reasons for the delay or failure to comply. The study adopted a survey method through administration of online questionnaire to respondents. Findings revealed that lack of sufficient teaching/learning facilities as well shortage of manpower are some of the reasons that account for the seemingly unenthusiastic attitude of lecturers towards implementation of the policy. The study recommends that university proprietors should take on the implementation of the policy in phases, make adequate provisions for teaching and learning facilities in the eight unbundled programmes and employ lecturers as appropriate to maximise the greater goals envisioned by the policy.

**Keywords:** Facilities; Lecturers; Mass communication; Proprietors; Unbundling policy

**KU8-089: Colonial Inventions and the Activities of Traditional Bone Setters in Ilorin Emirate, 1900 to 1960**

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**Abstracts**

Since times immemorial, there had been bone setters. Their craft was handed down from generation to generation through the words of mouth. It has been a family craft and profession, and also learnt through the apprenticeship system by others who were motivated by the fame of the craft in the colonial period. Although bone setting craft was famous since the second half of the 19<sup>th</sup> century, it became widely known and trendy due to the influence of colonial activities and economy. Colonial transport system and labour promoted not only injurious prone endeavours, but also the service of the traditional bone setters, who had treated many victims who were not able to procure care in the newly established colonial health services. The paper adopts a historical methodology using primary sources like archival documents, oral interview, newspapers, and some secondary sources to perform critical analyses of the impacts of Colonialism of the activities of Traditional Bone Setters in Ilorin Emirate. The study concludes that apart from its economic benefits to the practitioners, traditional bone setting remained one the means of ensuring the healthy living of the people of Ilorin Emirate. The study therefore recommends the inclusion of bone setting practice into the primary healthcare sector of the government, so as to ensure healthy lifestyle of the citizenry, generate employment and huge revenue to the government and the practitioners.

**Keywords:** Bone Setters; Herbal medicine; road transport; Ilorin Emirate; injury

**KU8-097: Assessment of the Environmental Impacts of Plastic Waste in Ikeja, Lagos State**

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**Abstract**

There is a preponderance of plastic in the environment, so much that it now becomes an integral part of society. Its usage and applications in the various sectors of the economy in the society is enormous. However, the amount of plastic consumption on annual basis has been grown steadily, leading to various impacts on the environment. This study is an attempt to assess the environmental impacts of plastic waste on the environment. The study focused on Ikeja core areas of Obafemi Awolowo Way, Balogun, Orishe Street, Anifowoshe area, Ikeja under bridge, Ipodo, and Olowu, the residential and commercial areas with considerable number of mixed uses. Data on various types and sources of plastic generated in the environment, the volume of plastic waste generated, and the method of plastic waste disposal in the study area were acquired using questionnaire administration. One hundred and sixty-three (163) respondents were randomly sampled from the total population of 837. Descriptive statistics were used in the analysis with the use of charts, frequency, and percentages to present the results. The relative Impact Index was also used to measure the weight of impacts on the environment. The results revealed that plastic waste has its highest impacts as traffic disturbance, littering, blocked drainage unsightly scene, and flooding in that order. The study, therefore, recommends the promotion of the Reduce, Reuse and Recycle approach (3Rs) in the use of plastic materials and creation of awareness on the impacts of plastic waste on the environment.

**Keywords:** Environment; Plastic Waste; Impacts; Recycling; Lagos

**KU8-098: Mainstreaming Shariah into The Nigerian Pension Regime Onikosi**

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**Abstract**

Despite the enactment of Pension law in various jurisdictions world over, challenges and clogs have been subject of debate in many forums. The attendant consequence has been economic damages and political imbroglios that herald corruption, poor resources' mismanagement and periodical strike actions to mention but few. To this end, efforts and measures to ensure an effective all-embracing pension law that would lay at rest the aspirations of stakeholders in the country, ranging from the Ordinance of 1951 to the extant contributory pension law of 2014 has not been successful. Consequently, Islamic law becomes an inevitable block to fill the lacuna. This paper therefore examines how shaiah principles that have been tested positive on banking and insurance sectors respectively, can be mainstreamed into the pension regime in Nigeria in order to tackle the clogs in the implementation of an effective working and all-embracing pension scheme in Nigeria. The paper adopts the doctrinal legal research method of content analysis of the primary sources of Islamic law, of the existing Nigerian Pension Laws and also explores secondary sources of information like articles in journals, internet materials and text books. The paper reveals that the extant laws are not sufficient for possible exploration of an all-embracing pension regime in Nigeria. Thus, the paper recommends necessary legal reforms through legislation and policies. The paper concludes that harmonization of shariah with the Nigerian Pension Laws, through a well-organized arrangement will ensure a balanced all-embracing pension regime in Nigeria.

**Keywords:** Mainstreaming, Shariah, Pension laws, Nigeria, Legislations

**KU8-104: Skill Acquisition Opportunities for Students of Arabic and Islamic Studies in Nigerian Universities: A  
Call for Curriculum Re-Adjustment**

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**Abstract**

The study of Arabic and Islamic studies is visible in many Nigerian universities as domiciled disciplines in the faculty of Arts or Humanities. A critical look into the curriculum of the twin fields shows that it is only capable of producing teachers and clerics who shall be re-echoing the same theoretical instructions they have been taught. With the migration of Nigerian universities from the Benchmark Minimum Academic Standard (BMAS) to the new developed Core Curriculum Minimum Academic Standard (CCMAS), there is a need for curriculum re-adjustment of Arabic and Islamic Studies disciplines in a manner that will be capable of producing graduates who have attained special skills and professionalism in addressing selected problems of their immediate community through their chosen career. Against this backdrop, this article showcases the unexplored opportunities of skill acquisition in the twin fields of Arabic and Islamic Studies in Nigerian universities. The research adopts descriptive method. Some of the skill acquisition opportunities highlighted by the article are; translation, administration and distribution of estate, dispute resolution, exorcism and spiritual medical expertise, Hajj operation, etc. The research calls on departments and units taking Arabic and Islamic Studies in Nigeria to make it compulsory for students to choose a particular skill in which they will specialize and get certified as part of their graduation requirement.

**Keywords:** Skill; University, Arabic; Islamic Studies; Curriculum.

**KU8-100: Exploring Global Partnership for Bridging Technological Divides and Promoting Inclusive Innovation for Sustainable Development in post-MDG Nigeria**

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**Abstract**

The report of the UN System Task Team on the Post-2015 UN Development Agenda - science, technology, and innovation), which was set up in September 2011 to support UN system-wide preparations for the post-2015 UN development agenda acknowledged certain 'persistent obstacles' to innovation in many developing countries. The 'obstacles' include: 'shallow financial markets' – that could not finance technological acquisition and innovation; 'lack of market incentives'- that are strong enough to drive innovation; and weak access to information - due to institutional constraints to information sharing and exchange. Consequently, the report recommended 'a global partnership' to overcome these market failures, bridge technological divides, promote inclusive innovation, and develop sustainable development on the continent. According, this paper examines how well Nigeria has fared in engendering sustainable technology and innovation inclusion. To accomplish the objective, we explore three measuring variables: (a). technology acquisition profiles, (b). innovation financing profiles, and (c) human capital development profile of the country over a period of ten years (2010-2020). The methodology of the work adopts a critical review of existing literature, supplemented by oral interviews conducted among experts and stakeholders in the educational sector. The findings show some startling revelations viz: that existing technology acquisition profiles of the country could not sustain her current technological needs, in critical sectors such as health care, transportation, and power/energy deployment, etc. It is envisaged that the recommendations of the paper will be beneficial to stakeholders in the educational sector, particularly, the quest for the transformation of universities in the 21st century.

**Keywords:** Stakeholders; Transformation; Innovation; Supplemented; Market incentives

**KU8-110: The Curriculum-Industry Gap and Nigeria's National (In)Security: An Imperative for Rethinking the Peace Studies Curriculum**

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**Abstract**

Indeed, it can be posited that Nigeria's Fourth Republic is perhaps the most troubled and imperilled phase of national life since independence. Coincidentally, it is also a period that has seen the development and growth of academic programmes in Peace & Conflict Studies, Peace & Security Studies, and Peace & Strategic Studies. This study has been spurred by the urgent need to tailor knowledge production towards fixing society's problems and in this context, Nigeria's peaceful co-existence, public safety, and national security needs. After an enumeration of universities where Peace studies is offered, the study scrutinises the Peace Studies course contents based on the recently approved Core Curriculum Minimum Academic Standard (CCMAS) by the National Universities Commission with relevant Peace Studies curriculum in leading Schools of Peace Studies globally. Next, we compare these course contents with the geo-political threats in parts of the country where these schools are located. Based on identified gaps and disconnects, this study proposes a global approach that strikes balance between local and global needs of peaceful co-existence, public safety and national security. The expected outcome would be Peace Studies curricula that are needs and solution driven.

**Keywords:** Rethinking; Curriculum; Industry; Nigeria; Security

**KU8-111: The Roles of Dress Code in 21st Century Universities**

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**Abstract**

The university community is made up of youth majorly, and they are exposed to a number of social vices that affect them negatively; more importantly, in the area of dressing or fashion. These are influenced by imitation of celebrities, peer influence, western dress styles and fashion in vogue. The 21<sup>st</sup> century technology addressed the youth and the university students with technological advancement. Their attachment to these different types of technological tools such as computers, mobile phone, iPad and internet facilities also collaborate the likes of Instagram, Twitter, Snapchat, Tinder among others. All these posed serious problems to the society as well as the university when it comes to issues of dress code. It is interesting to know that female students have always been the culprit of dress code, interestingly, male students are also guilty of this sloppy and indecorous dressing. The conversation is an age-old that still has a pride of place among the University students till date. It is against this backdrop that many Nigerian Universities decided to quickly take the bull by the horn by employing hands to come up with rules and codes of dressing that is accepted in the University(s), this was what prompted and necessitated University of Ilorin (UNILORIN) to constitute a committee of members of staff and students' enforcement of dress code some years ago. One of the major aims of this paper is to discuss how to curb all forms of social vices, imperatively, indecent dressing among the university students. Finally, the paper concludes that, stakeholders in the university community, environment and management should organise and repeatedly affirm their stand on the issues of dressing and fashion.

**Keywords:** 21st Century Dressing; University Stakeholders Peer Pressure; Internet.

**KU8-124: University's Islamic Studies Curriculum and Sustainable Development Goals**

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**Abstract**

The blueprint designed by the world to accomplish a robust sustainable future for all living creatures is referred to as sustainable development goals. The goals, which are 17 in number, address challenges of the developed and developing countries to improve human welfare and protect the environment. However, there is no doubt that one of the key objectives of the University is to integrate sustainability across all programmes for the attainment of the desired goals. Thus, this research examines the Islamic Studies curriculum of the University of Ilorin's academic programme with the objective of identifying its relevance to the actualisation of selected sustainable development goals. The paper adopted a combination of historical and descriptive methods for data collection and data analysis. The findings of the study reveal that the curriculum of Islamic Studies exposes students to the knowledge needed in shaping a sustainable future in the goals discussed and recommends expansion of the curriculum to cover other aspects such as climate change, industrialisation, and well-being.

**Keywords:** Curriculum; Islamic Studies; Sustainable Development; Goals



**KU8-139: Peace, Security and Development in Universities: Al-Hikmah University as a Case Study By Al-Hikmah University as a Case Study**

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**Abstract**

There is no gainsaying the fact that Higher education is the bedrock of sustainable national development, which encompasses structural transformation of an economy, human capital development, technological innovation, forging of democratic citizenship, social cohesion and national building. Like other countries all over the world, these were the reasons for the establishment of Universities and other tertiary institutions in Nigeria. However, the above mentioned cannot be achieved in any University without peace and security. This is why all stakeholders in the University administration often times emphasizes and deplore resources (both human, material and technological) to the maintenance of peace and security on the campuses. In this paper, attempt is made to appraise the role of Peace and Security as panacea to growth and development using the Al-Hikmah University, Ilorin as a case study. Using historical, descriptive and analytical methodology, this paper examines the approach of the management of this University in ensuring a peaceful and secured University environment, including the challenges and constraints. Our findings include the commitment of successive leadership; the strict adherence to the vision and mission of the University; among others. The paper concludes that with a well-articulated security architecture, the growth and development of Universities could be enhanced.

**Keywords:** Peace, Security, National development

**KU8-140: Peace, Security and Development in Universities: Al-Hikmah University as a Case Study**

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**Abstract**

There is no gainsaying the fact that Higher education is the bedrock of sustainable national development, which encompasses structural transformation of an economy, human capital development, technological innovation, forging of democratic citizenship, Social cohesion and national building. Like other countries all over the world, these were the reasons for the establishment of Universities and other tertiary institutions in Nigeria. However, the above mentioned cannot be achieved in any University without peace and security. This is why all stakeholders in the University administration often times emphasizes and deplore resources (both human, material and technological) to the maintenance of peace and security on the campuses. In this paper, attempt is made to appraise the role of Peace and Security as panacea to growth and development using the Al-Hikmah University, Ilorin as a case study. Using historical, descriptive and analytical methodology, this paper examines the approach of the management of this University in ensuring a peaceful and secured University environment, including the challenges and constraints. Our findings include the commitment of successive leadership; the strict adherence to the vision and mission of the University; among others. The paper concludes that with a well-articulated security architecture, the growth and development of Universities could be enhanced.

**Keywords:** Peace; Security; National development

**KU8-145: Impact of First Language on Educational Development: Language of Instruction in Nigerian Schools**

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**Abstract**

The term “vernacular” being used to address our indigenous language whenever a student speak it during school hours makes it inferior and primitive to the colonial language. The policy that stated the use of foreign language as a language of instruction does not only demean our language but makes it worthless. Students in China, Japan, Indonesia, Indian etc being taught in their indigenous languages are ahead in almost all the fields of studies, especially science and technology, areas where we still struggle. The first language of a person has a significant impact on the level of assimilation and understanding. That is why it remains our language of thought. Why do we have to go through the process of putting things together in our first language before we can understand and assimilate? Why do we have to go through the stress of processing ideas first in our indigenous language then translating into a colonial language? What impact can our first language have on easy assimilation and productivity? How can first language as a language of instruction promote our educational development in Nigeria? This paper intends to open our eyes to the advantages of first language to educational development in Nigeria.

**Keywords:** Indigenous languages; Education; Nigeria; language of Instruction; policy

**KU8-165: Critical Examination of the Dearth of Faith-Based Tertiary Institutions in Kwara State**

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**Abstract**

Missions or religious bodies have been playing major roles in the development of education in Kwara State, and Nigeria as a nation. This dates back to pre-independence of Nigeria, at the entry points of these religious groups. Schools established by these missions, has positive impacts on the social, economic and political development of Nigeria. Establishment of faith-based schools (primary and secondary) also took place in various parts of Kwara State. However, there seem to be dearth in the establishment of faith-based tertiary institutions in Kwara State. The aim of this paper was to take a critical look at the dearth of faith-based tertiary institutions in Kwara State. While its objectives were to trace the origin of faith-based schools; examine causes of dearth of faith-based tertiary institutions in Kwara State; and suggest solutions to these challenges. This paper adopted historical and analytical methods. The paper discovered that unlike private owned tertiary institutions that were visible in Kwara State, faith-based tertiary institutions were not. The paper concluded that efforts be made to make the few that were approved by the National Universities Commission functional.

**Keywords:** Dearth, Mission, Faith-based, Tertiary Institutions, Kwara State

**KU8-174: University Education and its Travails in the Third World Countries: A Case of Nigeria**

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**Abstract**

Third World countries are mostly poor and this fact reflects in their social, political and economic structures. Except in a few of these countries, social infrastructures, health sector and educational system are more often than not in bad shapes. And above all, in most of these countries, their economies are badly run. It is only in this context that the travails of university education in the country could be better understood. Although Nigerians had had exposure to university education before the 20<sup>th</sup> century, the first university to be established in Nigeria, the University College Ibadan, came into being in 1948. In addition to the one in Ibadan, four more universities were established in the early '60s and since then, several other universities were established by both the federal and state governments. This was the situation in the country until 1999 when the first private university, Gabriel Igbiniedion University Okada was licensed. It is only pathetic that just like most of the other government departments and agencies, universities in Nigeria, both federal and state-owned, are not well-run. In the case of these universities, their greatest challenge remains under-funding. In this vein, the aim of this paper is to trace the history of university education in Nigeria from the beginning to the present time. Again, this paper sets out to examine how the environment within which these universities operate really impact on their survival Attempts are made to recommend possible solutions to these challenges. Secondary sources are employed in researching this paper.

**Keywords:** university, education, travail, survival, economy, government, private

**KU8-175: Education Value Chain Framework in Nigeria Higher Institutions: Islamic Perspectives**

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**Abstract**

Value chain involves a range of activities that institutions and stakeholders perform to bring a product from its conception to its fruition. The need for an effective value chain system in Nigeria higher institutions has become imperative. The activities that comprise a value chain can be contained within a single institution or divided among different stakeholders. The higher institutions in Nigeria are facing lots of challenges due to the dynamic environment which is making the survival of these institutions difficult in the competitive world. The institutions of higher learning are under tremendous pressure to provide value to the students and other stakeholders. This paper aims to review the value chain frameworks related to higher education in Nigeria in the light of the views of Muslim scholars and other scholars in related fields. The methodology adopted was descriptive method and relevant literature were consulted. The study revealed that some Nigerian higher institutions lack value chain structures. Muslim scholars and other scholars presented model that would strengthen the existing value chain in Nigerian higher institutions. The paper concluded that higher institutions need a specific value chain model which can aid process and components of value adding in the institutions of higher learning. In order to provide quality education there is a need to focus on the service value chain of the higher institutions. For tertiary institutions and universities to adequately develop all the key players; the students, the teachers and the community should fully involve in actualising the models.

**Keywords:** Value chain, higher institution, education, teacher, student, model

**KU8-182: Transformational Leadership as a Panacea to Challenges of University Education in the 21st Century**

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**Abstract**

The 21st century is confronted with diverse challenges connected with politics, economy and insecurity among others. Unfortunately, the University education is not exempted from the challenges. Considering the fact that leadership plays a pivotal role in any given society, this paper examines transformational leadership as a panacea to the challenges of University education in the 21st century. Attempt is made to use biblical Nehemiah as a model; his nation was threatened by extinction but with his leadership qualities, he transformed the situation. Historical and exegetical methods are adopted in the paper. It is discovered that challenges are peculiar to every organisation from generation to another; and that transformational leadership practices have a positive impact on University education. The paper concludes that transformational leadership is indeed ameliorates the challenges of University education in the 21 century; and it offers practical advice to University administrators on how to overcome obstacles. The paper recommends that transformational leadership is required to tackle the current challenges facing each of the Universities in Kwara State in particular, and Universities in Nigeria in general.

**Keywords:** Transformational Leadership; Panacea; Challenges; University education; Nigeria

**KU8-186: Dramatic Exploration of Contemporary issues in Kunle Afolayan's *Anikulapo***

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**Abstract**

Cultural beliefs and traditional rites are paramount aspect of any African society. While some are harmful, others are of advantage. Some of these practices are presented in Nollywood films to entertain, orientate and educate the populace. An important aspect of Nigeria culture, the Yoruba tribe to be precise, is the ideology of prophesy, fate, and destiny. Through the use of content analysis, this paper examines the Yoruba cultural belief in fate and destiny as an inevitable situation using Kunle Afolayan's *Anikulapo*. Also, the paper employs the theory of fatalism to examine the relationship between man's physical and spiritual realms. The paper reveals that free will may be limited because situations and results are defined by fate and accompanied by human actions and these actions may come from lack of control. The paper therefore concludes that, while man is responsible for his own life and decisions, certain supernatural forces are often beyond man's control.

**Keywords:** Cultural beliefs; Nollywood; Anikulapo; African society

**KU8-243: University Education System and Human Capital Development in the Nigerian Film Industry**

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**Abstract**

Quality education and training have been identified by various scholars as cogent investments that enhance workforce productivity in all strata of human endeavours. Given the fact that they assist in building the mental capacity of workers as well as boost their creativity and innovation for the growth and sustainable development of their vocations. Hence, human capital development through strategic education of stakeholders in the Nigerian film industry is sacrosanct to its growth and continuous relevance in the world entertainment parlance. This is because, beyond its high entertainment impact on the teeming Nigerian audience, recent studies have shown that the Nigerian film industry is a great employer of labour and the second largest film producer in the world with a contribution of 2.3 percent to Nigeria's Gross Domestic product annually. Regardless of the success recorded in the mass production of Nollywood films in the country, however, the findings of this paper have revealed that most of the films still lack the professional craft and technology to favourably compete with films from other advanced countries of the world in the global market. To reverse the trend, this paper recommends that university educational system where Performing arts and film studies are taught and practiced has prominent roles to play in reinventing Performing arts/ film studies programmes to strategically develop the capacity of students, scholars and artists with the requisite knowledge and technology to meet up with the challenges and requirements of film production in the 21<sup>st</sup> century.

**Keywords:** University; Education System; Human Capital Development; Nigerian Film Industry; Productivity

**KU8-231: Intellectuals in the Town and University Development: A Focus on Arabic and Islamic Studies**

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**Abstract**

University is a veritable learning citadel for the nurturing and training of minds through a well thought out and planned educational pattern. The major actors in this intellectual industry are seasoned and upcoming academics who jointly ensure the intellectual development of the students who are pursuing high degrees in various disciplines. While the role of these academics is highly indispensable and impactful, the complementary role of the intellectuals in the town is equally key towards achieving the overall university development. These non-academics, by virtue of their proven intellectual credentials and robust field experience, need to be periodically invited by the university authority to the Campus to discuss topical issues in relevant areas of study for the benefit of students especially those at the postgraduate level. Focusing on the twin discipline of Arabic and Islamic Studies, this paper makes a case for scholars in the town whose wealth of knowledge and wisdom is yet to be properly utilized. As the city of scholarship, Ilorin parades a number of scholars in Arabic and Islamic Studies who hold various non-academic positions in the town such as in the religious, judicial and traditional fields. The research shall rely on relevant materials in the library as well as observations to achieve its objective.

**Keywords:** Intellectuals, Town, University, Arabic, Islamic Studies

**KU8-239: The Nexus between Neo-Colonial Higher Education and Gender in Africa**

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**Abstract**

The question on how African women can access development equitably has been the concern of multi-lateral development agencies, governments, and Non-governmental Agencies and Gender scholars globally. Despite all the efforts, so far, lopsided gender power equation and differentials in developmental opportunities have remained perpetually to the disadvantages of African women. A key factor in the continuation of gender inequalities is the entrenched neo-colonial higher educational systems in the former African colonies. This academic paper explores the intertwined relationship between neo-colonial higher education and gender in the African context. It investigates how historical remnants of colonialism, coupled with contemporary dynamics, continue to shape the experiences and opportunities of women within African higher education institutions. The analysis draws from various scholarly works, empirical studies, and reports to shed light on the complex dynamics underlying gender disparities in access, representation, curriculum, and campus culture within African tertiary education.

**Keywords:**

**KU8-245: Exploring Islamic Studies: Leveraging Educational Software for Enhanced Learning and Performance among Undergraduates in Kwara State**

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**Abstract**

This study explores the intersection of Islamic Studies and educational software, highlighting the potential of technology in facilitating comprehensive and engaging learning experiences for students. By leveraging innovative software solutions, both educators and learners can benefit from a wide range of interactive tools, digital resources, and immersive platforms tailored to Islamic Studies. The research employed a mixed-methods approach, incorporating both quantitative and qualitative methodologies. A sample of undergraduate students studying Islamic studies was randomly selected and data was collected through surveys and performance assessments. The qualitative analysis was to examine the statistical relationship between the use of educational software and academic performance, while quantitative analysis will explore students' perceptions, experiences, and attitudes towards the software. The findings of this study are expected to contribute to the existing body of knowledge on the integration of educational software in Islamic studies education. The results will provide insights into the effectiveness of educational software in enhancing learning outcomes and improving student performance. Additionally, the study aims to inform policymakers, educators, and curriculum developers in Kwara State about the potential benefits of incorporating educational software into the teaching and learning process of Islamic studies.

**Keywords:** Islamic Studies, Educational Software, Technology-enhanced learning, Digital resources

**KU8-261: Speech Act Analysis of a Stakeholder on ASUU Strike as Misdemeanour to Transforming University Education**

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**Abstract**

This paper is about the Speech Act analysis of stakeholders on ASUU Strike as misdemeanour to transforming university education in Nigeria. At the wake of the infamous 2022 strike of ASUU caused by government's refusal to keep to the 2009 ASUU/Federal Government agreement and other related issues, stakeholders made various utterances which undermined the expected transformation of university education in Nigeria. One of such stakeholders is the former Labour Minister, Dr Chris Ngige whose utterances inflamed the already volatile university situation occasioned by the strike embarked upon by ASUU and non-payment of eight months' salaries. The Speech Act Theory by J. L. Austin (1962) which is "by speaking, a person performs an act, or does something (e.g., state, predict), and that meaning is found in what an expression does, in the act it performs" as expanded by John Searle (1977) is used to interrogate this discourse. The Speech Act Theory is one of the rigorous attempts to systematically explain the working of language. It is not only widely influential in the philosophy of language, but in the areas of linguistics and communication as well as applied on one of Dr Chris Ngige's speeches towards ASUU. The paper concludes that stakeholders such as the Ministers of Labour, Education, Finance, Universities' Visitors, Chancellors, Pro-Chancellors and Vice-Chancellors should, through their written and verbal utterances, conform to the objectives of speech acts in order to avoid misdemeanours but foster positive compliments from ASUU and students who are also stakeholders in transforming university education in Nigeria.

**Keywords:** Misdemeanours; Speech Act Theory; Stakeholder; Transformation; Systematically

**KU8-260: Interlibrary Loan as Resource Sharing Window for Sustainable University Libraries Growth in Kwara State**

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**Abstract**

Collaboration in the society is a vital force for achieving success towards making resources sharing provide access to library holding by all and sundry. The purpose of this study is to examine the interlibrary loan among the University libraries in Kwara State. The study will adopt a survey research design with self - structured questionnaire to be used in collecting data from the eight Universities that are on the verge of forming a consortium. Both the professional and non-professional librarians of the Universities in Kwara State will constitute the population for the study. The data collected will be analysed using descriptive statistics. The findings are expected to show the possibility of interlibrary loan activities among the Universities. It will also indicate how human resources and of funding could be applied for implementation of policies guiding interlibrary loan services and how they can be impediments to interlibrary loan activities. The study will draw conclusion from the findings that will show whether a robust collaboration among the University libraries will enable efficient and effective academic growth among the university libraries within the consortium. Recommendation will be drawn from the outcome of the research.

**Keywords:**

**KU8-262: Unabashed Use of Sexual Language in Selected Works of Ogochukwu Promise**

Olushola Ayodeji Akanmode

**Abstract**

No coyness is observed in the description of sex scenes in Ogochukwu Promise's writings as she uses explicit and earthy words to describe such scenes in two of her novels selected for this paper; *Zita-Zita* and *In the Middle of The Night*. The aim of this paper is to determine if Ogochukwu Promise's style conforms to that of the pioneer and older generation of African literary writers. The paper applied the descriptive and content analysis methods to analyse the non-numerical data presented in the selected novels. This paper finds that Ogochukwu Promise's sexual language deviates from that of the older generation of literary writers indicating that sexual language in African literary works has matured over time. The paper recommends the portrayal of African sexual identity in African literary works other than just for the purpose of procreation as commonly depicted in most African literary texts.

**Keywords:** Conform, Deviate, Literary writers, Sexual language, Unabashed

**KU8-272: Combating Corruption: An Effort toward Transforming University Education**

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**Abstract**

In Nigeria, corruption is a constant phenomenon. In 2012, Nigeria was estimated to have lost over 400 billion US dollars to corruption since 1960. The core values of education which is the main necessities of human life are viewed as being negated by the prevalence of corruption in Nigerian universities. This paper aimed at examining the causes of corruption in Nigerian universities, its consequences and the ways forward. The study is guided by the human needs theory proposed by Abraham Maslow as a theoretical frame work. The study adopted qualitative research method in order to address this phenomenon. This paper discovered increase in student enrolment with no corresponding increase in both human and material resources, exploitation by student by lecturers and mismanagement of finance as the major forms of corruption in Nigeria university. The paper concluded that all stakeholders should intensify more efforts toward combating corruption in Nigerian universities. The study recommended increase in funding of educational sector, introduction of multiple incentives to the lecturers and strengthening of internal monitoring unit like SERVICOM.

**Keywords:** Education; Corruption; Transforming; University Education

**KU8-274: A Critical Appraisal of the Speech - Act Theory**

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**Abstract**

The speech- act theory was propounded by J.L. Austin in 1962, based on the notion that we perform certain actions when we speak. The frontiers of his original propositions were later expended by his student, John Searl (1969). Some other scholars have modified the theory e.g Levin (1977); Bach and Hannish (1979); Levinson (1980); Kindler (1998) in their different publications. In his *how to do things with words* (1962) Austin's idea of speech - act developed as a result of disagreement with the position of logical pacifists who have it that a sentence can only be meaningful when it can stand empirical and analytic tests. In essence, logical positivism deals with the truth-value of sentences. In order to distinguish between the utterance of a speech and the effect it has on the hearer and the outcome of that force, Austin divided the speech- act theory into three parts namely: locution, illocution and percolation. In this Paper, we have been able to look closely at Austin's theoretical framework with the hope that it will assist English language teachers grab the essence of language as a potent communication tool. We have been able to prove through the Speech-Act Theory that language is not merely a docile speech outlet but embraces actions, reactions and counter-actions. It is our hope that if language teachers consciously and effectively put this theory into practice, language learning will be much easier and interesting.

**Keywords:** Verdictives; Exertives; Commissives; Declarations; Representatives

**KU8-278: Combating Socio-Economic Vices in Nigerian Tertiary Institutions: A Study of *Al-Amidul Mubajjal* Play by Z. I. Oseni**

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**Abstract**

Nigerian tertiary institutions are characterized with certain vices that are negatively affecting their mandate of quality teaching, research and ethical based mentorship. Vices, such as bribery for admission, sex for marks and other forms of indiscipline had transformed to a cankerworm that is eating deeply into the fabrics of the institutions and by extension affecting the Nigerian society at large. Z. I. Oseni in his drama entitled *Al-Amidul Mubajjal* joined the league of prominent Arabic play writers who contribute positively to the growth, development and rebranding of Nigerian society by condemning corruption and indiscipline in Nigerian educational sector, whose work is yet to receive adequate attention of researchers. This study therefore, aimed to investigate some contemporary social-economic vices in Oseni's play called *Al- 'Amīdul Mubajjal* to measure its contribution to a value based education in Nigeria Universities. The researcher adopted descriptive approach to complete this study. It was discovered that the play condemned extortion of tertiary institutions' candidates and their parents to gain admission, established that the consequence of sex for marks is catastrophic and that oppressing others in an academic setting is a gravious crime. The paper recommended that the play is staged for more impact.

**Keywords:** Combating; Socio-economic; Vices; Tertiary; Institutions

**KU8-281: Beyond Banjo: Triglossia and the Emergent Glocalisation of the English Language in Nigeria**

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**Abstract**

Banjo's (1971) variety differentiation has remained pivotal to the scholarship of sociolinguistics of English in Nigeria. Fifty years later, this paper examined the scholarship of classifying varieties of Nigerian English and noted that Nigerians are tending towards triglossia, with the varieties fast becoming dialects, which are reinforced by the predominance of the social media. The paper addressed this emergent triglossia by which many educated Nigerians resort to the High (H), Mid (M) and Low (L) lects of English, with the three respectively impelled by the quest for international intelligibility, social acceptability and 'street credibility'. Based on Adedimeji's (2012) five-level variety categorisation of non-formal, informal, semi-formal, formal and super-formal Nigerian English varieties, the paper submitted that the need to communicatively connect with the international, national and sub-national audiences compels the emergent glocalisation the English language and the acquisition or learning of the three lects. This glocalisation is the process by which while being conscious of international audience, Nigerians are primarily concerned with projecting their national and intra-national linguistic peculiarities. The paper concluded that the M and L lects in Nigeria will continue to reflect glocalisation while the future of English in the country will require the learning of the three lects for functional and contextual communicative purposes.

**Keywords:** Sociolinguistic; Diglossia; Triglossi; Nigerian English; Glocalisation

**KU8-283: Transforming University Education in the 21<sup>st</sup> Century: The Role of Stakeholders**

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**Abstract**

Education research has acknowledged the value of transforming which offers an opportunity for researching and rethinking how appropriate and successful educational practise may be. Higher educational sector has been faced with globalization and strong competition. Therefore, the need has arisen for professional management structures and more entrepreneurial style of leadership. The paper discusses the roles of stakeholders in improving quality of education in this 21<sup>st</sup> century Nigeria. Internal and external stakeholders are identified and the various roles they could play in improving the quality of university education are discussed. Such collaborations could be achieved through understanding, accountability and transparency by the management of the higher educational institutions. Also, having closing link relation with employers of labour and other external stakeholder. The paper sees it as necessary that universities should transform to serve as modest of social justice and developing of humanity, promoting peace and to foster sustainability in the society. The work applied analytical and historical to arrive at its findings.

**Keywords:** Higher education, Institution, Stakeholders, Transformation and Knowledge Management

**KU8-284: Re-Mapping Hate Speech: A Wattsonian Relational Work Approach**

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**Abstract**

Hate speech is rooted in any verbal or written appellations and pronouncements that insult or derogate target(s) on the basis of gender, religious, political, racial or ethnic affiliations. However, against the perception by some scholars that its scope is boundless, this paper argues that hate speech is exclusive of unmarked face-retrieving verbal aggression. Driven by the theory of relational work with data comprising four purposively selected online texts. The paper concludes that face-retrieving secondary hate speech are unmarked/neutralized. This position is at variance with the United Nations Committee on the Elimination of Racial Discrimination (UNCERD) aversion to the justification of hate speech, notwithstanding that certain situational factor may give rise to their performance. From the established details in the work, it is proposed that UNCERD should expunge the justification ouster for an acceptable definition of hate speech that encompasses contextual nuances and universal template for categorising hate speech.

**Keywords:** Hate Speech; Relational Work; Verbal Aggression; Impoliteness

**KU8-289: A Morpho-Stylistic Assessment of the Linguistic Performance of Nigerian Students on Selected Social Media Interactive Platforms**

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**Abstract**

Flexibility is an intrinsic nature of language; the English language, in particular, has accommodated a lot of changes over the centuries. Even today, after the advent of what is called "Modern English", the language continues to evolve. One of the factors that give rise to such evolution is the introduction of a system of communication that differs largely from the traditional modes of speaking and writing – the social media. This study examined the use of language by Nigerian students on selected social media platforms and how it deviates from the norm, with the aim of ascertaining the structure, form and function of what has been tagged, "Social Media Language" (SML). The work adopts certain aspects of Leech and Short's (2007) stylistic pluralism as analytical tool. Analysis reveals borrowing, acronym, clipping and reduplication as predominate morphological features of the SML. It was equally discovered that the field of discourse, tenor of discourse and mode of discourse which are largely informal give room for care-free use of language.

**Keywords:** Linguistic performance, social media, Nigerian students, morphology

**KU8-290: Islamic Medical Law in Universities' Curriculum: Its Roles in Solving Medicinal, Pharmaceutical, and Health Challenges in Nigeria**

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### **Abstract**

Islamic medical law, known as Fiqh at-Tibb, plays a significant role in addressing medicinal, pharmaceutical, and health challenges in Nigeria. This paper explores the potentials of Islamic medical law in confronting the challenges by incorporating Islamic medical law into the curriculum and research programmes in university education and to also educate and train future healthcare professionals in the ethical and legal aspects of healthcare from an Islamic perspective. The paper examines the concept of Islamic medical law, its ethical procedures and roles. It recommends that universities should conduct researches that focus on ethical considerations, alternative treatments, and approaches aligned with Islamic principles. Also, ethical committees or centers specializing in Islamic medical law should provide guidance to researchers, healthcare professionals, and students by ensuring that their practices are in accordance with Islamic values, collaborations with Islamic scholars, healthcare institutions, stakeholders would foster interdisciplinary research and innovative solutions and community engagement initiatives would help to raise awareness about Islamic medical law and its role in addressing health challenges. The paper therefore concludes, among other things that the incorporation of Islamic medical law into Nigerian universities' educational, research, and community engagement activities would develop culturally sensitive and ethically grounded healthcare practices that resonate with the Muslim population's religious beliefs and values.

**Keywords:** Islamic medical law, pharmacy, medicine, health, collaboration, community intuitive,

### **KU8-292: The Effects of Subsidy Removal on The Nigerian Economy: A Study of Kwara State**

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### **Abstract**

Over the years Nigerians have lived on subsidized petrol resulting in various economic manipulations and sharp practices, corruption, mismanagement and embalmment of funds with several negative effects on the Nigerian economy. Nigeria exports its crude oil and imports refined petrol resulting in total dependency on foreign products and foreign exchange, with the resulting poor growth and development of the country. The sudden removal of the fuel subsidy has confronted the people of Kwara State with diverse challenges ranging from increased transportation cost, increased prices of goods food items and services generally. This sudden and unprepared withdrawal of petrol subsidy by a newly sworn in democratic President has brought in its wake, pervasive poverty unhealthy life styles as the people make desperate attempts to survive the resultant economic hardship. This work aims to examine the effects of fuel subsidy on the economy and people of Kwara State, using oral interviews as primary sources and written sources for secondary sources. The study concludes that the standard of living of the people in Kwara-State has reduced with social, psychological and economic consequences. The paper concludes that immediate and long term palliative measures are necessary and they should be promptly put in place to reduce the effect of the subsidy removal on the people.

**Keywords:** Effects, Subsidy, Nigeria, Economy

**KU8-011: Towards Developing 21st Century Skills through Entrepreneurship Education among University Students in Kwara State**

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**Abstract**

The golden age of limitless opportunities as well as new openings and dimensions has arrived with the 21st century which ultimately reshaped the entire education system. National Universities Commission (NUC) at the meeting of Directors of Entrepreneurship Development Centres held in March 2023 emphasized the significance of integrating 21st-century skills into teaching and learning activities with a focus on entrepreneurship education. The objective of this study is to provide valuable insight into the role of entrepreneurship education in the development of 21st-century skills among university students in Kwara State. For this study to provide an understanding of the function of entrepreneurship education in the development of 21st-century skills, a qualitative research method was deemed appropriate. The study is guided by three research questions. The researcher used a simple random sampling technique to select 100 students from two universities in Kwara State as the sample for the study. A 20-item questionnaire was used to gather information. The study revealed that teaching entrepreneurship education is important as it brings about the development of 21st-century skills such as learning and innovation skills, digital literacy skills, and career and life skills. The study recommended that current training processes and practice in our tertiary institutions should be reviewed to meet with global best practice. The study also suggested that every institution should develop linkages or partnerships with experts in the field to drive entrepreneurial ideas.

**Keywords:** Entrepreneurship Education; University Students; Developing; 21<sup>st</sup>-Century Skills; Kwara State

**KU8-046: Necessity, the Fundamental Basis of Entrepreneurship Development in Africa: A Survey of Southern Nigeria**

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**Abstract**

Majority of the people in Africa found themselves in the situation that has made poverty a life-long experience. Individuals, communities and government, having realized this, have resorted to 'self-help' survival strategies, communal support and intervention efforts by the government, in their efforts to struggle out of the poverty cycle. Most of these efforts have been referred to as qualified to be regarded as entrepreneurial at different scales, whether tiny, micro, small, medium or large. Underscoring the survival strategies of these majority of Africans are entrepreneurship characteristics which this research set out to measure. To answer the question of this research, we conducted a survey of Southern Nigeria to examine the authenticity of the foundational nature of entrepreneurship characteristics in the entrepreneurship development process. Our results reveal that necessity is fundamental to the successful development of entrepreneurship in Southern Nigeria, hence the submission of the research that African entrepreneurship is significantly necessity-based.

**Keywords:** poverty cycle; self-help survival strategies; necessity-based entrepreneurship; entrepreneurship characteristics; entrepreneurship development

**KU8-087: Lean Management Practice and the Performance of Public Universities in South-West, Nigeria**

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**Abstract**

A dynamic system, higher education institutions, particularly universities, require a specific management approach to carry out the activities that are planned for the achievement of the institutions' objectives in particular and of national growth in general. Although lean management practices in global environment is growing, there appear to be few empirical studies that examined its relative effect on organizational performance, particularly in the context of higher education system in the context of Nigeria education system. Thus, this study examines the effect of lean management on university performance. The study used a survey descriptive research design, with a total population of 12,844 academic staff members from Public Universities in the South-West, Nigeria. 900 sample size were selected using stratified random sampling method. The data were analysed using multiple regression analysis. Findings revealed that dimensions of lean management practice have significant positive effect on operational cost efficiency ( $R^2 = 0.714$ ;  $\beta = 0.189$ ;  $t = 10.486$ ,  $p < 0.000$ ). The study concludes that dimensions of lean management have significant effect on operational cost efficiency of Nigerian Universities. The study recommended that universities should further promote the use of lean management dimensions of value identification, value stream mapping, continuous workflow, pull system and continuous improvement in their work process, so as to sustain viable operational cost efficiency.

**Keywords:** Lean Management; Operational Cost Efficiency; Value Identification; Value Stream Mapping; Continuous Workflow

**KU8-106: Work Life Balance's Effect on Employee Performance in Private Universities in Nigeria**

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**Abstract**

In today's fast-paced, technology driven and demanding work environment, achieving a healthy work-life balance has become a significant concern for both employees and organizations. Therefore, it is imperative for organizations to explore effective strategies and policies that promote work-life balance and subsequently enhance employees' performance. Hence, this study sought to explore the impact of work life balance through flexible work schedules; work-family conflicts; working conditions on employees' performance in Private Universities. A survey research design was adopted for the study. With the population of 601, a sample size of 234 employees was used. A structured questionnaire was used to generate data for the study using purposive sampling technique. Descriptive statistics were used to examine the data acquired while multiple linear regression analysis was used to establish the relationship between the independent and dependent variables. Results indicated a flexible work schedule and good working circumstances all significantly and favourably impacted employees' performance in private universities. The study found that improving working conditions would improve employee performance, improving flexible work schedules would improve employee performance. Thus, this study suggests that universities pay careful attention to their policies and procedures and modify them to better suit their staff. The study also urges universities to develop and effect work-life balance-related policies at all university levels.

**Keywords:** Work-life balance, employee performance, flexible work schedule, good working conditions, Private Universities.

**KU8-121: Universities and Sustainable Development Goals: Transformation towards a Green and Sustainable Campus**

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### **Abstract**

Universities are identified as key hubs within the larger society for innovation and environmental education, representing a precious opportunity for enabling the necessary generational behavioral change towards taking on more sustainable attitudes in daily lives. However, demonstrating environmental sustainability with its emerging opportunities is one priority of universities across the globe that has received little attention in this clime. Yet, there is an increasing need for universities in the global south to teach and demonstrate the theory and practice of sustainability through taking action to understand and reduce the unsustainable impacts of their own activities. This paper explores the concept of greening towards a sustainable university campus in the global south as a means of contributing to the global sustainable development goals. Greening is a process that ensures sustainability for future generations remains the focus of curriculum and physical developments, including facilities, operations and organizational behaviors within the educational institutions, including universities. A green campus encompasses a higher education community that is concerned with energy efficiency, resources use, and commitment to environmental quality by educating for sustainability, as well as creating healthy living and learning environments. The paper looks at the approaches being used by universities across the globe towards attaining a green and sustainable campus with a view to drawing lessons that can be explored by universities in this clime.

**Keywords:** Greening, Sustainable Universities, Eco-literacy, Environmental ethics

### **KU8-133: KU8 and Inter-University Cooperation in the 21<sup>st</sup> Century**

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### **Abstract**

Institutional partnerships are vital to the success of many top universities worldwide. The strategic planning and consortium agreement are built to accelerate the attainment of the missions and priorities of member universities considering their strengths, areas for improvement, and locationality. Considering the declining finance, the emergence of new disciplines, the security situation in the country, and the impending new funding models for public universities in Nigeria, the need for the creation of consortia of universities on a regional basis, such as KU8 recently formed by the eight universities in Kwara State, is a critical strategy for the survival of the public and private universities in a developing country like Nigeria in the 21<sup>st</sup> century. This paper evaluates the descriptive parameters of each KU8 member, including their locations, founders, funders, years of operation, research strength, and other unique selling points. Findings from the evaluations show that KU8 is strategically located at a confluence zone to utilize the technology and human resources in the south and the vast population in central and northern Nigeria. KU8, if adequately nurtured can become a model for university partnership in Nigeria, providing road maps for the growth of new university consortia and the expansion of the existing ones. To achieve enviable status among the committee of University consortium, the paper recommends that KU8 partnership agreement should enumerate clear guidelines for mentorship, capacity building, cost sharing and financing, non-mobile staff exchange, staggered academic calendar, laboratory and facility sharing, students exchange, and board of representatives.

**Keywords:** University consortium; KU8, Consortium agreement; public university; private university

### **KU8-135: Effect of Oil Revenue on Infrastructural Financing in Nigeria: A Long-Run Analysis**

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#### **Abstract**

Infrastructural development is key to developmental activities in a country and the sources of financing the infrastructures could be many and varied. Thus, this study examines the effect of oil revenue on infrastructural financing in Nigeria from 1981 to 2021 using Autoregressive Distributed Lag (ARDL) and Pearson correlation techniques. Oil revenue was found to have positive and significant effect on infrastructural financing in Nigeria while non-oil revenue, and interest rate did not have significant effect on infrastructural financing in Nigeria. Findings from Pearson correlation test reveals that oil and non-oil revenues have positive relationship with infrastructural financing in Nigeria as against the negative relationship of interest rate and inflation rate respectively. It can therefore be concluded that oil revenue is a significant source of revenue for infrastructural financing in Nigeria. The study recommends that Oil-for-Infrastructural Development Fund should be created from oil revenue for the purpose of financing critical infrastructures in Nigeria.

**Keywords:** Infrastructural Financing; Capital Expenditure; Oil revenue; Non-oil Revenue; Oil for Infrastructural Development Fund

#### **KU8-168: Federal Government Financing: Implications on Public Educational Growth in Nigeria**

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#### **Abstract**

Finance is the blood in the heart of any organization and sector and as such proper funding is required to ensure the growth of any system. Thus, this study examines the implication of government revenue on public educational growth in Nigeria, from 1981 to 2021. The total amount of federal government revenue from oil and non-oil sources constitutes the proxies for government revenue while government recurrent expenditure on education was the measure for public educational growth and these annual time series data were obtained from the Central Bank of Nigeria's statistical bulletin. The Robust Least Squares was applied in the impact analysis. This was in addition to the Pearson correlation test of relationship. Empirical findings of the study reveal the existence of a long-run relationship between government financing and public educational growth in Nigeria. Furthermore, the study found that oil revenue and non-oil revenue have positive and significant impact on public educational growth in Nigeria. It can therefore be concluded that government revenue spurs public educational growth in Nigeria. The study recommends that Nigeria's Government should align with international standard on funding of education by increasing the current allocation and spending on the educational sector in Nigeria.

**Keywords:** Public education, educational growth, government revenue, government financing, oil revenue, non-oil revenue, Robust Least Squares.

#### **KU8-217: Enhancing the Financial Performance of SMEs Leveraging Technological Capital**

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**Abstract**

In today's highly competitive business environment, driven by the powerful forces of globalization, strategic managers within corporate entities are faced with the imperative of showcasing innovativeness to maintain their competitive edge. Consequently, this study delves into examining the correlation between technological capital and financial performance in selected Nigerian firms operating in Enugu. The research data were meticulously analyzed utilizing the robust Structural Equation Modeling (SEM) technique, which facilitated a comprehensive exploration of the intricate relationships between various variables. The study findings established that investment in information and communication technology (ICT) exerts a significant positive influence on a firm's financial performance. This implies that any changes or advancements in ICT would have a direct impact on the financial performance of the firm. Furthermore, the study affirms that investment in state-of-the-art technology similarly holds substantial influence over a firm's financial performance. The presence of technological capital and a culture of innovativeness, therefore, emerge as crucial determinants of a firm's success and its ability to sustain a competitive position in the market. The study recommended that managers should implement policies and strategies that encourage the effective utilization of technology within their firms.

**Keywords:** Information Technology; Technological Capital; Financial Performance; SMEs; Business Environment

**KU8-219: Enhancing Students' Startups Intention through Business Incubation in Nigerian Universities**

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**Abstract**

Entrepreneurship and startup culture have become increasingly important in driving economic growth and innovation worldwide. Recognizing the significance of nurturing student entrepreneurs, this study explores the role of business incubation in fostering student startups within Nigerian universities, with a specific focus on Covenant University located in Ogun State. The study investigates the effectiveness of business incubation programs in providing essential resources, such as mentorship, seed funding, and networking opportunities, to support entrepreneurial ventures among students. Using a quantitative research approach, the study administered 200 questionnaires to students at Covenant University. The collected data underwent rigorous statistical analysis, including correlation analysis and regression modeling, to identify the relationship between business incubation and the establishment of successful student startups. The findings of this study reveal a positive and significant relationship between business incubation and the establishment of successful student ventures. The analysis demonstrates that students who had access to business incubation resources, including mentorship, seed funding, and networking opportunities, were more likely to develop sustainable and successful startups within the university ecosystem. Based on the findings, this study recommends that Nigerian universities, including Covenant University, strategically engage in business incubation initiatives to provide tailored resources and support that empower students in their entrepreneurial pursuits.

**Keywords:** Business Incubation; Student Startups; Entrepreneurship; Covenant University; Nigerian Universities

**KU8-220: Transformation of Nigerian Universities: Examining the Impact of the ICT Revolution**

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**Abstract**

The Nigerian higher education sector has witnessed a significant transformation driven by the Information and Communication Technology (ICT) revolution. This study aims to explore the impact of this digital transformation on Nigerian universities and their stakeholders. The research methodology employed a mixed-methods approach, combining quantitative surveys and qualitative interviews. The study involved faculty members, students, administrators, and IT professionals from various Nigerian universities. Data was collected regarding the adoption and utilization of ICT tools, infrastructure development, changes in teaching and learning practices, administrative processes, and the overall impact on the university ecosystem. The findings indicate that the ICT revolution has brought about several transformative changes in Nigerian universities. The proliferation of internet connectivity, increased access to digital devices, and the availability of online resources have expanded educational opportunities and improved information dissemination. This study recommends optimizing policies in Nigerian Universities through the integration of learning management systems, e-learning platforms, and virtual classrooms will enhance flexible and personalized learning experiences.

**Keywords:** Digital transformation; Nigerian Universities; Information and Communication Technology (ICT); Higher Education; Teaching and Learning

**KU8-246: Navigating the 21st Century: Challenges Confronting Nigerian Universities**

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**Abstract**

In the dynamic landscape of the 21<sup>st</sup> century, Nigerian universities face formidable challenges that demand attention to ensure their relevance and effectiveness. Nigerian universities lack infrastructure and funding. Therefore, this study examines the challenges confronting Nigeria Universities in the 21<sup>st</sup> century. The methodology for this study is a review of relevant literatures using Google Scholar. Additionally, the quality of education and its relevance to contemporary needs emerge as pressing concerns, leading to a mismatch between graduate skills and industry demands. The phenomenon of brain drain exacerbates the situation, as talented faculty members seek better opportunities abroad, resulting in a significant loss of expertise within the Nigerian educational system. Moreover, the integration of technology and the digital divide present complex challenges, requiring universities to embrace technological advancements. To address these critical challenges, it is recommended that Nigerian universities must prioritize infrastructure development and secure increased funding to create conducive learning environments and support research initiatives. Investment in faculty and curriculum modernization is essential to enhance educational quality and align programs with industry requirements. Addressing brain drain requires targeted efforts to retain talented academics, professional growth and recognition. Simultaneously, bridging the digital divide entails strategic integration of technology in teaching, research, and administrative processes, ensuring equal access to digital resources for all students and staff.

**Keywords:** Challenge; 21st Century education; Nigeria University

**KU8-269: Challenges of Utilising Quantitative Techniques (Qts) as Aid to Decision-Making in Public Universities in North Central States of Nigeria**

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### **Abstract**

Decision-making is a critical managerial function. It is critical because of its importance in the survival, sustainability and growth of organizations. Hence, in today's competitive, complex, and multi-varied products/services, and processes, there is the need for very robust techniques to aid the processes of decision-making. Hence, the utilization of QTs which enhance the decision-making process, therefore comes in handy in this regard. However, the utilization of the method in public service is relatively poor. This study therefore, examines the level of utilization of QTS in decision-making processes in public universities. It further attempts to identify potential factors that are militating against the use of QTs in public universities/service. Descriptive statistics are used to describe socio-economic characteristics and extent to which QTs are applied in the public universities. Factor analysis is used to identify potent factors militating against the utilization of QTs, while Mann-Whitney-U-test is used to test hypotheses. The study revealed that public universities/service still largely rely on emotions and traditions in its decision-making process. For instance, on the average, QTs are used 7.65% in the decision-making process in the Nigerian public universities' decision-making processes. Therefore, it is recommended that the Nigerian government should adopt a structured course of study to be taken and passed before an officer can occupy any middle or top-level public universities/service positions. Similarly, there should be provision and upgrading of public service facilities such as computers and the internet.

**Keywords:** Challenges; Utilization; Quantitative-Techniques; Decision-making; Public service

## **MEDICALS**

### **KU8-054: Ameliorative Effect of Melatonin on Reproductive Hormones of *Cannabis sativa*-Treated Female Wistar Rats**

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### **Abstract**

*Cannabis-sativa* (CS) is one of the commonly abused substances by women of childbearing age which have predisposed them to resisting in lack of pregnancy. This study investigated the effects of melatonin and CS on reproductive hormones in female rats. Twenty female rats were randomly assigned into four groups of five animals each, such that the rats in groups 1, 2, 3 and 4 received orally 1mL distilled water, 2mg/kg of CS, 2mg/kg of CS+4mg/kg of melatonin, and 4mg/kg of melatonin, respectively for 14 days. Gonadotropin releasing hormone (GnRH), follicle stimulating hormone (FSH), luteinizing hormone (LH), oestradiol (E), progesterone and prolactin were quantified according to the instruction provided by assay kit manufacturers, using microplateimmunoenzymometric (EMA/ELISA) assays. CS significantly ( $p<0.05$ ) decreased GnRH, FSH, LH, E, progesterone and prolactin levels respectively when compared with the control. However, co-administration of melatonin with CS significantly ( $p<0.05$ ) increased all the aforementioned reproductive hormones to the level comparable with the control. Histological study of hypothalamus and pituitary gland revealed that CS-treated rats showed scanty and shrink bodies and severe degeneration of acidophils and basophils when compared with the control. These pathological changes were ameliorated by melatonin. This study concluded that the effects of CS on reproductive hormones could be mediated by damage to the endocrine system. However, these effects of CS on the reproductive hormones could be ameliorated by melatonin. The study recommended that consumption of melatonin could be used as supplement to prevent the side effects of CS on the reproductive hormones.

**Keywords:** *Cannabis-sativa*; Melatonin; Endocrine system; Reproductive hormones

### **KU8-063: Learning Styles and Learning Outcomes among Undergraduate Students of the University of Ilorin College of Health Sciences**

**Abstract**

For effective teaching and instructional design, it is essential to comprehend students' learning styles and how they relate to learning outcomes. With an emphasis on learning outcomes in the context of anatomy instruction, this study sought to identify several learning styles among undergraduate students in the College of Health Sciences, University of Ilorin. A descriptive cross-sectional survey was carried out among undergraduate students registered in the College of Health Sciences, University of Ilorin, Nigeria. The participants were chosen by a random sampling technique, yielding a sample size of 170 students with ages ranging from 18 to 25 years. To determine the students' preferences for visual, auditory, and kinesthetic (VAK) learning, a learning style questionnaire was given to them. The Chi-square test and other descriptive statistics were used to analyze the association between learning styles and learning outcomes. According to this study's findings, students' chosen learning styles had little bearing on the knowledge they retained. Additionally, it was shown that undergraduate Anatomy students had a strong preference for the visual learning approach, although Nursing and Medical Laboratory Science (MLS) students did not. Also, no correlation between learning styles, gender, or the combination of learning styles and gender with academic accomplishment was discovered. It was concluded that using the VAK model assessment of learning styles, no significant relationship exists between learning styles and learning outcomes of students who took anatomy courses in the University of Ilorin.

**Keywords:** Learning Styles; Anatomy; Learning Outcomes; Health Sciences; VAK Model

**KU8-081: Achieving Food Security through Stakeholders' Avoidance of Antimicrobial-Resistant- Organism-Infected Food and Laboratorians' Observance of Antimicrobial Sensitivity Testing Standards**

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**Abstract**

The estimated 25 million Nigerians at risk of food insecurity by mid-2023 could be caused by antimicrobial-resistant (AMR)-organism-infected and contaminated food leading to losses of livestock and infection/death of humans. This study aimed to elucidate how stakeholders in the food industry/laboratorians can avoid food infection/contamination by AMR organisms. This was achieved by using baseline information from published literature and established standards. Infection/contamination of food along the food chain by bacteria, parasites and viruses have been reported by farmers, food processing companies, retailers and in territorial food markets involving terrestrial and aquatic animals and crop production leading to livestock losses, production of unwholesome food and causing outbreaks of zoonotic foodborne diseases in humans. It represents serious public, animal and environmental health risks. This is enhanced by the use of antimicrobials in food production coupled with microbial contamination along the production chain. Periodic Antimicrobial Susceptibility Testing (AST) should be carried out on isolated microbial agents from food animals/products to determine the presence of AMR-microorganisms and susceptible antimicrobial agents. Test standards for the disc diffusion method, which is the most commonly used should be strictly followed. This includes the use of pure colonies, overnight culture, culture turbidity of 0.5 McFarland and Clinical and Laboratory Standards Institute (CLSI). interpreting zone of inhibition. All stakeholders in the food production chain and laboratorians should ensure only foods that are safe for human consumption are presented to the public. Researchers and universities should be more involved in related work and extension services to communities outside their institutions.

**Keywords:** Food-security; Antimicrobial-Resistant-Organism-Infected Food; AST Standards

**KU8-083: Medical Brain Drain in Nigeria: Turning Brain Drain to Brain Gain in Nigerian Universities**

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### **Abstract**

Brain drain is the departure of highly qualified professionals such as scientists, engineers, medical doctors, pharmacists, nurses and experts in various fields for countries where they have better opportunities and usually better remuneration. The objective of this review is to examine the concept of medical brain drain in Nigeria, examine its effects on the Nigerian University system and recommend ways brain drain can be turned to benefit in Nigerian Universities. A scoping review of the literature was done using databases PubMed, SCOPUS, Web of Science and Google Scholar. The reasons for medical brain include issues that are institution and work-related such as poor remuneration, poor training and professional practice infrastructure, lack of employment opportunities and unpleasant workplace policies. The effect of medical brain drain on the university includes depletion of available manpower to teach and conduct research. To turn medical brain drain to the benefit of universities, academic linkages should be established with emigrated academics for continued cross-fertilization of ideas in the form of virtual lectures, seminars and conferences, facilitating grants, and exchange programmes. In the interim, turning brain drain to brain gain should be a deliberate policy.

**Keywords:** Brain drain; Medical; University system; Brain gain; Nigeria

### **KU8-113: Recruitment and Retention of Participants in Clinical Research in Sub-Saharan Africa: Experience from H3Africa Kidney disease Research Network**

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### **Abstract**

Insufficient recruitment and retention of participants into studies are challenges facing clinical research in Africa. Studies on challenges of participants' enrollment in large clinical research in Africa are sparse.

**Aims:** The aim of this study is to determine factors that affect recruitment and retention of persons into the H3Africa kidney disease research network (H3AKDRN), and to recommend strategies to improve them. We conducted a survey using structured questionnaire to collect data from the investigators, research coordinators and research assistants of H3AKDRN on their local experiences during the study. H3AKDRN is the largest study of clinical, environmental, and genomic epidemiology of kidney disease in Africa. We analyzed the data using STATA version 16, and we used proportions to express factors that affect participants' recruitment and retention, and strategies to improve them. Eighty (80) personnel completed the survey in 13 clinical centers (2 in Ghana and 11 in Nigeria). Fifty-six (70%) were investigators, research nurse or coordinators, while 24 (30%) participants were laboratory assistants and other staff. About 8,000 participants have been recruited into the study. The major barriers to participants' recruitments and retention were; perception of collection of large volume of blood sample (88.6%), Covid-19 pandemic (83.3%), and inadequate incentives (52.6%). To improve enrollment of participants, we recommend regular feedback from participants, adequate incentives, and community engagement. The enrollment and retention of participants into large clinical research in Africa can be improved by continuous community engagement; and adequate incentives and contacts with participants between follow-up visits.

**Keywords:** Recruitment, retention, clinical research, Sub-Saharan Africa, H3Africa

### **KU8-117: Knowledge and Practice of Exclusive Breastfeeding Among Childbearing Age Women in Fate Tanke, Ilorin Kwara State, Nigeria**

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**Abstract**

The knowledge and practice of exclusive breast feeding are crucial for both mother and child's health. Hence, the present study investigated the knowledge and practice of exclusive breast feeding among women of childbearing age in Fate Tanke, Ilorin Kwara State Nigeria. A descriptive research design of survey type was employed for this study. A multi-stage (Four) sampling technique was used to select two hundred and two (202) respondents. Researcher's structured questionnaire which was validated by professional experts. Data collection was conducted by the researcher and research assistants. Demographic data of the respondents was analyzed using descriptive statistics of percentage and frequency counts. The four postulated null hypotheses were tested using the inferential statistics of Chi-square @0.05 alpha level. The result revealed adequate knowledge and practice of exclusive breastfeeding among women of childbearing age in Fate Tanke Ilorin. Also, exclusive breastfeeding protects and reduces child morbidity of infants among women of childbearing age in Fate Tanke Ilorin. In conclusion, the present study showed a close association between knowledge and practice of exclusive breastfeeding and improved infant health, indicated by increase body growth, good mental health and resistant germs, cold and flu compared to non-exclusive breastfed children. In conclusion, educating and encouraging women of childbearing age to practice exclusive breastfeeding will no doubt help to reduce infant morbidity and mortality in both Nigeria and other low-income countries where the cases are high.

**Keywords:** Exclusive breast feeding; Child health; Child morbidity; Child mortality

**KU8-122: Portulaca Oleracea (Purslane) Attenuated Cardiometabolic Disorders of Streptozotocin-Induced Diabetic Male Wistar Rats through Enhanced Glp-1r Agonist Activities**

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**Abstract**

Cardiovascular diseases (CVDs) and type 2 Diabetes (T2D) are increasingly interesting due to their positive correlation and global disease burden with over estimated 19.7 million mortalities annually. Purslane (*Potulaca oleracea*) noted for its rich antioxidants, unsaturated fatty acids, and fibres, is a perennial herbaceous plant that is widely cultivated across countries. This study aimed to determine the ameliorative effect of purslane on cardiometabolic disorders of streptozotocin (STZ) induced diabetic male Wistar rats. Five groups of randomly selected male Wistar rats weighing between 170±5g were fed Control normal chow + vehicle: normal saline (CTR), purslane ethanolic extract (EPO; 400mg/kg orally), Diabetic (D) (STZ-60mg/kg bw) received normal saline, D+EPO (400mg/kg orally), D+EPO+Liraglutide (LG) (400mg/kg orally; 0.2mg/kg subcutaneously). After four weeks, animals were anaesthetized by chloroform inhalation and blood was collected by cardiac puncture. Plasma and cardiac homogenate were analyzed and data expressed as mean ± SEM; p< 0.05 were accepted as significant. The diabetic rats showed decreased body weight, adipose tissue mass, nitric oxide (NO) and AMP-activated protein kinase (AMPK). Purslane resulted in increased body weight, homeostasis model assessment of β-cell function (HOMA-B), reduced plasma fasting blood sugar (FBS), interleukin 6 (IL-6), tumour necrosis factor-alpha (TNF-α) in the Diabetes treated rats. Also, plasma and cardiac AMPK and NO increased in the purslane, and liraglutide treated which is a known glucagon-like peptide-1 receptor (GLP-1R) agonist. In conclusion, purslane possesses GLP-1R agonist activities and presents a great advantage as a candidate marker in the management of cardiometabolic disorders associated with diabetes.

**Keywords:** Cardiovascular diseases; Diabetes; Purslane; GLP-1R; Wistar rats

**KU8-129: One Health Approach to Effective Rabies Control in Nigeria**

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#### **Abstract**

Rabies is a disease caused by rabies virus, affecting the central nervous system and spinal cord of infected animals, leading to encephalomyelitis and death. Rabies is under-reported and a serious public health hazard in Nigeria, where dog bite is the major transmitter to human. Rabies has been successfully controlled in most developed countries, where mass vaccination of dogs and various One-Health approaches were employed which embraces a broad-based strategy for managing infectious diseases through multi-disciplinary communication and collaboration with optimal environmental, human and animal health outcome at local, national and global levels. The inability to vaccinate 80% of dog population due to human and environmental factors has led to increased rabies related human death in Nigeria, resulting from dog bites, with attendant socioeconomic and public health impact. The research design used was retrospective analyses of randomly selected veterinary and medical records of patients. Data collected were analysed using SPSS version 20. One health strategy was also used to highlight how integration and collaboration among stakeholders could result in effective prevention and control of rabies in Nigeria. The investigation revealed prompt cross fertilization of ideas and exchange of information among stakeholders. The study indicated that only the essential pre and post exposure prophylaxis were administered thereby reducing unnecessary economic burden. We highlighted the challenges of rabies in Nigeria, strategies adopted and steps taken in line with one health approach in solving the problem for effective and efficient management.

**Keywords:** One Health; Effective; Rabies Control; Nigeria

#### **KU8-234: Antibiotic Susceptibility of *Staphylococcus aureus* Isolated from Catheterized Urine of Patients Attending Dutse General Hospital, Jigawa State**

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#### **Abstract**

*Staphylococcus aureus* presents significant economic burden to human due to its associated mortality and morbidity. This research aims to evaluate the antibiotic susceptibility profile of *Staphylococcus aureus* isolated from urine samples of patients attending Dutse General Hospital in Jigawa State. A total of 126 (63 males and 63 females) urine samples were collected from consenting patients after administration of structured questionnaire. Standard microbiological methods were employed for identification of the isolates before antibiotic susceptibility profiling. Eighty-nine (89) i.e., 63.5% tested positive for *S. aureus* out of which highest prevalence was recorded in males (80%) compared to females (20%) while 30 years and below age group had higher prevalence (67.5%) in relation to other age group. The isolates were susceptible to Erythromycin (80%), Ciprofloxacin (75%), Levofloxacin, and Gentamycin (70%) respectively while intermediate susceptibility was recorded for Norfloxacin and Streptomycin. Significant resistance was recorded to Amoxicillin, Ampicillin, Rifampin, and Chloramphenicol respectively. The recorded resistance to commonly used antibiotic in this study alongside the high prevalence posits a major health concern because of the frequent association of *S. aureus* in hospital-acquired infections. The organism's ability to confer multiple resistance to commonly used antibiotics highlights their remarkable versatility in responding to antibiotics. Thus, there is need for awareness towards effective control measures and treatment strategies to combat the increasing antibiotic resistance in the society.

**Keywords:** *Staphylococcus aureus*; Antibiotic profile; Resistance; Urinary tract infection, Bacteriuria.

#### **KU8-268: Early Exposure to Environmental Toxins Alter Reproductive Parameters in Wistar Rats**

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### **Abstract**

Exposure to environmental toxins especially at a developmental age has been shown to affect general wellbeing, whose effects may be long beyond its exposure period. Bisphenol-A (BPA) is an environmental toxin, that has been described as being ubiquitous, due to it being a component of many materials of human daily exposure and use. Bisphenol-A is one of the most highly produced industrial chemicals globally, with over 2 billion pounds used in the production of epoxy resins and polycarbonate plastics every year. These plastic products are inevitably used in food and drink packaging, thereby causing unintended direct ingestion. This study therefore aimed to looking at the long term effects of BPA on the reproductive system following early exposure at birth. Ethical approval was obtained then the Wistar rats were exposed to varying doses of BPA, and some to melatonin, a known antioxidant to assess the oxidative pathway. They were then left for a while to attain full sexual maturity, following which they were sacrificed for genetic, biochemical and histological analysis. The results show distortions in the assayed receptors from the hypothalamo-pituitary tissues as well as alterations in the hormonal milieu of the exposed animals, which were indicative of distortions in reproductive functions. Melatonin however showed minimal reversal and reparative role in this regard. This study shows that environmental toxins such as BPA has long term consequences on the health of exposed, and should be avoided to mitigate its reproductive consequences.

**Keywords:** Reproductive system, Bisphenol-A, Melatonin

### **KU8-271: Comparative Phytochemical, Antioxidant, Antimicrobial and Anti-inflammatory Activities of Leaves and Stem Aqueous Extracts of *Adenodolichos paniculatus* (Hua) Hutch**

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### **Abstract**

*Adenodolichos paniculatus* is used traditionally for various purposes including treatment of blennorrhoea, diarrhea, dysentery, small pox, heart burn and wound dressing. This study investigates and compares the elements, phytochemistry, antioxidant, antimicrobial and anti-inflammatory activity of the aqueous extract of the stem and leaves of AP. The plant parts were extracted using distilled water by cold maceration. Qualitative phytochemical screening was carried out using standard methods while quantitative studies on phenol, flavonoid, saponin and alkaloids were carried out using Folin-Ciocalteu, Colorimetric, standard and precipitation method respectively. Antioxidant, Antimicrobial and anti-inflammatory activity were done using 2,2-diphenyl-1-picrylhydrazyl (DPPH), well diffusion method and carrageenan-induced rat paw edema model respectively. Qualitative analysis of both extracts revealed the presence of various phytochemical constituents, while quantitatively, the aqueous extract of the leaves exhibited higher levels of phenol, flavonoid, saponin, and alkaloid content compared to the stem. The leaves also show better antioxidant activity compared to the stem. Both extracts showed dose response antimicrobial activity though the stem showed a broader activity than the leaves. Both extracts exhibited significant (p<0.05) anti-inflammatory activity with that of the leaves better than that of the stem and better than that of diclofenac. The high pharmacological activity of the leaves when compared to the stem is due largely to its high phytochemical constituents. This study confirms scientifically the ethnomedicinal uses of this plant.

**Keywords:** *Adenodolichos paniculatus*; Phytochemistry; Antioxidant; Antimicrobial; Anti-inflammatory activity



**KU8-018: Safe Schools Initiative: A Pathway to Peace, Security and Development in Nigerian Universities**

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**Abstract**

The Safe Schools Initiative (SSI) was launched by the Nigerian government in 2014 to tackle the security challenges facing schools, particularly those in the conflict-affected North-Eastern part of the country. While the initiative has had significant success in improving security in primary and secondary schools, its implementation in universities remains limited. This paper aims to explore how the SSI can be implemented in Nigerian universities to ensure security, peace, and development. The study adopts a qualitative research approach, utilizing interviews with key stakeholders, document analysis, and a review of existing literature on the SSI and its implementation. The paper suggests that the implementation of the SSI in Nigerian universities requires a multi-faceted approach that involves the provision of security infrastructure, training for security personnel and teachers, and support for the psychosocial needs of students and teachers affected by conflict. The paper highlights the need for the government to increase funding for the implementation of the SSI in universities, particularly in conflict-affected areas. The study also emphasizes the importance of partnership and collaboration between stakeholders including universities, the government, security agencies and international organizations to ensure the success of the initiative. The success of the initiative in Nigerian universities according to this paper depends largely on the availability of resources, partnership, and collaboration between stakeholders, and sustained efforts to ensure a safe and secure learning environment for students and staff of the universities.

**Keywords:** Safe School Initiative; Peace; Security; Development; Nigerian Universities

**KU8-021: The Effect of Village Alive Development Initiative on the Food Security Status of Small-Scale Farmers in Kwara State, Nigeria**

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**Abstract**

Since the discovery of oil, Agriculture has grown less essential to the government as it cannot withstand the oil industry's economic savvy. These prompted Village Alive Development Initiative (VADI), an action research initiative established at village-level opportunities for rural inhabitants to alleviate poverty. This study estimated the food security status of the Village Alive Development Initiative (VADI) farmers and non VADI farmers, factors affecting the participation of farmers in the VADI program, the effect of VADI on households' food security, constraints to VADI in the study area. Data were collected from sixty (60) VADI farmers and the other sixty (60) non-VADI farmers from two (2) local government areas using food security index, logistic regression model, and propensity score matching and Likert typed scale for data analysis. The results revealed that 63.33% of VADI farmers were food insecure, while 72.67% of non-VADI farmers were food insecure in the study area. Logit model showed that sex and household size significantly affect VADI-farmers. Propensity score matching revealed that there is a positive effect on the income of VADI-farmers which was significant at 1%. It was also revealed that little or no knowledge of VADI, illiteracy and access to credit facilities were the constraint faced by both farmers. The study concluded that participation in the VADI has a positive impact on food security among farming households in the study area. The study recommended that farmers should be used as advocacy group for creating proper awareness in more local government areas.

**Keywords:** Village Alive Development Initiative; participation; farmer

**KU8-027: Food Security among Smallholder Farming Households in Osun State, Nigeria: Factors and Coping Strategies**

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**Abstract**

The study therefore examined food security among smallholder farming households in Ife North Local Government Area, Osun State. Three-stage sampling technique was used to randomly select one hundred and forty-four (144) respondents from 18 villages selected from three districts out of seven districts and the three districts were Ipetumodu, Moro and Edunabon. Primary data were used for the study and the data were collected by the means of interview schedule. Descriptive statistical tools such as frequency and percentages were used in analyzing the data while ordinal logistic regression was used to test for the hypothesis. The findings showed that the average age was 46 years. Majority (78.5%) of the farmers were male. Borrowing of funds, consumption of less preferred food and working for other farmers for purchasing power were the leading coping strategies of farmers to ensure household food security. Rain, pest and diseases were the high ranked factors perceived by respondents to influence coping strategies adopted for food security. Ordinal logistic regression analysis revealed that pest and disease and soil were significantly related to coping strategies for food security of farming household. This study concluded that rainfall pattern, pest and diseases, and funds were identified as the primary factors influencing coping strategies for food security among smallholder farming households in Ife North Local Government Area. It is therefore recommended that the farming households should be exposed to agricultural extension pieces of training to expose them to strategies to alleviate food insecurity and also encouraging family planning against food insecurity.

**Keywords:** Food security; Small-holder; Household; Factors; Coping strategies

**KU8-034: Do the Relative Size of Agricultural Export Matter for Sustainable Development? Perspectives from Sub-Saharan Africa**

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**Abstract**

Agriculture exports play a critical role in igniting and sustaining rapid economic development, particularly in African countries. Thus, this study examines the effects of the relative size of agricultural export on sustainable development in Sub-Saharan Africa. Using a dataset covering 46 Sub-Saharan African countries from 1992 to 2020, the study adopted the Driscoll-Kraay Standard Error method to estimate the regression equations specified for sustainable development. The results show that the relative size of agricultural exports has a positive effect on sustainable development. Particularly, findings suggests that agricultural exports contribute more to sustainable development than non-agricultural exports. Further findings reveal that promoting agricultural production for domestic consumption is more effective in facilitating sustainable development than promoting agricultural production for exports. In line with the findings, the study recommends that policymakers prioritize pro-agricultural export policies to promote sustainable development if the choice is between exporting agricultural commodities and exporting non-agricultural commodities. However, import substitution strategy should be prioritized over agricultural export promotion strategy if they are to choose between exporting agricultural commodities and producing for domestic consumption.

**Keywords:** Agricultural exports; Sustainable development, Non-agricultural exports; Sub-Saharan Africa

**KU8-036: The quest for greener pastures among Nigerian university lecturers, and its implications for educational development**

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**Abstract**

Without doubt, qualitative and robust education is central to the growth and development of any county. A country that would align with the global demands of the 21<sup>st</sup> century must have a broad based and proven educational system. One of the main mandates for establishing university is for research purposes that would translate to solving national problems, so therefore, manpower is germane to the survival of all university, without which the mission of establishing such institutions would be largely defeated. Brain drain has become a trend and syndrome that is hitting deep into the fabric of Nigerian universities. It is an evil wind that is rooting out egg heads out of the nation's ivory towers to other part of the world for varied reasons. As a result, the study examined lecturer's views of the factors influencing brain drain among Nigeria university lecturers. Using the interpretative phenomenological analysis (IPA), the study gained access into how participants make sense of the subject matter. The combinations of findings shown that poor welfare package, inadequate, or zero research grants, inconsistent promotion policy, poor/decay infrastructure were factors responsible for brain drain in Nigeria universities. Robust conclusions and recommendations were drawn from the study findings, and the implications of the findings were examined within the context of the "frustration aggression theory".

**Keywords:** Nigeria, education, lecturers, university, greener pasture, development.

**KU8-055: The Impacts of Borrowers' Attitude and Accessibility to Non-interest Loans on their Welfare during the COVID-19 Pandemic: A Case of Tricycle Riders in Kwara State, Nigeria**

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**Abstract**

The outbreak of the COVID-19 pandemic, which warranted successive lock-down by the Nigerian government, greatly affected the country's economy both at macro and micro levels which necessitated governments at different levels to roll out different programmes to mitigate the effects. This paper studied the impact of Tricycle Riders Attitude and Access to Non-interest Loans on their welfare during the pandemic in Kwara State. The study adopted a quantitative research method of a well-designed survey instrument administered on tricyclist beneficiaries of non-interest loans to obtain their feedback on the effect of their attitude and accessibility to various non-interest loans by government and non-government agencies on their welfare during and after the lock-down. The responses elicited from the respondents were analysed using both descriptive statistics and ordinary least square (OLS) regression methods. The results obtained show that both Attitude and access to non-interest loans by tricycle riders have significant impacts on their welfare. However, while accessibility has positive impact on beneficiaries' welfare, it is negative for their attitude. This underscores the phobia people have for taking loans generally. The study concluded by recommending that to improve welfare, more non-interest loans should be made available and easily accessible to citizens (tricyclists especially) while making efforts to dispel peoples' phobia for using non-interest loans through mass campaigns and citizen orientation.

**Keywords:** COVID-19; Non-Interest Loan; Welfare

**KU8-076: Harnessing People, Processes and Emerging Technologies for Strengthening the 21st Century University Education: Role of Library Professionals**

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**Abstract**

University education is a unique system designed purposefully for tapping and harnessing human potentials through teaching, learning, research and community development. This paper discusses the roles of library professionals in harnessing processes and emerging technologies towards strengthening the 21st century university education. It explains some major skills that should be possessed by library professionals in order to effectively use emerging technologies for strengthening university education. In this paper emerging technologies, such as Artificial Intelligence (AI), Big Data, Machine Learning, Internet-of-Things (IoTs), Drones, and others that are of importance in strengthening university education are discussed. This study contextualizes processes in university libraries as library services and elucidates some 21st century services rendered in libraries to strengthen university education. The importance and challenges confronting processes and emerging technologies towards strengthening the 21st century university education were highlighted explicitly. This study finally concludes that library professionals have important roles to play for efficient delivery of library services by harnessing emerging technologies for strengthening the 21st century education and in helping to upscale and renew the processes of researching, teaching and learning.

**Keywords:** University education; Library professionals; 21st century library services; emerging technologies.

**KU8-077: Sport Tourism, the University as Host Community: Some Matters Arising**

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**Abstract**

The connections between sport tourism, host community support, and university development are examined in this review. Sport tourism is defined as individual or group travel to participate in or observe sports-related activities. Universities are frequently used as host communities for a variety of sporting events, which can have both positive and negative effects on community growth. This review looks at the key issues surrounding sport tourism, host community support, and the implications for universities, as well as the opportunities and challenges they present. Sports tourism and hosting community support events can serve as development catalysts for universities, generating \$46.5 billion in revenue. Sports tourism is one of the most visible and significant segments of national revenue generation globally. Tourism is very likely to generate widespread employment and new revenue streams. The specific goals are to conduct a review of sports tourism and host community support in Nigeria, as well as an analysis of the relationships, effects, and problems associated with sustainable tourist development. Perceptions of how to invest in Nigeria's tourism and sports industries, as well as uncertainty in decision-making during the selection process. Sporting events are an important factor in the development of regions, but their effectiveness requires a long-term strategy. The methodology employed included a review of previous literature on the subject. Their effectiveness as a tourist product necessitates the development of a long-term strategy that considers both economic and social aspects.

**Keywords:** Sport tourism; Host community support; University development

**KU8-084: Charting a New Course in Sexual Violence Prohibition and Protection in Nigeria Universities: A need to Reappraise Public law Jurisprudence in Nigeria**

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**Abstract**

This paper construes academics and researchers as major stakeholders in higher education learning. It argues that a major contribution to drive societal change is imbedded in rethinking the jurisprudence of public international law and other courses taught in the faculty of law. In this wise, the occurrence of sexual violence both in the society and with higher education learning space will be examined. The paper argues that the changing state of public international law and the redefinition of offences like that of sexual violence means that there are existing prospects on improving the experience of victims of sexual violence. Bringing into context decisions and policy documents from international law judicial bodies. There is need to deconstruct the norm (acceptance of sexual violence) as a male dominant theory of oppression to elevating the dignity of the female gender and call for greater respect and preservation. In addition, it would advocate the need to drive a new paradigm in the teaching of international law in Nigeria to reflect the developing and new discourse. The paper would rely on a qualitative methodology to analysis secondary data on the subject matter and make recommendations on the importance of a new paradigm in education pedagogy. The paper concludes that there is need for both the curriculum and pedagogy of teaching international law to be reviewed. It recommends that personnel must engage in training and retraining to ensure that they are abreast of developments.

**Keywords:**

**KU8-092: The Multifaceted Dynamics of Sexual Hookup Practices and SDG-3 among Undergraduates: Investigation of the Role of Educational Stakeholders**

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**Abstract**

This paper delves into an exploration of the intricate predicators and patterns characterizing sexual hookup practices among Undergraduates of Southwestern, Nigeria with particular focus on the indispensable role of educational stakeholders. It also investigates the multifarious factors influencing sexual hookup behaviour among undergraduates while elucidating the potential avenues for educational stakeholders to address the myriad challenges posed by this prevalent phenomenon and attainment of Sustainable Development Goal-3 (good health and wellbeing). The theoretical underpinning of the study was based on sexual liberation, suggesting that hookup culture emerged as a result of increased sexual liberation changing societal-attitudes towards sex. Employing a sequential mixed-methods approach, this research leverages surveys and interviews with students who engage in hookup, faculty members, and administrators. The findings underscore the significant predicators contributing to the prevalence of sexual hookups on campuses, comprising intricate dynamics such as peer influence, pervasive impact of social media, and indulgence in alcohol and substance use. Moreover, the study reveals distinctive patterns characterizing student sexual hookup practices, emphasizing a proclivity towards casual and non-committal encounters that emanate from a sense of curiosity, self-exploration, and the pursuit of immediate gratification. Within the context of this inquiry, educational stakeholders, comprising university administrators, faculty members, and student affairs professionals, emerge as central agents in mitigating the challenges posed by sexual hookup practices. By adroitly implementing outcome and recommendation of this study in formulating robust policies, educational stakeholders have the potential to cultivate a nurturing-milieu that engenders healthy-relationships, attainment of SDG-3, and nurtures responsible decision-making.

**Keyword:** Sexual hookup practices; Good health and wellbeing; educational stakeholders

**KU8-095: Perceptions of Mass Communication Lecturers on Unbundling of Mass Communication Curriculum in Nigeria**

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**Abstract**

Studying mass communication in Nigeria, prior to 2015, was broad-based and omnibus, incorporating scholarship in all facets of journalism, communications and allied professional fields and leading to the award of B.A. or B.Sc. degree in mass communication without a clear-cut indication of area of specialisation. However, in 2015 the National Universities Commission (NUC) evolved the policy of unbundling by which the programme was split into eight specialised departments with the aim of enriching the discipline with reengineered town and gown interactions that deliver information economy-imperative graduates. Although, the plan to begin implementation of the policy was slated for September 2021, not many mass communication degree-awarding institutions have complied with the option due, in part, to multiple perspectives that greeted the policy and other varying reasons. This study, therefore, examined the attitudes of mass communication lecturers on the unbundling policy, with a view to deducing reasons for the delay or failure to comply. The study adopted a survey method through administration of online questionnaire to respondents. Findings revealed that lack of sufficient teaching/learning facilities as well shortage of manpower are some of the reasons that account for the seemingly unenthusiastic attitude of lecturers towards implementation of the policy. The study recommends that university proprietors should take on the implementation of the policy in phases, make adequate provisions for teaching and learning facilities in the eight unbundled programmes and employ lecturers as appropriate to maximise the greater goals envisioned by the policy.

**Keywords:** Facilities, Lecturers, Mass communication, Proprietors, Unbundling policy

**KU8-096: Challenges and Effectiveness in Implementing Sexual Harassment Policies in Nigerian Institutions: Responses from Educational stakeholders**

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**Abstract**

This systematic review examines the challenges of effectively implementing sexual harassment policies in Nigerian institutions, with a specific focus on institutional response and accountability. Sexual harassment is a pervasive issue that poses significant social, psychological, and professional consequences. Understanding the complexities surrounding the implementation of policies is essential for creating safe and inclusive environments. Through a rigorous systematic review methodology, this study synthesizes and analyzes existing literature on sexual harassment policies in Nigerian institutions from 2013 to date. The studies reviewed were sources through Cochrane Library, Psych Info and Google Scholar with the aid of PEO tool. Themes generated explores the challenges faced in implementing these policies, including cultural factors, inadequate resources, lack of awareness, and institutional resistance. Additionally, the review evaluates the effectiveness of institutional responses and accountability mechanisms in addressing sexual harassment cases. The findings of this systematic review shed light on the barriers that hinder effective policy implementation. The theme highlights the need for tailored approaches that consider the cultural context, sufficient resource allocation, awareness campaigns, and proactive measures to address institutional resistance. The review also identifies promising practices in institutional responses, such as robust reporting mechanisms, impartial investigations, and comprehensive support systems for survivors. It emphasizes the necessity of collaboration between institutions, policymakers, and civil society organizations to create a comprehensive framework that effectively addresses the multifaceted nature of sexual harassment in Nigerian Universities considering its cultural diversity. Likewise, the study underscores the importance of accountability in addressing sexual harassment within the context of cultural diversity.

**Keyword:** Sexual harassment; educational stakeholders; policies implementation

**KU8-102: The Impact Transportation Infrastructure on the Travel Behaviour of Students in Higher Institutions in Nigeria**

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**Abstract**

Transportation infrastructure plays a crucial role in shaping students' travel behaviour in higher institutions, impacting their accessibility, mobility, and overall well-being. This study aims to investigate transportation infrastructure's role in supporting students' travel behaviour at Kwara State University, Nigeria, identifying challenges and proposing strategies to improve travel experiences. The study will employ a Structural Equation Modelling (SEM) approach to quantify transport infrastructure's effect on students' travel behaviour. The SEM approach will allow for examining the direct and indirect impact and exploring potential moderating variables. The research will identify the key transportation infrastructure elements affecting student travel behaviour through data analysis. It will assess the adequacy, accessibility, and safety of transport infrastructure, highlighting any shortcomings that impede efficient and convenient student mobility. The significance of this proposed research lies in its potential to inform university administrators, transportation planners, policymakers, and other stakeholders about the importance of transportation infrastructure in supporting student travel behaviour. The findings and recommendations will contribute to developing effective strategies and policies to enhance student mobility, promote a conducive learning environment, and ultimately improve the educational experience at Kwara State University.

**Keywords:** Transport Infrastructure; Student Mobility; Structural Equation Modelling

**KU8-112: Effects of Urbanization on Soil Quality in Offa Local Government Area, Kwara State**

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**Abstract**

The effect of urbanization on soil quality was examined in this study. As an emerging urban centre, Offa has experienced tremendous urban expansion since the creation of the local government in 1991. The establishment of different structures and facilities in this area has had a phenomenal impact on soil parameters and carbon accumulation. Rapid urbanization has inevitably increased pressure on the area of agricultural land cultivated and food produced, which have been at the detriment of soil carbon accumulation and loss of soil quality resulting in shrinkage and leaching of soil nutrients. A sustainable management to face the challenges of soil carbon accumulation in the study area was also determined. Soil samples were collected and analyzed for physicochemical parameters. The results show that there is a significant decrease in soil quality due to urbanization at the expense of light vegetation, soil conservation which decreases significantly by at least 60%. The study concluded that to avoid soil loss in carbon accumulation and nutrients, stimulation of urban sprawl to areas with low-quality soils in urban planning should be adopted and designed to conserve limited high-quality soils; accelerating rural regeneration development to control low-density settlement growth and protect contiguous farmland for agricultural production. ArcGIS are effective tools to accesses a timely database and permanent monitoring dynamics of soil quality on prospect of soil properties and carbon accumulation, coupled with the trend of urbanization. This can effectively balance the human activities and soil quality as well as soil resources and thus achieves sustainable development.

**Keywords:** Urbanization; Soil Quality; Offa; Farmland; Sustainable Development

**KU8-115: Evaluation of Impacts of Forestry Education toward Transformation of Education in 21<sup>st</sup> Century: Case of Forestry Graduates from Nigerian Universities**

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**Abstract**

Despite the many graduates of forestry in Nigeria and, to some extent, in other African universities, the impacts of forestry education among forestry graduates are not properly understood. The contributions of forestry education to forestry graduates between 2010 and 2016 across eight Nigerian universities were therefore examined. The graduates were screened using work histories and postgraduate experiences using the Behavioural Event Interview (BEI). An exploratory "gap analysis" was carried out on the graduates using the Bachelor curriculum of the Nigeria undergraduate programme. Most of the sampled forestry graduates have less field practical and working experience; this could be due to the way the curriculum was structured. Also, it is not common to find forestry students in Nigeria working during their studies; this could be partly due to the unavailability of a job during vacation or the bulkiness of the curriculum. Getting a post-education job for graduates, especially in the forestry field, often took many years. More than half of the graduates evaluated could only find forestry jobs in academia and in the Department of Forestry located in government ministries. For the transformation of forestry education in the 21<sup>st</sup> century, forestry curriculum should be reviewed to incorporate current international trends and job-demand skills, such as pedagogical learning methods, career counseling, skills-based modules, and the development of general and practical skills. Also, there is a need for creative and innovative modules or courses with an emphasis on the establishment and running of sustainable forest or green businesses to reduce the number of unemployed graduates.

**Keywords:** Curriculum; Post-education; practical skills; graduates; undergraduates

**KU8-120: Revolutionizing Personnel Recruitment and Management in 21st Century University Education: Stakeholders' Engagement**

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**Abstract**

The contemporary university environment demands a diverse range of skills, competencies, and perspectives to meet the needs of a dynamic society. As such, the involvement of various stakeholders becomes crucial in the recruitment and management processes. In today's rapidly evolving higher education landscape, it is essential to examine how stakeholders can contribute to positive change and advancements in university personnel practices. This paper explores the transformative role of stakeholders in personnel recruitment and management within universities, using the University of Ilorin as a case study. The paper highlights the significance of stakeholder engagement as a catalyst for driving excellence and achieving transformative outcomes. It emphasizes the criticality of collaboration among academia, industry partners, students, alumni, and regulatory bodies. By leveraging their collective expertise, stakeholders can shape comprehensive recruitment strategies that foster inclusive hiring practices and design sustainable personnel management frameworks. Engaging diverse stakeholders ensures that the recruitment process aligns with the evolving demands of academia and society at large. The research is descriptive using online questionnaire platform (Google Forms) as instrument for data collection. The result that will be obtained will be used to confirm the potential benefits of stakeholder involvement in personnel management, such as the establishment of mentorship programs, the provision of professional development opportunities, and the promotion of a culture of continuous learning. Involving stakeholders in decision-making processes ensures accountability, transparency, and responsiveness to the evolving needs of the university community. The paper concludes that stakeholders play pivotal role in transforming university education in the 21st century.

**Keywords:** Revolution; Personnel Recruitment; Higher Education; Stakeholders' Engagement; Management



**KU8-123: Media Education and Digital Media Literacy Competence as Requirement for 21st Century Citizenship Education**

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**Abstract**

There is growing recognition that digital media is no more avoidable in the conception and delivery of educational content to citizens. However, the digital media environment exudes both opportunities and threats almost in equal measures. This paper seeks to examine the conception of media education and digital media literacy as necessary steps to understanding the nature of new media environment for effective deployment in educational sector. More so, the aims of 21st century education is to produce citizens with necessary skills to navigate the new media environment towards maximizing the opportunities and minimizing the threat/risks inherent in the environment. This paper uses the theoretical framework of media education; media literacy competence and citizenship typology of *Personally Responsible Citizen*, *Participatory Citizen*, *Justice-Oriented Citizen* to analyse and situate the desired citizenship education for the Nigerian youth. The paper contributes both theoretical and practical values to the ongoing discussion about re-appraisal of the educational services by connecting the media and citizenship education in Nigeria.

**Keywords:** Media education; digital media; Media Literacy competence; citizen and citizenship education

**KU8-134: Towards Sustainable Agricultural Development in Nigeria: The Academia and Policy Influence**

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**Abstract**

The role of academia in research and development can never be overemphasized. Hence, the usual saying: linking the town with the gown. However, 'What has been achieved in this direction?' appears to be a question defying satisfactory answers over the years. It is true that many an academic relates with people and communities outside the campuses and serves in several roles including advisory and sometimes, linking them with information and organisations that often promote community development or attend to pressing issues, albeit at the microlevel. While the purposes served in these scenarios are not limited, much more is demanded and in a more coordinated, reliable, and constant manner. This expectation definitely demands involvement in the policy process. The understanding of the policy process, in addition to a mastery of the nitty-gritty by which to influence this process within the policy corridor, is quite crucial. Against this backdrop, this study explores the relevance of key concepts such as the Kaleidoscope Model of Policy Influence (KM), the Agripolicy tool kit, and the Policy and investment prioritization through value chain analysis (PPVC) vis a vis how the academia in Nigeria can bring to bear their expertise and consequently make a lasting impact on the policy process for the ultimate benefit of the society. It, therefore, proffered the deployment of strategies such as the Policy Influence Approach (PIA) within our national academic setting(s) through which relevant outputs across faculties, departments, and units could be harnessed for the ultimate goal of influencing policies for sustainable development.

**Keywords:** The policy process; the Kaleidoscope Model of Policy Influence; the Agripolicy tool kit; the Policy and investment prioritization through value chain analysis

**KU8-142: Sustainable Transport Solution for University of Ilorin in the Post-Subsidy Era**

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**Abstract**

Transportation plays a vital role by facilitating access to employment, health, education and other social and economic services. Rising demand for education across the world has underlined the need to ensure sustainable transport access for larger number of people whose demand for education must be satisfied. However, emphasis on sustainability in the transportation sector necessitates safeguarding human safety and the health of both the human and the natural environment in transportation planning. This paper focuses on sustainable transportation options adoptable for addressing the growing transportation needs in University of Ilorin, to ensure effective teaching, learning and research. While taking cognizant of increase in fuel prices occasioned by the removal of fuel subsidy and peculiarities of the University in terms of location and geographically dispersed facilities, the paper calls for the adoption of safe, efficient, affordable and environmentally friendly transportation options. These include preferment of mass transit, car-sharing and on-campus bicycle-sharing options. The paper also proposes encouragement of walking within the campus by providing shade trees along the roads and canopies for walkways. Furthermore, transport demand management options were suggested to reduce demand for transportation. These include provision of more on-campus hostel accommodation, promotion of virtual lectures and adoption of virtual resources for official meetings. The paper further suggests consideration of introduction of light rail system in the future.

**Keywords:** Sustainable transport; Transport needs; Transport access; Mass transit

**KU8-151: Reading from ‘The First Page’: Campus Environment and the Quest for Global Competitiveness in the KU8**

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**Abstract**

University grounds and landscaping constitute the inescapable ‘first page’ of any campus to the extent that it is the first point of contact by students, parents and short-term visitors. Investment and effort on visually appealing surroundings is therefore critical to creating the right impression of a 21<sup>st</sup> century University. Right impression also rubs on the student mix in the University particularly, for the internationalization component of global ranking. This paper examines the geographical characteristics and environmental challenges of ground management in what is generically described as the ‘KU8 Region’. The methodology of the paper is both archival and experiential in nature. First, we explored the geographical circumstances that combine with biotic and edaphic factors to produce the totality of the environment in which KU8 operates. The second approach is experiential flowing from a 9-month interaction with humans, tools and fields in the practical lawn management at the University of Ilorin. Thus, adopting an environmental domain analysis, the paper proceeds with a narrative that campus environment is located within the intangible domain of the University management, essentially because it rarely, on its own, generates income which may (and do) influence investment on this sector. We also underscored the multidimensional impact of the campus environment in achieving education and health related Sustainable Development Goals. The paper made suggestions on the options for addressing the grass growth and calls attention to the need to prioritize investment in the sector with a view to attaining a globally competitive KU8.

**Keywords:** Environment. University Ranking; SDGs, Higher Education; KU8, Nigeria

**KU8-152: Comparative Analysis of Public and Private Agricultural Extension Delivery Systems among Farm Households in Niger-Delta Region of Nigeria**

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**Abstract**

It compares two agricultural extension delivery systems carried out in Niger-Delta Region of Nigeria to know the one that is more effective and efficient in the conduct of extension services and how these extension systems have affected the socio-economic lives of farm households in this region. A multistage sampling procedure is applied and well-structured interview schedule is used to collect data from 256 farmers. Their extension delivery systems differ. These differences reflect in the socioeconomic lives of the farm households. Two hypotheses are tested and both show significant differences in income of farm households from agricultural production enterprises and agricultural extension delivery systems. Private extension systems conduct more fortnightly farm visits and provides better extension services than public extension system. However, private extension system covers less agricultural production enterprises than public extension system. It concludes that private agricultural extension delivery system is more effective and efficient than public agricultural extension delivery system. It recommends more involvement and encouragement of private extension agricultural delivery participation in funding and undertaking of more agricultural enterprise coverage areas/services.

**Keywords:** Agricultural extension delivery system; agricultural extension services; agricultural production enterprises; effective; efficient; Niger-Delta.

**KU8-166: Determinants of Demand for Private Universities in Nigeria: Implications for Further Investments in Private Higher Education**

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**Abstract**

The inadequacy of the Nigerian government-owned universities to meet the admission needs of the ever-increasing admission seekers led to the approval of private universities. However, despite the ever-increasing number of private universities and the efficiencies associated with them, over 90 percent of admission seekers still compete for the limited admission spaces in public universities with the majority of them not being able to secure admission. In the light of the foregoing, this study investigates the determinants of demand for private higher education in Nigeria and its implication for further investment in private higher education, using private universities in Kwara and Osun state as case studies. The empirical evidence rely on survey research design using Logistic regression model. The empirical findings from the study reveal that factors such as parents' level of income, year of establishment, the types of courses offered, ownership type of the university, location, popularity of the founder or the organization promoting the university are among the prominent factors in the students' choice of private universities. Towards boosting the demand for private university admission, the study recommends firstly, enhancing the access to fund through student loans scheme, secondly, running professional courses that are high in demand among admission seekers, and thirdly, allowing moderation in the enforcement of religion rules on campus.

**Keywords:** Determinants of demand; Private higher education; investment, cost of education

**KU8-171: Household Food security in Nigeria: The role of Non-Farm Income Diversification**

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**Abstract**

This research examined the impact of off-farm income on food security among rural households in Imo State, Nigeria. The study selected 150 respondents from five local governments in Imo State. Primary data used for the study was collected through the use of semi structured questionnaires and interviews with the farmers. Various statistical methods, including descriptive statistics, multinomial regression, and Food consumption score, were employed to analyze the data. The findings revealed that the average age of the respondents was 40 years, with the majority (62.7%) being male and 79.3% married. Additionally, 70.7% of the respondents had secondary school education. The most common off-farm activity among the respondents was trading, accounting for 58.7%. The food security status of the respondents was classified as either acceptable, borderline or poor, with a food security incidence rate of 26% for the acceptable group, 39.33% for the borderline and 34.67% for the poor. The results of the multinomial regression analysis indicated that education, level of diversification, income and farming activity were all significant in determining the food security of the households. Some of the recommendations include: Provision of accessible and quality education by the government, promotion and enhancement of non-farm income diversification in rural areas.

**Keywords:** Diversification; Food consumption score; food security; non-farm

**KU8-178: Online Polarization and the Perception of Ethnic Diversity among Nigerian Youth**

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**Abstract**

This study examines the relationship between exposure to online polarisation and attitudes towards ethnic diversity among Nigerian youth. The study population consisted of 152 students in their final year of undergraduate study at the University of Ilorin, the Kwara State University, Malete, and Ahmad Pategi University, Pategi, all located in North Central Nigeria, and who were considered media literate. The questionnaire included items related to exposure to online polarisation, attitudes towards ethnic diversity and the correlation between exposure to online polarisation and attitudes towards ethnic diversity. Findings from the study suggests that exposure to online polarisation is linked to negative attitudes towards ethnic diversity, which could have a profound impact on social cohesion and integration. As such, it is essential to raise awareness and educate young people on the potential consequences of online polarisation, in order to reduce its impact on social attitudes.

**Keywords:** Online polarisation; Attitudes; Ethnic Diversity; Nigerian Youth; Media literacy

**KU8-190: Digital Communication in a Globalized World: Trends, Challenges and Best Practices**

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**Abstract**

The evolution of digital communication platforms has transformed global communications, allowing instantaneous connectivity, surpassing geographical borders, and permitting unique levels of information conversation and partnership. Hence, the paper examines the key trends in digital communication platforms in the context of a globalized world, and how they impact communication behaviors and patterns, and the main challenges associated with using digital communication platforms. This conceptual paper therefore provides an overview of the trends, challenges, and best practices associated with digital communication in a global context. The challenges which include misinformation, information overload and cultural barriers, security concerns, online harassment, privacy and the digital divide were discussed. Similarly, critical explanation of the best practices for digital communication in a globalized world was made. In order for proper understanding and best policies for digital communication, the study explores the future directions and emerging technologies that shape digital communication across the world including Nigeria. However, the possible impact of augmented reality (AR), virtual reality (VR), artificial intelligence (AI) on communication forms and practices are established. These innovations have the potential to transform communication forms as well as practices by bringing about improved engagement and productivity. Therefore, in order for wide-ranging understanding of best practices in digital communication, future researchers should contemplate carrying out comparative research across diverse media genre. With this, insights can be established on distinctions and circumstantial influences that affect effective digital communication practices. Based on this, the convergence of augmented reality, virtual reality, and artificial intelligence offers a better future for communication.

**Keywords:** Digital Communication; Globalized World; social media; artificial intelligence; augmented reality

**KU8-204: Effect of Climatic Shock on Farm Households' Food Security in Kwara State, Nigeria.**

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**Abstract**

Climate change and climate shock affect farm household production in developing countries Nigeria inclusive thereby posing great threats to household food security. Nevertheless, there remains limited empirical evidence in Nigeria regarding the extent of climate shocks' effect on farm households' food security. This study investigates the effect of climatic shocks on farm household food insecurity in Kwara State, Nigeria. A semi-structured questionnaire was employed to gather data for this study. 300 respondents were obtained through a multi-stage random sampling technique. The study employed the Food insecurity experience scale to estimate the food security status of farm households while a probit was adopted to estimate the effect of climate shock on farm household food security. The description of the socioeconomic characteristics of the households reveals more than 80 percent of the households are headed by males and the mean age of 56 years. The average household size is 7 while more than 60 percent of the household heads had at least primary education, furthermore, the average years of farming experience is 23 years. The research showed that more than 70 percent of households experience food insecurity. sex, membership of farmers association, and erratic rainfall were negative and statistically significant This study therefore concludes climate shock affects the food security status of farm households. The study recommends that farm households should avail themselves of climate forecasts from various sources so as to adequately prepare for future climate shock.

**Keywords:** Climate shock; Farm households; Food security; Food insecurity experience scale; Kwara state

**KU8-207: Universities and Sustainable Development in Africa: Tackling the Scourge of Corruption**

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**Abstract**

Universities across the world are designed to be sources of civilization and policies towards advancing and developing the course of humanity within society. However, many universities in Africa are faced with challenge of corruption at several levels and this appears to thwart the growth of the institutions and by extension African countries. While studies exist on the problem of corruption in African universities, more are needed on examining the implications of corruption on development. Therefore, this study examines the prevalence of corruption in universities in Africa and its implications for sustainable development. Relying on the literature and secondary data, it examines the effects of corruption on the implementation of educational policies and programmes in Africa. The results show that corruption is widespread in universities in Africa, primary in the form of bribery, nepotism and misuse of funds. Also, corruption has been linked to multiple negative outcomes for university education in the region, including poor educational outcomes, a lack of research activity, and substandard infrastructure. Finally, the study recommends the need for the government to take effective measures to reduce corruption and strengthen oversight systems and regulatory frameworks. However, more research is needed to better understand the dynamics of corruption in the African higher education context and its implications for sustainable development.

**Keywords:** Corruption; Sustainable Development; Africa; Universities; Mismanagement

**KU8-210: Securing Nigerian Universities for National Development**

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**Abstract**

Nigerian universities play a crucial role in the country's development by fostering innovation, producing skilled professionals, and conducting cutting-edge research. Thus, it becomes imperative to ensure a safe-environment. This implies that all efforts must be taken to guarantee every aspect of the institution, viz human security (staff and students protection), physical security, infrastructure protection (including e-infrastructure) among others. Human security implies that both staff and students feel secured always such that they have guarantee of physical, social, psychological (mental) and spiritual protection. Physical security denotes a robust security architecture which guarantees a safer university community with up-to-date rapid response security system and enhance prevention of internal and external threat. The guarantee of quality and adequate infrastructure is also essential including offices, classrooms (including lecturer theatres), laboratories, hostels, staff quarters, sporting facilities and other relevant infrastructure required for successful teaching, learning and community impact. Other critical aspects of University security is guaranteeing the digital infrastructure from cyber-attacks and safeguard its e-properties alongside encouraging a culture of cybersecurity awareness by providing up- to- date training for staff and students on best practices. Lastly, is collaboration between universities, government agencies, and industry through joint initiatives (conferences, workshops), staff and student exchange as well as experience, resource and information sharing. As a result of supporting innovation and entrepreneurship, partnerships with industry will facilitates productive research collaborations, internships and technology transfer, all of which improve security and overall national development.

**Keywords:** Security; Universities; National Development; Collaborations

**KU8-218: Peace and Security: Catalyst for Development in Universities**

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### **Abstract**

Peace, security, and development are independent yet interdependent concepts that are often dynamic. Peace in its simplest sense is the absence of structural conflict and insecurity. Security on the other hand is the absence of social, economic, political, psychological and environmental threats while development is the improvement in a country's economic and social conditions of living. Development is perceived as the result of the social relationship between peace and security. This paper is an amalgam of salient issues relating to peace, security, and development in Nigerian universities. Just as conflict is inevitable in every society, peace and security are essentially desired by the society. The desire for peace in any society is the pilot to ensuring development but where resolving conflict becomes difficult or impossible the educational system also feel the heat as the educational system is a microcosm of the Nigerian society. Cases of continual and visible insecurity in Nigerian universities include ritual killing, Kidnapping, cultism, terrorism, fire outbreak which have engendered fear, agony, difficulty, pains, and destruction of lives and properties. Many factors are accountable for lack of peace and security in Universities, such as inequality in access to economic resources, youth unemployment, non-participatory government, political insinuations or affiliation, religious leaning, and clashes among ethnic groups. Safety tips on university campus include avoidance of solitary movement, securing belongings, vigilance regarding visitors, acquisition of fire extinguisher, fire outbreak prevention and combat practice, and reporting of suspicious persons to the university authority.

**Keywords:** Peace and security; Development in universities; Societal development; Environment of learning; Conflict

### **KU8-250: Socio-economic Impact of Flooding on the livelihood of Kangile Residents, Ilorin, Kwara State, Nigeria**

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### **Abstract**

This study examined the socio-economic impact of flooding on the livelihood of Kangile residents in Ilorin, Kwara State, Nigeria. Natural disasters have been increasing in frequency and intensity over the years, leading to loss of life, damage to property, and destruction of the environment. This has a significant impact on cities all over the world, impacting their socio-economic livelihood. The study employed both primary and secondary sources. The population of the study area was projected at 12,745 using a growth rate of 2.8%. The required sample size of 99 was adopted, and the questionnaire was administered to the residents. It sought to obtain information on the residents' demographic characteristics, factors, and effects of flooding. A four-point Likert scale was used to measure residents' vulnerability and the coping strategies they adopted during flooding occurrences. Multiple linear regression was used to establish the effects of flooding on residents' livelihoods. The findings revealed that six factors (agriculture, health, education, water, property, and assets) were identified as major livelihood components during flood occurrence. Regression analysis shows that the calculated F value of 24.601 is far greater than the F table value of 2.31. This clearly shows that the predictors have a huge effect on the level of stress and livability of Kangile residents. The research was concluded with a few recommendations, such as that relevant authorities should delineate both non-flood areas and flood areas. The government and key stakeholders should assist vulnerable communities and households for them to permanently move to higher ground.

**Keywords:** Environment; Hazard; Poverty; Risk; Vulnerability

### **KU8-252: The Adoption of Agripreneurship Education as a Tool for Sustainable Development: A Topical review**

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**Abstract**

In the pursuit of sustainable agriculture, the significance of entrepreneurship education is rising, particularly in emerging nations. This study among other things set out to investigate the adoption of agripreneurship education on sustainable development in Nigeria by examining publications that were written on the subject of “agripreneurship education” between the years of 2012-2022. This article emphasizes the value of agripreneurship education for agricultural growth and sustainable development through a comparative analysis provided in the report. Findings from the studies reviewed show that farmers/landowners have low levels of entrepreneurship education and this have higher needs, as the desire for entrepreneurship education exists amongst the groups. Despite the need for capacity building, the majority of agricultural degree programs are theory-based and primarily concerned with the technical and scientific components of production, failing to consider the students' entrepreneurial demands. While, Agripreneurship can promote social and economic advancement, lower the poverty rate, guarantee a healthy diet, promote food security, and create business opportunities. Agriculture is still perceived as a non-lucrative sector by most youth in the society. In order to further rural economic and social development, it is essential that agricultural producers and students become agricultural entrepreneurs (Agripreneurs). It is therefore recommended that a transdisciplinary approach of agripreneurship education be adopted, and the government should take the initiative in disseminating information about the most effective farming methods to navigate from subsistence approach to a more commercial system to spur youth's interest. This will go a long way to enhance sustainable agricultural development in Nigeria.

**Keywords:** Agripreneurship Education; Agripreneurship; Zero Hunger; No poverty; Employment generation

**KU8-258: Media as Public Opinion Influencer in A Democracy: An Appraisal of the 2019 “O To Ge” Revolution in Kwara State**

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**Abstract**

Nigeria's democratic status was revived in 1999 following the handover of political power by the military to the civilians. However, successive elections have been marred by alleged rigging which ostensibly deprived those who public opinion favoured before each of those elections, the opportunity to serve their people especially in Kwara state where results of such elections were predictable, owing to the stranglehold that a political dynasty, the Saraki's had on the state for about forty years. The media especially, radio broadcasting played prominent role in the escalation of the *O to ge* (Enough is enough) media campaign. This paper therefore, seeks to appraise the role of the media in the success of the *O to ge* revolution. The agenda setting theory and the Currency of Issues Public Opinion theory underpins this study while the methods employed are the descriptive survey and historical analysis from secondary sources such as books, library, newspapers, journals, amongst others. The study, based on findings, conclude that the *O to ge* media campaign, influenced the outcome of the 2019 General elections that saw an opposition party recording victory over the candidate of the Saraki's. The paper therefore, recommended that politicians should always respect the opinion of the people while in government and not be disgraced out of office as the Saraki's suffered during the 2019 General elections.

**Keywords:** Media, Public Opinion, Democracy, Appraisal, “O To Ge”

**KU8-259: Geospatial Applications in Student Academic and Population Studies**



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**Abstract**

Geographic Information System is a tremendously exciting area of geography to be involved in presently. It is also an established fact that applications of GIS are legion. And the need to place information in a geographical context pervades many aspects of human activities. Furthermore, the rate of technological development and the speed at which research is progressing ensures that new ideas and techniques are being presented almost daily. GIS has also come to be part of the curriculum in many educational institutions, where the use of a wide range of data for teaching, research and consultancy purposes are highly in demand. The use of demonstration software packages especially in disciplines of Geography, Cartography, Surveying and Remote Sensing have been well established. These therefore call for a need for a holistic study reviewing the integration of GIS in ensuring efficient and sustainable development of student centred aspirations and overall academic development in our citadels.

**Keywords:** Geographic Information System; Students' Education; Application; Population; Sustainable Development

**KU8-264: A Micro-macro Analysis of Christian-Muslim Conflicts in Nigeria's Tertiary Institutions**

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**Abstract**

Identity conflicts as a variant of communal conflicts have permeated every stratum, context and space of inter-group contact in Nigeria, including tertiary institutions. Given the resurgence in Pentecostal Christian evangelism, Islamic revivalism, and puritanism especially since the 1990s across both formal and informal spaces, University campuses have also become sites of competition of the Christian-Muslim struggle. Against the backdrop of the preceding and cognisant of the spate and spread of Christian-Muslim conflicts in Nigeria's tertiary institutions, this article examines how specific instances of Christian-Muslim conflicts within the micro context of university campuses have mirrored and shaped Christian-Muslim relations in macro-Nigeria and its implications for peaceful co-existence and national security. The sourcing of data combines both primary and secondary approaches. Taking macro-Nigeria as the *town* and the university campuses as the *gown*, we use the data generated to probe for differences and similarities in Christian-Muslim conflict behaviour in the *town* and *gown*.

**Keywords:** Identity conflict, Universities campuses, Christian evangelism, Islamic revivalism, *Town* and *Gown*

**KU8-276: The Impact Centre for International Education on the Internationalisation Strategies of the University of Ilorin**

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**Abstract**

This research work analyses the impact of the Centre for International Education (CIE) on the internationalisation drive of the University of Ilorin (Unilorin). In an increasingly connected and globalised world, universities are keen to increase their internationalisation efforts to foster academic excellence, encourage global perspectives, and attract diverse student groups. The Centre for International Education (CIE) plays a crucial role in promoting and coordinating internationalisation initiatives within the university. This study examines the various programmes, activities, and services offered by the Centre and examines their effectiveness in promoting internationalisation at the University of Ilorin. The research conducts a systematic literature review to examine the impact of the International Office/Unit on the internationalization strategies of universities. The review synthesised existing studies, reports, and relevant documents that were summarised and analysed to offer valuable perspectives into the effectiveness and contribution of the university in promoting internationalization efforts. It also assesses the impact of these efforts on the university's global engagement, reputation, student mobility, faculty collaborations, and overall institutional development. By understanding the role of the Centre for International Education and its influence on internationalisation strategies, the result obtained provide insights and recommendations for improving Unilorin's internationalisation efforts and potentially serve as a model for other sister institutions.

**Keywords:** Internationalisation; Collaboration; CIE; Unilorin

**KU8-279: A Macroeconomic Analysis of Agricultural Sector in Nigeria**

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**Abstract**

This paper attempts to study the Nigerian agriculture industry as a panacea to growth as well as an anchor to the diversification agenda of the present government. To do this, the time series data of the four agriculture subsectors of crop production, livestock, forestry and fishery were analyzed as stimulus to the real GDP from 1981-2022 in order to explicate the individual contributions of the subsectors to the RGDP in order to guide the policy thrust on diversification. Using the Johansen co-integration, all the variables were found to be co-integrated, with the exception of the forestry subsector, all the three subsectors were seen to have impacted on the real GDP at varying degrees during the time under review. The crop production subsector has the highest impact, however, taking size-by-size analysis, the livestock subsector could be of much importance due to its ability to retain its value chain and high investment returns particularly in poultry. Therefore, it is recommended that, the government should intensify efforts to retain the value chain in the crop production subsector, in order to harness its potentials optimally through the encouragement of the establishment of agriculture cottage industries. Secondly, the livestock subsector is found to be the most rapidly growing and commercialized subsector. Lastly, the tourism industry which is a source through which the impact of the subsector is channeled to the GDP should be developed, in order to improve the impact of such channel to GDP with the sole objective to resuscitate the forestry subsector.

**Keywords:** Diversification; Co-integration; Agriculture-subsecto