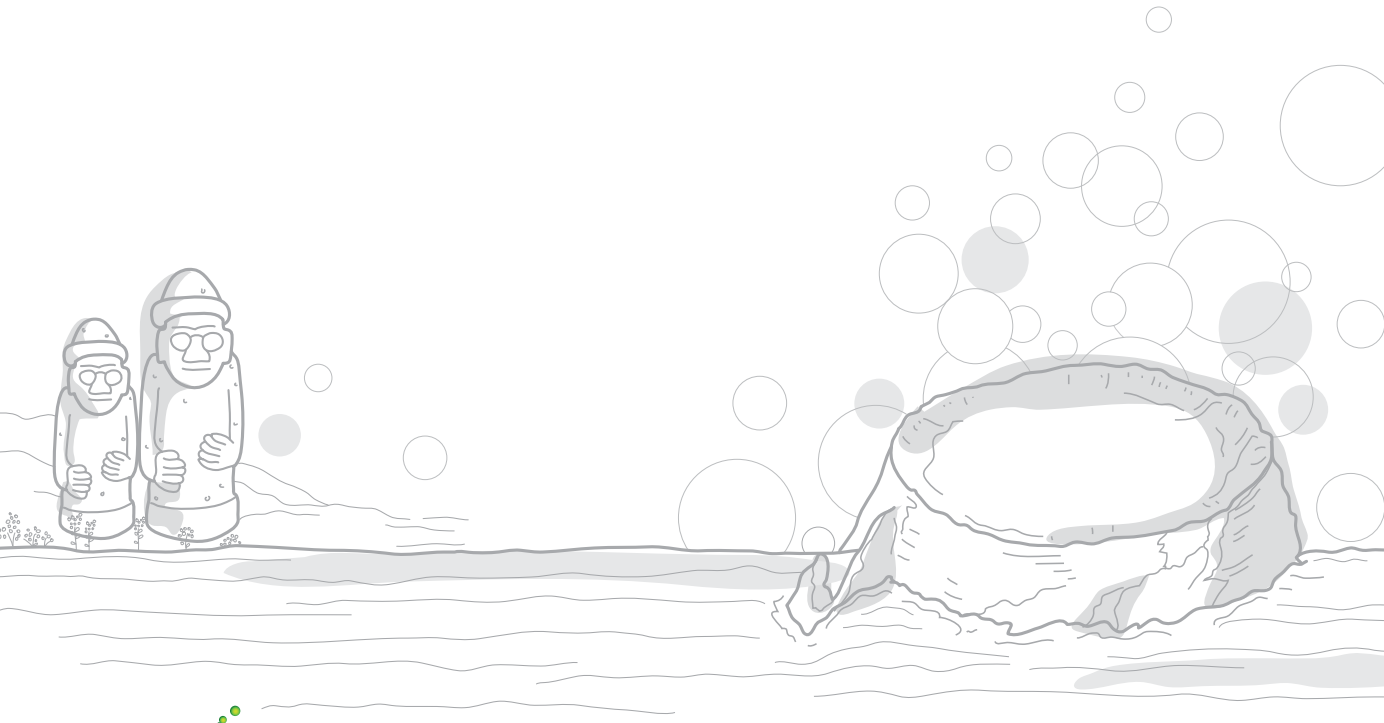
www.aac2017.org

AAC 2017
Asian Aerosol Conference 2017

AAC2017

The 10th Asian Aerosol Conference

July 2nd(Sun) ~ 6th(Thu), 2017
ICCJEJU, Jeju, Korea



Hosted by KAPAR Korean Association for Particle and Aerosol Research

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Model AE33

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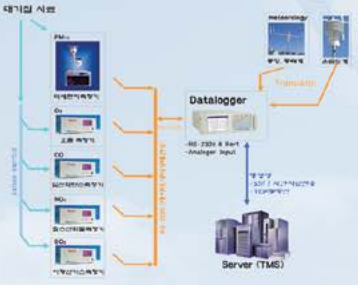

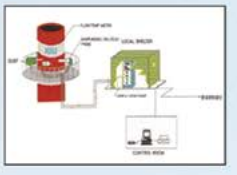

KNJ ENGINEERING, INC.

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Email: knj@knj-eng.co.kr / Web: www.knj-eng.co.kr


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2017
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The 10th Asian Aerosol Conference

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"This work was supported by the Korean Federation of Science and Technology Societies Grant funded by the Korean Government."

CONTENTS


AAC
2017
Asian Aerosol
Conference 2017

Dear Aerosol Researchers,

We are very happy to announce that the Asian Aerosol Conference (AAC2017) will be held in Jeju, Republic of Korea from July 2 to 6, 2017.

We will do our very best to host this event and make sure that every scientist and engineer in the field of aerosol science and technology has a nice and comfortable stay. For this purpose, meticulous preparations and concerted efforts will be made to provide various well-organized programs, including up-to-date technical sessions on the current topics of interest.

We are proud that the venue of this conference, Jeju Island, has been designated as UNESCO-accredited sites such as a Biosphere Reserve, a World Natural Heritage Site, and a Geopark. We hope you enjoy your stay in Jeju which is a world-renowned treasure island worthy of worldwide attention and conservation.

We hope that aerosol scientists and engineers from all over Asia and the Pacific will participate in this conference in 2017, and that all of them will not only exchange the most up-to-date technical information and enjoy getting to know each other but also will experience the wonders of Jeju Island and learn about Korean culture and history.

See you in Jeju 2017.

Kang-Ho Ahn, Ph.D.
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AAC2017 Committee

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Co-Chairman,
AAC2017 Committee

Hee Dong Jang, Ph.D.
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DATE	July 2 (Sun)
16:00~18:00	Registration [3F, Foyer]
1 8:00~19:20	Welcome Reception [5F, OceanView]

DATE / VENUE	July 3 (Mon)			
	3F Foyer, Halla, Samda		4F Room 401, Room 402	
	Halla [A]	Samda [B]	Room 401 [C]	Room 402 [D]
8:00	Registration (08:00 - 17:30) / Exhibition (09:00 - 17:30) [3F, Foyer]			
8:30	Coffee Break (08:30 - 09:00) [3F, Foyer]			
9:00	Opening Ceremony (09:00 - 09:30) [3F, Halla]			
9:30	Plenary Lecture 1 [PL1] (09:30 - 10:30) [3F, Halla] Prof. Yoshio OTANI, Japan			
10:00				
10:30	Oral Session 1 (10:30 - 12: 00)			
11:00	[OS1-A] Aerosol Chemistry I	[OS1-B] Aerosol Physics	[OS1-C] Instrumentation and Measurement I	[OS1-D] Materials Processing I
11:30				
12:00	Lunch Break (12:00 - 13:30) [5F, OceanView]			
12:30				
13:00				
13:30	Plenary Lecture 2 [PL2] (13:30 - 14:30) [3F, Halla] Prof. Pratim BISWAS, USA			
14:00				
14:30	Oral Session 2 (14:30 - 16:00)			
15:00	[OS2-A] Aerosol Chemistry II	[OS2-B] Filtration and Control Technology I	[OS2-C] Instrumentation and Measurement II	[OS2-D] Indoor Aerosol
15:30				
16:00	Coffee Break (16:00 - 16:30) [3F, Foyer]			
16:30	Oral Session 3 (16:30 - 18:30)			
17:00	[OS3-A] Aerosol Chemistry III	[OS3-B] Bioaerosols I	[OS3-C] Instrumentation and Measurement III	[OS3-D] Aerosol and Global Climate
17:30				
18:00				
18:30				

※ Subject to change

DATE VENUE	July 4 (Tue)			
	3F Foyer, Halla, Samda		4F Room 401, Room 402	
	Halla [A]	Samda [B]	Room 401 [C]	Room 402 [D]
8:00	Registration (08:00 - 17:30) / Exhibition (09:00 - 17:30) [3F, Foyer]			
8:30	Coffee Break (08:30 - 09:00) [3F, Foyer]			
9:00 9:30	Plenary Lecture 3 [PL3] (09:00 - 10:00) [3F, Halla] Prof. Chuen-Jinn TSAI, Taiwan			
10:00	Coffee Break (10:00 - 10:30) [3F, Foyer]			
10:30 11:00 11:30	Oral Session 4 (10:30 - 12:00)			
	[OS4-A] Long-Range Transported Air Pollutants in East Asia - Observation, Measurements, and Model Analysis I	[OS4-B] Bioaerosols II	[OS4-C] Incineration & Combustion Aerosols	[OS4-D] Micro and Nanotechnology
12:00 12:30 13:00	Lunch Break (12:00~13:30) [5F, OceanView]		AARA Board Meeting & Lunch [3F, Room 302]	
13:30 14:00	Plenary Lecture 4 [PL4] (13:30 - 14:30) [3F, Halla] Prof. Min HU, China			
14:30 15:00 15:30 16:00	Oral Session 5 (14:30~16:30)			
	[OS5-A] Long-Range Transported Air Pollutants in East Asia - Observation, Measurements, and Model Analysis II	[OS5-B-SS] LG Electronics Special Session	[OS5-C] Aerosol Modeling	[OS5-D] Nanoparticles and Materials
16:30	Coffee Break (16:30 - 17:00) [3F, Foyer]			
17:00 17:30	Poster Session 1 [PS1] (17:00 - 18:30) [3F, Foyer]			
18:00 18:30~ 20:00			AAQR Board Meeting (18:00 - 20:00) [3F, Room 302]	

※ Subject to change

DATE VENUE	July 5 (Wed)			
	3F Foyer, Halla, Samda		4F Room 401, Room 402	
	Halla [A]	Samda [B]	Room 401 [C]	Room 402 [D]
8:00	Registration (08:00 - 17:30) [3F, Foyer]			
8:30	Coffee Break (08:30 - 09:00) [3F, Foyer]			
9:00	Plenary Lecture 5 [PL5] (09:00 - 10:00) [3F, Halla] Prof. Gediminas MAINELIS, USA			
9:30				
10:00	Awards Ceremony (10:00 - 10:30) [3F, Halla]			
10:30	Oral Session 6 (10:30 - 12:30)			
11:00	[OS6-A] Atmospheric Aerosols I	[OS6-B] Filtration and Control Technology II	[OS6-C] Health Related Aerosols I	[OS6-D] Instrumentation and Measurement IV
11:30				
12:00				
12:30	Free Time			
13:00				
13:30				
14:00				
14:30				
15:00				
15:30				
16:00				
16:30				
17:00				
17:30				
18:00	Gala Dinner (18:00~20:00) [5F, Tamna B]			
~ 20:00				

※ Subject to change

DATE VENUE	July 6 (Thu)			
	3F Foyer, Halla, Samda		4F Room 401, Room 402	
	Halla [A]	Samda [B]	Room 401 [C]	Room 402 [D]
8:00	Registration (08:00 - 12:30) [3F, Foyer]			
8:30	Coffee Break (08:30 - 09:00) [3F, Foyer]			
9:00	Plenary Lecture 6 [PL6] (09:00 - 10:00) [3F, Halla] Prof. Kang-Ho AHN, Republic of Korea			
9:30				
10:00	Coffee Break (10:00 - 10:30) [3F, Foyer]			
10:30	Oral Session 7 (10:30 - 12:30)			
11:00	[OS7-A] Atmospheric Aerosols II	[OS7-B] Aerosol Emissions	[OS7-C] Health Related Aerosols II	[OS7-D] Instrumentation and Measurement V
11:30				
12:00				
12:30	Break (12:30 - 13:30)			
13:00				
13:30	Oral Session 8 (13:30 - 15:30)			
14:00	[OS8-A] Atmospheric Aerosols III	[OS8-B] Filtration and Control Technology III		
14:30				
15:00				
15:30	Closing Ceremony (15:30~16:00) [3F, Halla]			
16:00				
16:30				
17:00				
17:30				
18:00				
~ 20:00				

※ Subject to change

OVERVIEW

Title	**The 10th Asian Aerosol Conference (AAC 2017)**
Date	July 2 (Sun) - 6 (Thu), 2017
Venue	ICC Jeju, JEJU, Republic of Korea
Participants	600 from 20 Countries (Domestic 300, Overseas 300) Exhibition: 28 Companies 35 Booths
Homepage	www.aac2017.org
Language	English
Hosted By	KAPAR Korean Association for Particle and Aerosol Research
Supported By	KOREA TOURISM ORGANIZATION · Jeju Special Self-Governing Province · Jeju CVB Jeju Convention & Visitors Bureau · KOFST
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Welcome Reception

All registered participants are invited to attend the Welcome Reception which will take place at OceanView on the 5th floor, ICC JEJU. It will be an excellent opportunity to network and socialize with other participants, while enjoying a mini buffet with delicious finger foods and beverages.

- **Date & Time :** July 2 (Sun), 18:00~19:20
- **Place :** OceanView (5F)

Opening Ceremony

All participants and exhibitors are warmly invited to join and celebrate the official opening ceremony.

- **Date & Time :** July 3 (Mon), 09:00~09:30
- **Place :** Halla Hall (3F)

AAC Gala Dinner

If you would like to experience a special night in Jeju, you are cordially invited to the Gala Dinner. Delicious foods will be served along with a dynamic traditional Korean musical performance. This will be a great opportunity to relax with wonderful entertainment while also allowing time to get to know each other better. Please make sure to bring the Gala Dinner ticket with you.

- **Date & Time :** July 5 (Wed), 18:00~20:00
- **Place :** Tamna B Hall (5F)
- **Ticket Price :** US $70 / person / A small number of tickets are available on site.

Awards Ceremony

Awards Ceremony for AARA Fellows and Asian Young Scientist Awards(AYASA) will be held after Plenary Lecture 5. Please join the ceremony and celebrate the awardees together.

- **Date & Time :** July 5 (Wed), 10:00~10:30
- **Place :** Halla Hall (3F)

Closing Ceremony

All participants are cordially invited to join the Closing Ceremony to cherish the memories from AAC 2017.

- **Date & Time :** July 6 (Thu), 15:30~16:00
- **Place :** Halla Hall (3F)

Lunch Breaks

The registration fee for regular participants and students includes lunches for 2 days(July 3~4).

- **Date & Time :** July 3 (Mon) 12:00~13:30 / July 4 (Tue) 12:00~13:30
- **Place :** OceanView (5F)

Coffee Breaks

Coffee, tea and refreshments will be served to all participants on the 3rd floor foyer between session programs.

Preview Room

Location: 3F, Room 301A

Operation: July 2 (Sun) 16:00~18:00 / July 3 (Mon) ~ July 5 (Wed) 08:00 ~ 18:00 / July 6 (Thu) 08:00 ~ 14:00

Please visit the preview room and submit your presentation material at least 2 hours prior to your session. You can also modify your presentation file at the preview room. Come and get accustomed to using the equipment we have for you at the conference. You are recommended NOT to use your own computer for your presentation. If you have to use Apple Mac with our beam projector, we request you bring your Mac gender changer and go straight to the session room to test your Mac at least 2 hours before.

※ Time allocated for Presentation

Oral Presentation	Total of 15 minutes (12 mins. for presentation and 3 mins. for Q&A)
Invited Speakers Presentation	Total of 30 minutes (25 mins. for presentation and 5 mins. for Q&A)
Plenary Lecturers Presentation	Total of 60 minutes (50 mins. for presentation and 5~10 mins. for Q&A)

Presentation Schedule

Date	Session	
July 3 (Mon)	PL01~PL02, OS01~OS03	· PL : Plenary Lecture · OS : Oral Session · PS : Poster Session
July 4 (Tue)	PL03~PL04, OS04~OS05, PS	
July 5 (Wed)	PL05, OS06	
July 6 (Thu)	PL06, OS07~OS08	

Session Topics

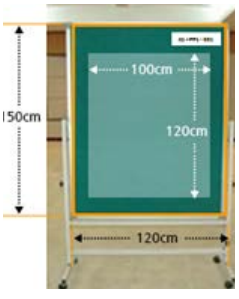
Aerosol Chemistry, Aerosol Emissions, Aerosol Modeling, Aerosol Physics, Atmospheric Aerosols, Bioaerosols, Filtration and Control Technology, Health Related Aerosols, Incineration and Combustion Aerosols, Indoor Aerosols, Instrumentation and Measurement, Materials Processing, Micro and Nanotechnology, Nanoparticles and Materials, Aerosols and Global Climate, Electrical Effects

Poster Session

Poster Session : July 4 (Tue), 17:00~18:30, 3F, Foyer

Poster Setting : July 3 (Mon), 18:30~20:00 - July 4 (Tue), 08:00~16:00

Poster Takeoff : July 4 (Tue), 19:00~22:00



Posters will be displayed at the foyer of ICC JEJU (3F). The secretariat will not be held liable for any lost or damaged posters. All poster presenters are encouraged to be at their poster panels for discussion with participants during presentation time.

※ Poster Board Information

The poster-board surface for each poster will be 150cm high by 120cm wide. Posters prepared by presenters should be maximum of 120cm height and 100cm width for comfortable angle for viewers.

Poster board is covered with nonwoven green fabric material.

Scotch tape, pins and scissors will be prepared in poster session area for presenter's to attach their posters.

Transportation

From Jeju International Airport, you will reach to the venue in approximately 40-50 minutes by car. The airport limousine buses are also available every 15-20 minutes at the airport

Airport Limousine Bus Route (No. 600)

Airport → Sun Hotel → Grace Hotel → Entrance to the Eomiji Botanical Garden → Hana Hotel → Hyatt Hotel → Shilla Hotel → Suites Hotel → Lotte Hotel → Hankook Condominium → KTO Jeju → Seaes Hotel → Bouyoung Hotel and Resort → Jeju International Convention Center(ICC JEJU) → World Cup Stadium → New Gyeongnam Hotel → Seogwipo Port → Paradise Hotel → KAL

Taxi : Individual Taxi Service Association (+82-64-744-2793)
Call taxi operators (+82-64-727-1111)

Registration

Registration Fee

· Registration for students requires you to bring with a copy of student card or an official letter from your participating university confirming that you are a full time student. Students will need valid student card at the on-site registration desk.

· Registration for retirees requires you to bring with resume and retirement certificate (ex, verifying your current retired position, such as confirmation letter from head of your association or previous organization)

Category	Early-bird Registration (Received on or before May 31, 2017)	On-site Registration (Received after May 31, 2017)
Standard	US$ 500.00	US$ 700.00
Student	US$ 200.00	US$ 300.00
Exhibitor	US$ 500.00	US$ 700.00
Retiree	US$ 200.00	
AAC Dinner	US$ 70.00	

Registration Fee Covers

- Admission to Scientific Sessions
- Exhibition
- Welcome Reception and Coffee Breaks
- Conference Materials(Congress bag, Program book, Name card)

Methods of Payment

· All registration fees are quoted in US dollar (USD). Payment in any other currency will not be accepted.
· Registration not accompanied by appropriate payments will not be honored until full payment is made.
· Receipts will be provided at the on-site registration desk.
· We also take credit card (VISA, MasterCard, Amex and JCB) and wire transfer for the payment.

I.D. Badges

All participants are required to check in at the registration desk to pick up their name badge. Badges must be worn during all scientific sessions and social programs.

Emergency Phone Numbers

Tourist Information: 1330 / Police: 112 / First Aid: 119

AAC2017 Secretariat

224 Jungmungwangwang-ro, Seogwipo, Jeju Special Self-Governing Province, Korea, 63547, International Convention Center JEJU

Tel. +82-64-735-1035 / Fax. +82-64-735-1098 / e-mail. info@aac2017.org

Housing Bureau

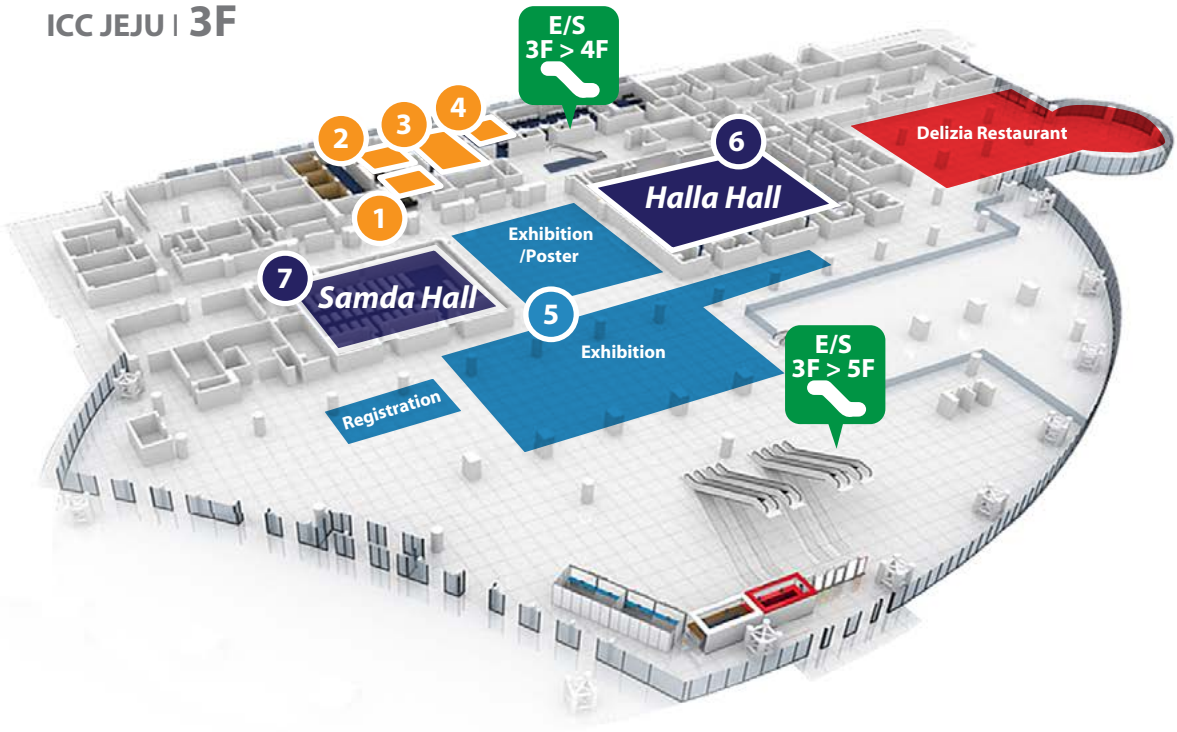
The AAC2017 has selected hotels in different rate categories for participants of AAC 2017 and invites participants to join an exclusive tour program that is designed to make your stay more enjoyable and memorable.

Contact Information

AAC 2017 Housing Bureau: Hana Tour Jeju / E-mail: housingbureaujeju@gmail.com
Tel: +82-(0)64-713-9860

* Request for any change or cancellation will be accepted in working hours:
Monday to Friday, 09:00~18:00 (UTC+09:00).

ICC JEJU | 3F



1 **301A :** 7/2~6 Preview Room

2 **301B :** 7/2~6 Organizing Committee

3 **302 :** 7/2~6 Board Meeting Room

4 **300 :** 7/2~6 Secretariat

5 **Foyer :** 7/2~6 Registration
7/3~5 Exhibition
7/4 Poster Session
7/3~6 Coffee Breaks

6 **Halla Hall : (Room [A])** 7/3 Opening Ceremony
7/3~6 Plenary Lectures & Oral Sessions
7/6 Closing Ceremony

7 **Samda Hall : (Room [B])** 7/3~6 Oral Session

1 **Room 401 :** 7/3~6 Oral Session
(Room [C])

2 **Room 402 :** 7/3~6 Oral Session
(Room [D])

3 **Tamna Hall B :** 7/5 Gala Dinner

4 **Oceanview :** 7/2 Welcome Reception
7/3-4 Lunch

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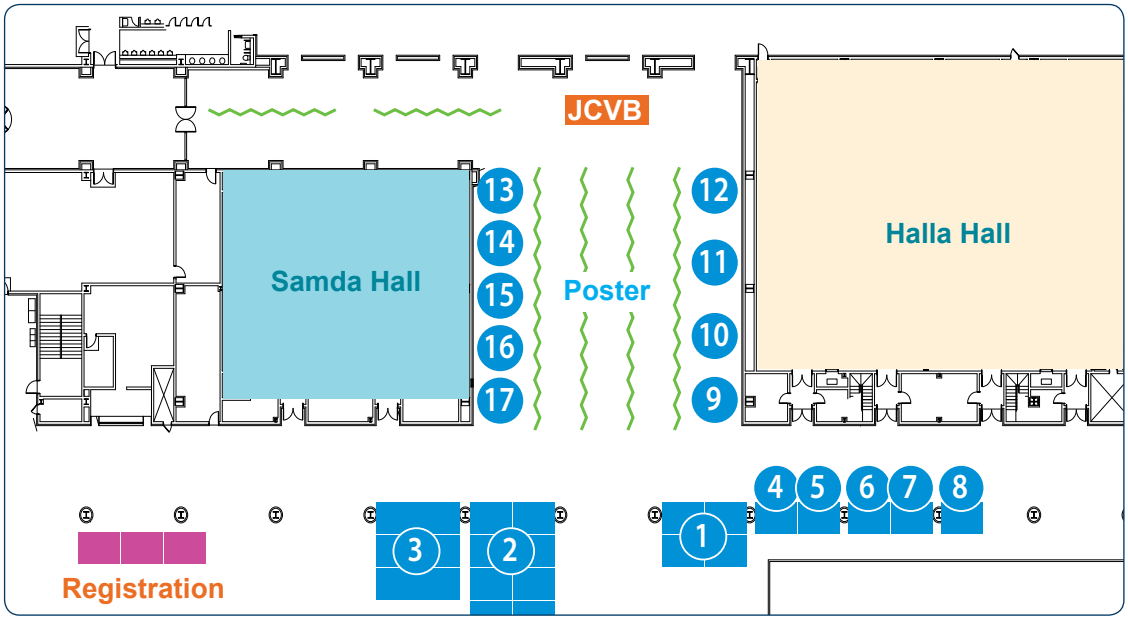

No.	Company			
1	LG Electronics Inc.			
2	APM Engineering Co., Ltd.	AethLabs.	Sunset Laboratory Inc.	Ecotech
3	KNJ Engineering, Inc.		Cooper Environmental	
4	ERICA Industry-University Cooperation Foundation Hanyang University			
5	ENNOPIA Co., Ltd.			
6	Jusun Instruments Co., Ltd.			
7	Korea Institute of Machinery and Materials			
8	Subway IAQ Research Corps			
9	Grimm Aerosol Technik		Parkor	
10	Topas GmbH		JINSOL	
11	TSI Inc.			
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14	Dekati Ltd.			
15	KANOMAX JAPAN INC.			
16	PALAS GmbH			
17	Aerosol and Air Quality Research			

AAC 2017
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PLENARY LECTURERS

INVITED SPEAKERS

Plenary Lecture 1

July 3(Mon) [09:30-10:30] Chairperson : Dr. Hee Dong JANG (KIGAM, Republic of Korea)

Prof. Yoshio OTANI

Vice President of Kanazawa University
President of JAAST
Professor of Kanazawa University
Japan

Education

1977 B.S., Dept. of Chemical Engineering, Kanazawa Univ.
1979 M.S., Dept. of Chemical Engineering, Graduate School of Engineering, Kanazawa Univ.
1982 Ph.D., Dept. of Chem. Eng. and Materials Sci., Syracuse Univ., NY

[PL1] Nanofiber Filter and Application of Air Filter to Aerosol Measurement

Yoshio OTANI

Graduate School of Natural Science and Technology, Kanazawa University, Japan

Plenary Lecture 2

July 3(Mon) [13:30-14:30] Chairperson : Prof. Hyuksang CHANG (Yeungnam University, Republic of Korea)

Prof. Pratim BISWAS

The Lucy and Stanley Lopata Professor
Asst. Vice Chancellor and Chair, EECE
Washington University in St. Louis
USA

Education

1985 Ph.D.Mechanical Engineering California Institute of Technology
1981 M.S. Chemical, Nucl., Thermal Engr. University of California, Los Angeles
1980 B.Tech. Mechanical Engineering Indian Institute of Technology, Bombay

[PL2] Aerosol Science and Engineering Enabling Applications in Energy, Environment, Agriculture and Medicine

Pratim BISWAS

Dept. of Energy, Environmental and Chemical Engineering / Washington University in St. Louis / St. Louis, MO 63130, USA

Plenary Lecture 3

July 4(Tue) [09:00-10:00] Chairperson : Prof. Kang-Ho AHN (Hanyang University, Republic of Korea)

Prof. Chuen-Jinn TSAI

Editor of Aerosol and Air Quality Research
Distinguished ProfessorInstitute of Environmental Engineering
National Chiao Tung Univ.
Taiwan

Education

1990 Ph. D. in Mechanical Engineering, University of Minnesota, June
1986 M.S. in Mechanical Engineering, University of Minnesota, Dec.
1977 B.S. Mechanical Engineering, National Taiwan University, June

[PL3] The Accuracy of Ambient PM2.5 Sampling and Monitoring

Chuen-Jinn TSAI
Institute of Environmental Engineering, National Chiao Tung University, Hsinchu, Taiwan

Plenary Lecture 4

July 4(Tue) [13:30-14:30] Chairperson : Prof. Yong Pyo KIM (Ewha Womans University, Republic of Korea)

Prof. Min HU

Director of State Key Joint Laboratory of Environmental Simulation and Pollution Control
Professor of College of Environmental Sciences and Engineering
Peking University
China

Education

1983 – 1987 B. S., Department of Technical Physics, Peking University
1987 – 1990 M. S., Center of Environmental Science, Peking University
1990 – 1993 Ph.D., Center of Environmental Science, Peking University

[PL4] Primary Emissions and Secondary Formation of Aerosol from Chinese Gasoline Engine

M. HU[1]*, J. F. PENG[1], Y. H. QIN[1], Z. F. DU[1], M. R. LI[1], R. ZHENG[2], J. ZHENG[1], D. J. SHANG[1], S. H. LU[1], Y. S. WU[1], S. GUO[1], L. M. ZENG[1], M. SHAO[1], Y. H. WANG[2], S. J. SHUAI[2]

[1]*State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, China*
[2]*State Key Laboratory of Automotive Safety and Energy, Department of Automotive Engineering, Tsinghua University, China*

Plenary Lecture 5

July 5(Wed) [09:00-10:00] **Chairperson : Prof. Jungho HWANG (Yonsei University, Republic of Korea)**

Prof. Gediminas MAINELIS

Professor, Dept. of Environmental Sciences,
Rutgers University, New Jersey
USA

Education

1992-1993 Salzburg University, Austria, Dept. of Biophysics, Biophysics
1994 Vilnius University, Lithuania, Dept. of Physics Physics B.S.
2000 The University of Cincinnati, Dept. of Environ. Health Environ. Health Ph.D.
2000-2001 The University of Cincinnati, Dept. of Environ. Health Bioaerosols Post.Doc

[PL5] Bioaerosol Encounters: From Exposure Assessment to Environmental Impacts

Gediminas MAINELIS

Department of Environmental Sciences, Rutgers, The State University of New Jersey, USA

Plenary Lecture 6

July 6(Thu) [09:00-10:00] **Chairperson : Dr. Gwi-Nam BAE (KIST, Republic of Korea)**

Prof. Kang-Ho AHN

University of Minnesota, Research Associate
Hanyang University
Republic of Korea

Education

1988 Ph.D.University of Minnesota (Mechanical Engineering)
1984 M.S. M. E. University of Minnesota (Mechanical Engineering)
1982 B.S. Hanyang University (Mechanical Engineering)

[PL6] Development of Atmospheric Aerosol Vertical Profile Measurement Methods Using Balloon, Drone, and PM-Sonde System

Kang-Ho AHN

Department of Mechanical Engineering, Hanyang University, ERICA Campus, Ansan, R. of Korea

July 3(Mon)

Prof. Jiaxing HUANG

Associate Professor of Materials Science and Engineering at Northwestern University

USA

[IN1-PS0065]

Aerosol Assisted Synthesis and Assembly of Nanoparticles

July 4(Tue)

Prof. Shiro HATAKEYAMA

Tokyo University of Agriculture and Technology

Japan

[IN2-PS0078]

Contribution of Transboundary Pollutants Evaluated by Use of Several Markers

Prof. Neng-Huei LIN

Editor-in-Chief, Aerosol and Air Quality Research
Asian J. Atmospheric Environment, Editorial Advisory Board
Professor, Dept. Atmospheric Science, National Central University

Taiwan

[IN3-PS0492]

What We Have Learned from Seven South East Asian Studies (7-SEAS)

July 4(Tue)

Prof. Hansu KIM

Hanyang University

Republic of Korea

[IN4-PS0389]

Facile Process Route for Si/SiOx-Conductive Polymer Core-Shell Nanospheres as a High Capacity Anode Material for Lithium-Ion Battery

Prof. Maosheng YAO

Editorial Board Member, Journal of Aerosol Science and Atmospheric Environment.
Associate Professor Tenure- New Academic Track Peking University

China

[IN5-PS0524]

Use of An Integrated System in Addressing Aerosol Problems

July 5(Wed)

Prof. David Y.H. PUI

Distinguished McKnight University Professor, LM Fingerson/TSI Inc.
Chair in Mechanical Engineering, Director of the Particle Technology Laboratory,
University of Minnesota

USA

[IN6-PS0523]

Filtration Solutions to Mitigate PM2.5 Pollutans in Urban Air

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ORAL SESSION

Aerosol Chemistry I

July 3 (Mon)	Halla [A] 10:30 - 11:30
Chairperson	Prof. Man Nin CHAN (Earth System Science Program, The Chinese University of Hong Kong, Hong Kong) Dr. Yong Bin LIM (KIST, Republic of Korea)
[PS0037] OS1-A01	**Effects of Relative Humidity on the Heterogeneous OH Oxidation of Aqueous Organic Droplets** M. N. CHAN[1, 2*], M. M. CHIM[1], C.Y. CHOW[1], J. F. DAVIES[3] *[1]Earth System Science Programme, Faculty of Science, The Chinese University of Hong Kong, Hong Kong* *[2]The Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong, Hong Kong* *[3]Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA*
[PS0069] OS1-A02	**Characteristics and Source Apportionments of Organic Aerosols at Both a Regional and an Urban Site of the North China Plain** Mengren LI[1*], Min HU[1], Yao XIAO[1], Xin FANG[1], Liping ZHOU[2] *[1]State Key Joint Laboratory of Environmental Simulation and Pollution Control, Peking University, China* *[2]Laboratory for Earth Surface Processes, Department of Geography, Peking University, China*
[PS0071] OS1-A03	**NOx Effects on Hygroscopic Haze Particles** Y. LIM[1*], J. SEO[1], J. KIM[1] and B. TURPIN[2] *[1]Center for Environment, Health and Welfare Research, Korea Institute of Science and Technology, Republic of Korea* *[2]Department of Environmental Science and Engineering, University of North Carolina, Chapel Hill, USA*
[PS0082] OS1-A04	**Phase State of Inorganic and Organic Aerosol Particles and the Effects on Gas-To-Particle Conversion** Yong Jie LI[1, 2*], Pengfei LIU[1], Clara. BERGOEND[1], Adam P. BATEMAN[1], and Scot T. MARTIN[1*] *[1]John A. Paulson School of Engineering and Applied Sciences & Department of Earth and Planetary Sciences, Harvard University, Cambridge, Massachusetts, USA* *[2]Department of Civil and Environmental Engineering, Faculty of Science and Technology, University of Macau, Macau*

Aerosol Physics

July 3 (Mon)	Samda [B] 10:30 - 12:00
Chairperson	Prof. Alexander SHCHEKIN (St Petersburg State University, Russian Federation) Dr. Chang Gyu WOO (KIMM, Republic of Korea)

[PS0102] OS1-B01

Investigating the Dehydration Behavior and Phase Transition of Inorganic Nanoparticles by a Hygroscopic Differential Mobility Analyzer – Aerosol Particle Mass System

Po-Hsiang HUANG[1]* and Ta-Chih HSIAO[1]

[1]*National Central University, Taiwan*

[PS0169] OS1-B02

The Immersion Mode Ice Nucleation Efficiency of Fine Urban Aerosols in the Atmosphere of Beijing, China

Jie CHEN[1]*, Zhijun WU[1], Song GUO[1], Min HU[1] and Xiangyu PEI[2]

[1]*State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, Beijing 100871, China*

[2]*Department of Chemistry and Molecular Biology, University of Gothenburg, 41296, Gothenburg, Sweden*

[PS0193] OS1-B03

The Size-Resolved Effective Density of Submicron Particles in a Regional Atmospheric Environment of Beijing, China

Kai QIAO[1]*, Zhuofei DU[1], Jing ZHENG[1], Song GUO[1], Yusheng WU[1], Zhijun WU[1], Min HU[1], Qianyun LIU[2], Dongjie SHANG[1], Xiangyu PEI[3] and Mattias HALLQUIST[3]

[1]*Peking University, China*

[2]*Hong Kong University of Science and Technology, Hong Kong*

[3]*University of Gothenburg, Sweden*

[PS0202] OS1-B04

Calculation of the Density Profile and the Disjoining Pressure in Small Aerosol Particle with Charged or Uncharged Solid Coree

Alexander SHCHEKIN[1]* and Tatiana LEBEDEVA[1]

[1]*St Petersburg State University, Russian Federation*

[PS0235] OS1-B05

Aerosol Physic Properties of Spring Outflow from Southeast Asia. Based on 2016 IOP at Mt. Lulin

Kuo CHUNCHIANG[1]*

[1]*National Central University, Taiwan*

[PS0080] OS1-B06

Comprehensive Observational Study of Hygroscopic Properties of Urban Aerosols and Their Cloud Condensation Nuclei Activities During the MAPS-Seoul Campaign

Najin KIM[1]*, Minsu PARK[1], Seong Soo YUM[1] , Jong Sung PARK[2], In Ho SONG[2], Hye Jung SHIN[2], Joon Young AHN[2], Kyung-Hwan KWAK[3], Hwa-Jin KIM[4], Gwi-Nam BAE[4] and GangWoong LEE[5]

[1]*Department of Atmosphere Sciences, Yonsei University, Seoul, Republic of Korea*

[2]*Climate and Air Quality Research Department, National Institute of Environment Research, Incheon, Republic of Korea*

[3]*School of Natural Resources and Environmental Science, Kangwon National University, Gangwon-do, Republic of Korea*

[4]*Center for Environment, Health and Welfare Research, Korea Institute of Science and Technology, Seoul, Republic of Korea*

[5]*Environmental Science Division, Hankuk University of Foreign Studies, Yongin, Republic of Korea*

Instrumentation and Measurement I

July 3 (Mon)	Room 401 [C] 10:30 - 12:00
Chairperson	Prof. Da-Ren CHEN (Virginia Commonwealth University, USA) Prof. Chuen-Jinn TSAI (National Chiao Tung University, Taiwan)

[PS0058] OS1-C01

Performance Evaluation of a Curved Plate Mobility Classifier

Da-Ren CHEN[1]* and Qiaoling LIU[1]

[1]*Particle Laboratory, Department of Mechanical and Nuclear Engineering, Virginia Commonwealth University, Richmond, USA*

[PS0081] OS1-C02

Real-time Chemical Characterization of Atmospheric Particulate Matter in China: A Review

Yong Jie LI[1]*, Yele SUN[2], Qi ZHANG[3], Xue LI[4], Mei LI[4], Zhen ZHOU[4], and Chak K. CHAN[5]*

[1]*Department of Civil and Environmental Engineering, Faculty of Science and Technology, University of Macau, Taipa, Macau*
[2]*State Key Laboratory of Atmospheric Boundary Layer Physics and Atmospheric Chemistry, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China*
[3]*Department of Environmental Toxicology, University of California, Davis, CA 95616, USA*
[4]*Institute of Mass Spectrometer and Atmospheric Environment, Jinan University, Guangzhou 510632, China*
[5]*School of Energy and Environment, City University of Hong Kong, Hong Kong*

[PS0158] OS1-C03

Non-Bouncing PM2.5 Impactor as the Inlet of the PM2.5 Sampler

Chuen-Jinn TSAI[1] and Thi Cuc LE[1]*

[1]*National Chiao Tung University, Taiwan*

[PS0420] OS1-C04

Test Method for Nanoparticle Release from a Composite Containing Nanomaterial Using a Chamber System

Gun Ho LEE[1]*, Il Je YU[2] and Kang-Ho AHN[1]

[1]*Hanyang University, Republic of Korea*
[2]*Hoseo University, Republic of Korea*

[PS0377] OS1-C05

MEMS-Based Electrical Cascade Impactor

Hong-Lae KIM[1]*, Jang Seop HAN[1], Sang-Myun LEE[1], Hong-Bum GOWN[1], Jungho HWANG[1] and Yong-Jun KIM[1]

[1]*School of Mechanical Engineering, Yonsei University, Republic of Korea*

[PS0022] OS1-C06

Size Classification Without Charging – Characterization Of The New Aerodynamic Aerosol Classifier

J.P.R. SYMONDS*[1], M. IRWIN[1], C. LOWNDES[1] and J.S. OLFERT[2]

[1]*Cambustion, J6 The Paddocks, Cambridge, CB1 8DH, UK*
[2]*Department of Mechanical Engineering, University of Alberta, Edmondton, Alberta, T6G 2G8, Canada*

Materials Processing I

July 3 (Mon)	Room 402 [D] 10:30 - 11:30
Chairperson	Dr. Masaru KUBO (Hiroshima University, Japan)

[IN1-PS0065]
OS1-D01
Invited

Aerosol Assisted Synthesis and Assembly of Nanoparticles

Huali NIE[1], Hee Dong JANG[2] and Jiaxing HUANG[3]*

[1]*College of Chemistry, Chemical Engineering and Biotechnology, Donghua University, Shanghai, 201620, China*
[2]*Resources Utilization Center, Korea Institute of Geoscience and Mineral Resources, Daejeon, 34132, Republic of Korea*
[3]*Department of Materials Science and Engineering, Northwestern University, Evanston, Illinois 60208, USA*

[PS0139]
OS1-D02

Continuous Synthesis of Metal-Organic Framework HKUST-1 by Spray-Drying

Masaru KUBO[1]*, Teruaki SAITO[1] and Manabu SHIMADA[1]

[1]*Hiroshima University, Japan*

[PS0164]
OS1-D03

Controlling the Structure of Metal Oxide Layers Grown on Carbon Nanotubes Surface by In-Flight Coating

K. KUSDIANTO[1], Manabu SHIMADA[2]*, Masaru KUBO[2] and Hidetaka MASUDA[2]

[1]*Hiroshima University, Institut Teknologi Sepuluh Nopember (Indonesia), Japan*
[2]*Hiroshima University, Japan*

Aerosol Chemistry II

July 3 (Mon)	Halla [A] 14:30 - 15:30
Chairperson	Prof. Yanlin ZHANG (Nanjing University of Information Science and Technology, China) Dr. Mingqiang HUANG (Minnan Normal University, China)
[PS0092] OS2-A01	**High Contribution of Non-Fossil Sources to Sub-Micron Organic Aerosols in Beijing, China** Yanlin ZHANG[1]* [1]*Nanjing University of Information Science and Technology, China*
[PS0097] OS2-A02	**Rapid Formation and Evolution of Extremely Severe Haze Episodes in Northern China in Winter** Yele SUN[1]* [1]*Institute of Atmospheric Physics, Chinese Academy of Sciences, China*
[PS0108] OS2-A03	**Measurements of Aged Aromatic Secondary Organic Aerosol With Calcium Chloride Seeds Using Aerosol Laser Time-Of-Flight Mass Spectrometer** Mingqiang HUANG[1]*, Jun XU[1] and Weijun ZHANG[2] [1]*Minnan Normal University, China* [2]*Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China*
[PS0140] OS2-A04	**Regional PM2.5 Pollution in the Winter of Beijing** Xin FANG[1]*, Min HU[1], Mengren LI[1], Tianyi TAN[1], Yusheng WU[1], Dongjie SHANG[1], Yu WANG[1], Fangting GU[1], Qingfeng GUO[1], Yao XIAO[1] and Zhijun WU[1] [1]*Peking University, China*

Filtration and Control Technology I

July 3 (Mon)	Samda [B] 14:30 - 16:00
Chairperson	Dr. Kyung-Hoon YOO (KITECH, Republic of Korea) Dr. Hyun-Seol PARK (KIER, Republic of Korea)
[PS0112] OS2-B01	**A Workstation Designed by Flow Control to Improve Containment Efficiency of Local Ventilation** Jia-Kun CHEN[1], Tzu-I TSENG[2], Meng-Chun TSAI[1]* and Tz-Chia TSENG[1] [1]*National Taiwan University, Taiwan* [2]*National Applied Research Laboratories, Taiwan*
[PS0338] OS2-B02	**Photocatalytic Degradation of VOCs Using TiO2-Containing Droplets Atomized by Ultrasonic Irradiation** Norikazu NAMIKI[1]*, Satsuki SUZUKI[1], Ryoichi NAKAYAMA[1], Kazuhiko SEKIGUCHI[2], Susumu NII[3], Naoki KAGI[4] and Yoshihide SUWA[5] [1]*Kogakuin University, Japan* [2]*Saitama University, Japan* [3]*Kagoshima University, Japan* [4]*Tokyo Institute of Tchnology, Japan* [5]*Shibaura Institute of Tchnology, Japan*
[PS0448] OS2-B03	**An Experiment on Energy Consumption in an FFU Type Cleanroom with Indoor Water Spray Humidification** Kyung-Hoon YOO[1]* and Won-Il SONG[1] [1]*Korea Institute of Industrial Technology, Republic of Korea*
[PS0192] OS2-B04	**Removal Of Cooking Fume By Using The Combination Of The Sustainable Packing Bed And Negative Air Ionizer** Xuan-En YANG[1]*, Yen-Chi CHEN[1] and Kuo-Pin YU[1] [1]*National Yang-Ming University, Taiwan*
[PS0442] OS2-B05	**Recent Industrial Applications in KIMM for Exhaust-Gases Cleaning Using Electrostatic Air Cleaning Technologies Against Ultrafine Particles** Hak-Joon KIM[1]*, BangWoo HAN[1], Chang-Gyu WOO[1] and Yongjin Kim[1] [1]*Korea Institute of Machinery and Materials, Republic of Korea*
[PS0459] OS2-B06	**A Study on Characteristics of the Fabricated Alumina Nanoparticle Size Distribution by a Thermophoretic Separator** Byungkwon KIM[1]*, Jungho SONG[2], Jeong-Yeol KIM[2], Jungho HWANG[1] and Dongho PARK[2] [1]*Yonsei University, Republic of Korea* [2]*Korea Institute of Industrial Technology, Republic of Korea*

Instrumentation and Measurement II

July 3 (Mon)	Room 401 [C] 14:30 - 15:45
Chairperson	Prof. Se-Jin YOOK (Hanyang Univ., Republic of Korea) Dr. Bangwoo HAN (KIMM, Republic of Korea)

[PS0041] OS2-C01

Evaluation of an Isokinetic Sampler According to Free Stream Velocity Under Low Pressure Condition

Jun-Hyung LIM[1], Nae-Gang HEO[1], Seung-Yoon NOH[1], Kang-Ho AHN[2] and Se-Jin YOOK[1]*

[1]*School of Mechanical Engineering, Hanyang University, Republic of Korea*
[2]*Dept. of Mechanical Engineering, Hanyang University, Republic of Korea*

[PS0383] OS2-C02

A State Of The Art Device For Continuous Unattended Measurements Of Ultrafine Particles

Markus PESCH[1]* and Volker ZIEGLER[2]

[1]*Grimm Aerosol Technik Pouch GmbH, Germany*
[2]*Grimm Aerosol Technik Ainring GmbH, Germany*

[PS0077] OS2-C03

Retrievals of Aerosol and Subvisual Cirrus Properties from Ground-Based Spectral Measurements

Ukkyo JEONG[1,2]*, Si-Chee TSAY[2], Peter PANTINA[2,3], Jay R. HERMAN[2,4], Nader ABUHASSAN[2,4]

[1]*Earth System Science Interdisciplinary Center, University of Maryland, College Park, Maryland, USA*
[2]*Goddard Space Flight Center, NASA, Greenbelt, Maryland, USA*
[3]*Science Systems and Applications Inc., Lanham, Maryland, USA*
[4]*Joint Center for Earth Systems Tecknology, University of Maryland, Baltimore County, Baltimore, Maryland, USA*

[PS0117] OS2-C04

Dekati® eFilter™ Application to Indoor, Outdoor and Stack Emission Measurements

Erkki LAMMINEN[1]*

[1]*Dekati Ltd., Finland*

[PS0409] OS2-C05

The Development of Wet Electrostatic Precipitator for Home with Antibacterial Activity

Chang Gyu WOO[1]*, Bangwoo HAN[1], Hak-Joon KIM[1] and Yongjin Kim[1]

[1]*KIMM, Republic of Korea*

Indoor Aerosols

July 3 (Mon)	Room 402 [D] 14:30 - 16:00
Chairperson	Prof. Duckshin PARK (Korea Railroad Research Institute, Republic of Korea) Prof. Taesung KIM (Sungkyunkwan Univ., Republic of Korea)
[PS0443] OS2-D01	**Recent Commercialization Researches for IAQ Using Electrostatic Air Cleaning Technologies Against Ultrafine Particles** Hak-Joon KIM[1]*, Bangwoo HAN[1], Chang-Gyu WOO[1] and Yongjin Kim[1] [1]*Korea Institute of Machinery and Materials, Republic of Korea*
[PS0121] OS2-D02	**Aerodynamics Analysis of Flow Control in Improving CO2 Concentration at Residential Area** Yi-Lin WU[1]*, Jia-Kun CHEN[1] and Tzu-I TSENG[2] [1]*College of Public Health, National Taiwan University, Taiwan* [2]*National Center for High-Performance Computing, Taiwan*
[PS0324] OS2-D03	**Study on Size Distribution Characteristics of Fine Particulate Matters in Subway Tunnel** Kyomin CHOI[1]*, Yongil LEE[1], Yongjang KWON[1], Jin Ki EOM[1], Taesung KIM[2] and Duckshin PARK[1] [1]*Korea Railroad Research Institute, Republic of Korea* [2]*Sungkyunkwan University, Republic of Korea*
[PS0335] OS2-D04	**The Estimation of Configuration Ratio of Ion Compound with Carbonate in Subway** Yongil LEE[1]*, Wonseok JUNG[1], Taesung KIM[2], Duckshin PARK[1], Seung Yeon CHO[3] and Hee-Man KIM[4] [1]*Korea Railroad Research Institute, Republic of Korea* [2]*Sungkyunkwan University, Republic of Korea* [3]*Yonsei University, Republic of Korea* [4]*KORAIL, Republic of Korea*
[PS0413] OS2-D05	**Fabrication of Novel Charger of Carbon Fiber for Air Handling Unit** Dongho SHIN[1,2], Chang Gyu WOO[2], Hak-Joon KIM[2], Yongjin KIM[2], Bangwoo HAN[1,2]* [1]*University of Science and Technology, Republic of Korea* [2]*Korea Institute of Machinery & Materials, Republic of Korea*
[PS0106] OS2-D06	**Particle Generation and Deposition in an Underground Subway Tunnel** Sang Hee WOO[1]* and Gwi-Nam BAE[2] [1]*KIST, Hanyang University, Republic of Korea* [2]*KIST, Republic of Korea*

Aerosol Chemistry III

July 3 (Mon)	Halla [A] 16:30 - 18:15
Chairperson	Prof. Mijung SONG (Chonbuk National University, Republic of Korea) Prof. Dan JAFFE (University of Washington, USA)

[PS0145] OS3-A01

Liquid-Liquid Phase Separation in Several Types of Secondary Organic Aerosols Without Inorganic Salts

Mijung SONG[1]*, Penfei LIU[2], Scot MARTIN[2] and Allan BERTRAM[3]

[1]*Chonbuk National University, Republic of Korea* [2]*Harvard University, USA*
[3]*University of British Columbia, Canada*

[PS0180] OS3-A02

Primary and Secondary Sources of Organic Aerosols in the Summer of Beijng, China

Rongzhi TANG[1]*, Zepeng WU[1], Mengren LI[1], Yujue WANG[1], Song GUO[1], Dongjie SHANG[1], Yao XIAO[1], Min HU[1] and Zhijun WU[1]

[1]*Peking University, China*

[PS0190] OS3-A03

Participation of Organics and Ammonia in Particle Nucleation and Growth at a Regional Site in North China Plain

Xin FANG[1]*, Dongjie SHANG[1], Min HU[1], Song GUO[1], Yusheng WU[1], Ying LIU[1], Micheal Le BRETON[2], Yujue WANG[1], Yuechen LIU[1] and Mattias HALLQUIST[2]

[1]*State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, China*
[2]*Gothenburg University, Sweden*

[PS0199] OS3-A04

Aerosol Water Content And Its Link To Secondary Aerosol Formation In The Atmosphere Of Beijing, China

Zhijun WU[1]*, Yu WANG[1], Fangting GU[1], Yuxuan BIAN[1], Rong SU[1], Yusheng WU[1], Keding LU[1], Chunsheng ZHAO[1], Limin ZENG[1], Yuanhang ZHANG[1] and Min HU[1]

[1]*Peking University, China*

[PS0219] OS3-A05

Compositional Evolution of Particle Phase Reaction Products in the Heterogeneous OH Oxidation of Aqueous Methylsuccinic Acid Droplets

Thomas BERKEMEIER[1], Man Mei CHIM[2]*, Chiu Tung CHENG[2], James F. DAVIES[3], Kevin R. WILSON[3], Manabu SHIRAIWA[4], Andreas ZUEND[5] and Man Nin CHAN[2]

[1]*Georgia Institute of Technology, Atlanta, USA* [2]*The Chinese University of Hong Kong, Hong Kong*
[3]*Lawrence Berkeley National Laboratory, USA* [4]*University of California, Irvine, USA* [5]*McGill University, Canada*

[PS0262] OS3-A06

Observations of Black Carbon (BC) and Total Aerosol Absorption at the Mt. Bachelor Observatory in Central Oregon, USA

Daniel JAFFE[1]*, James LAING[1] and Art SEDLACEK[1]

[1]*University of Washington, USA*

[PS0315] OS3-A07

Mapping Ozone Diffusion and Reaction Within Mixed Iron-Organic Aerosol Particles

Peter ALPERT[1]*, Pablo CORRAL ARROYO[1], Markus AMMANN[1], Jing DOU[2], Ulrich KRIEGER[2], Sarah STEIMER[3], Stéphanie ROSSIGNOL[4], Monica PASSANANTI[5], Christian GEORGE[6], Jan-David FÖRSTER[7], Florian DITAS[7], Alexander LASKIN[8], Swarup CHINA[8], Shuang ZHANG[9] and Bingbing WANG[9]

[1]*Paul Scherrer Institut, Switzerland* [2]*ETH Zurich, Switzerland* [3]*University of Cambridge, UK* [4]*Aix-Marseille Université, France*
[5]*University of Helsinki, Finland* [6]*Institut de Recherches sur la Catalyse et l'Environnement de Lyon, France*
[7]*Max Planck Institute, Germany* [8]*Pacific Northwest National Laboratory, USA* [9]*Xiamen University, China*

Bioaerosols I

July 3 (Mon)	Samda [B] 16:30 - 18:15
Chairperson	Prof. Senchao LAI (South China University of Technology, China) Dr. Ali Mohamadi NASRABADI (Yonsei University, Republic of Korea)

[PS0191] OS3-B01

Proteins and Amino Acids in Fine Particulate Matter in Rural Guangzhou, Southern China

Tianli SONG[1], Shan WANG[1], Yingyi ZHANG[1], Pingqing FU[2], Manabu SHIRAIWA[3], Fobang LIU[4], Junyu ZHENG[1] and Senchao LAI[1]*

[1]*South China University of Technology, China*
[2]*Institute of Atmospheric Physics, Chinese Academy of Sciences, China*
[3]*University of California, Irvine, USA*
[4]*Max Planck Institute for Chemistry, Germany*

[PS0194] OS3-B02

Purify Airborne Bacteria from Similar Size Distribution of Polystyrene Latex Particle

Ali MOHAMADI[1]*, Jang-Seop HAN[1] and Jungho HWANG[1]

[1]*Yonsei University, Republic of Korea*

[PS0231] OS3-B03

Detection of Pathogens from Human Exhaled Breath and Throat Swabs by Loop Mediated Isothermal Amplification

Yunhao ZHENG[1]*, Xiaoguang LI[2] and Maosheng YAO[1]

[1]*Peking University, China*
[2]*Peking University Third Hospital, China*

[PS0246] OS3-B04

Collection of Airborne Influenza Virus in a Student Health Care Center through Water-Based Condensation Growth

Maohua PAN[1], Tania BONNY[1], Julia LOEB[1], Xiao JIANG[1], John LEDNICKY[1], Arantzazu EIGUREN-FERNANDEZ[2]*, Susanne HERING[2], Hugh FAN[1] and Chang-Yu WU[1]

[1]*University of Florida, USA*
[2]*Aerosol Dynamics Inc., USA*

[PS0286] OS3-B05

Development of a Cyclone-Based Bioaerosol Sampler with Liquid Film

Giwoon SUNG[1]*, Hyeong U KIM[1], Jihye CHOI[1] and Taesung KIM[1]

[1]*Sungkyunkwan Univ., Republic of Korea*

[PS0277] OS3-B06

Characteristics of Aerosol Suspension in a Rotating Chamber

Wei Ren KE[1]*, Yu-Mei KUO[2], Chih-Wei LIN[1], Sheng-Hsiu HUANG[1] and Chih-Chieh CHEN[1]

[1]*National Taiwan University, Taiwan*
[2]*Chung Hwa University of Medical Technology, Taiwan*

[PS0230] OS3-B07

Design and Evaluation of a High-flow Portable Microbial Aerosol Sampler

Haoxuan CHEN[1]* and Maosheng YAO[1]

[1]*Peking University, China*

Instrumentation and Measurement III

July 3 (Mon)	Room 401 [C] 16:30 - 18:15
Chairperson	Prof. Gedi MAINELIS (Rutgers University, USA) Dr. Ralf ZIMMERMANN (Helmholtz Zentrum München/ University of Rostock, Germany)
[PS0236] OS3-C01	**New Technology For Assessing Personal Bioaerosol Exposures: Personal Electrostatic Bioaerosol Sampler** Gedi MAINELIS[1]*, Taewon HAN[1] and Nirmala THOMAS[1] [1]*Rutgers University, USA*
[PS0239] OS3-C02	**A Miniature Cylindrical Differential Mobility Analyzer for Sub-3 nm Particle Sizing** Runlong CAI[1], Da-Ren CHEN[2], Jiming HAO[1] and Jingkun JIANG[1]* [1]*Tsinghua University, China* [2]*Virginia Commonwealth University, USA*
[PS0161] OS3-C03	**The Development of a Ten-Stage Electrical Micro-Orifice Cascade Impactor (EMCI) for the Real Time Monitoring of Aerosol Size Distribution from 32 nm to 10 μm** Chuen-Jinn TSAI[1], Chi-Yu TIEN[1]*, Michel ATTOUI[2] and Ran-Hao KE[1] [1]*National Chiao Tung University, Taiwan* [2]*University Paris Est Creteil, France*
[PS0203] OS3-C04	**Aerosol Loading Effects on Particle Size-Selective Samplers** Ting-Ju CHEN[1]*, Yu-Mei KUO[2], Wan-Chen LEE[1], Sheng-Hsiu HUANG[1] and Chih-Chieh CHEN[1] [1]*National Taiwan University, Taiwan* [2]*Chung Hwa University of Medical Technology, Taiwan*
[PS0188] OS3-C05	**Multiple On-Line Analyses of Individual Airborne Aerosol Particles by Laser Mass Spectrometry: Detection of Polyaromatic Organics from the Particle-Surface and Inorganic Constituents from the Particle-Core** Johannes PASSIG[1]*, Julian SCHADE[1], Martin SLORZ[1], Mathias FUCHS[1], Markus OSTER[1] and Ralf ZIMMERMANN[1] [1]*Helmholtz Zentrum München/ University of Rostock, Germany*
[PS0251] OS3-C06	**Multispectral BC Comparison to Continuous Mass Measurement of Wide-Ranging Aerosols** Seung-Ho HONG[1]* [1]*Met One Instruments Inc., USA*
[PS0375] OS3-C07	**Heterogeneous Uptake Rates Of Dinitrogen Pentoxide In Both Winter And Summer Time In Beijing, 2016** Keding LU[1], Haichao WANG[1]*, Xiaorui CHEN[1], Zhijun WU[1], Song GUO[1], Yusheng WU[1], Sebastian SCHMITT[2], Astrid KIENDLER-SCHARR[2], Andreas WAHNER[2], Mattias HALLQUIST[3], Min HU[1] and Yuanhang ZHANG[2] [1]*Peking University, China* [2]*Forschungszentrum Juelich, Germany* [3]*University of Gothenburg, Sweden*

Aerosols and Global Climate

July 3 (Mon)	Room 402 [D] 16:30 - 17:30
Chairperson	Gwi-Nam BAE (Korea Institute of Science and Technology, Republic of Korea)

[PS0012] OS3-D01

Haze Transportation and Mixing Observed By a Scanning Lidar in Beijing

Ju LI[1], Zhigang CHENG[1], Xiaoyan CAO[1] and Yunhui ZHENG[2]*

[1]*Institute of Urban Meteorology,CMA,Beijing, China*
[2]*Sigma Space Corp, Lanham, MD, USA*

[PS0195] OS3-D02

Molecular Characterization of Organosulfates and its Secondary Formation at Rural and Urban Sites in Northern China

Yujue WANG[1], Min HU[1]*, Song GUO[1], Michael LE BRETON[2], Jing ZHENG[1], Yudong YANG[1], Zhuofei DU[1], Yusheng WU[1], Zhijun WU[1], Jianzhen YU[3] and Mattias HALLQUIST[2]

[1]*State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, China*
[2]*University of Gothenburg, Sweden*
[3]*Hong Kong University of Science & Technology, Hong Kong*

[PS0412] OS3-D03

Long Term Aerosol Climatology over Indo-Gangetic Plain

Manish KUMAR[1]*, Kulwinder Singh PARMAR[2], Dudam Bharath KUMAR[3], Alaa MHAWISH[1] and Tirthankar BANERJEE[1]

[1]*Institute of Environment and Sustainable Development, Banaras Hindu University, Varanasi, India*
[2]*Dept. of Mathematics, Punjab Technical University, Jalandhar-Kapurthala, India*
[3]*Dept. of Civil Engineering, Indian Institute of Technology, Kharagpur, India*

[PS0237] OS3-D04

Submicrometer Marine SOA And Bio-Sulfate Estimation Based On Measurements Over The Atlantic Ocean

Zhijun WU[1]*, Shan HUANG[2], Laurent POULAIN[3], Dominik VAN PINXTEREN[3], Manuela VAN PINXTEREN[3], Hartmut HERRMANN[3] and Alfred WIEDENSOHLER[3]

[1]*Peking University, China*
[2]*Jinan University, China*
[3]*Leibniz Institute for Tropospheric Research, Germany*

Long-Range Transported Air Pollutants in East Asia - Observation, Measurements, and Model Analysis I

July 4 (Tue) | Halla [A] 10:30 - 11:45

Chairperson: Dr. Yongjie LI (University of Macau, Macau)

[IN2-PS0078] OS4-A01 — Invited

Contribution of Transboundary Pollutants Evaluated by Use of Several Markers

S. HATAKEYAMA[1, 2, 3*], K. SHIMADA[2], Y. TANIGUCHI[3], S. TATSUTA[3], K. MIURA[3], T. SUGIYAMA[4], N.-H. LIN[2,5], Y.P. KIM[2,6], C.K. CHAN[7], and A. TAKAMI[8]

[1]*Center for Environmental Science in Saitama, Japan*
[2]*Global Innovation Research Organization, Tokyo University of Agriculture and Technology, Japan*
[3]*Graduate School of Agriculture, Tokyo University of Agriculture and Technology, Japan*
[4]*Graduate School of Engineering, Kyoto University, Japan*
[5]*Department of Atmospheric Science, National Central University, Taiwan*
[6]*Department of Chemical Engineering & Materials Science, Ewha Womans University, Republic of Korea*
[7]*School of Energy and Environment, City University of Hong Kong, Hong Kong*
[8]*National Institute for Environmental Studies, Japan*

[PS0144] OS4-A02

Evolution of the Multi-Day Haze in East Asian Outflow

Jihoon SEO[1*], Jin Young KIM[1], Daeok YOUN[2], Ji Yi LEE[3], Hwajin KIM[1], Yong Bin IM[1], Yumi KIM[4] and Hyoun Cher JIN[1]

[1]*Korea Institute of Science and Technology, Republic of Korea*
[2]*Chungbuk National University, Republic of Korea*
[3]*Chosun University, Republic of Korea*
[4]*Korea Environment Institute, Republic of Korea*

[PS0468] OS4-A03

Long-Term Monitoring of Atmospheric PCDD/Fs at Mount Lulin During Spring Season (2010-2015): PCDD/F Source Apportionment Through a Simultaneous Measurement in Southeast Asia

Yu Shiang YANG[1], Ngo Tuan HUNG[1], Neng-Huei LIN[2] and Kai Hsien CHI[1*]

[1]*Institute of Environmental and Occupational Health Sciences, National Yang Ming University, Taipei 112, Taiwan*
[2]*Department of Atmospheric Sciences, National Central University, Chungli 320, Taiwan*

[PS0410] OS4-A04

Aerosol Chemical Characterization in Asian Continental Outflow at Cape-Fuguei in East Asia During Northeast Monsoon Onset Period

Shantanu PANI[1*], Chung-Te LEE[1], Neng-Huei LIN[1] and Charles C.K. CHOU[2]

[1]*National Central University, Taiwan*
[2]*Academia Sinica, Taiwan*

Bioaerosols II

July 4 (Tue)	Samda [B] 10:30 - 11:15
Chairperson	Prof. Maosheng YAO (Peking Univ., China) Prof. Jungho HWANG (Yonsei Univ., Republic of Korea)
[PS0288] OS4-B01	**Study of Corona Discharge Effect on DNA of Bioaerosols in Various Conditions** Amin PIRI[1]*, Hyeong Rae KIM[1] and Jungho HWANG[1] [1]*Yonsei University, Republic of Korea*
[PS0327] OS4-B02	**Evaluation of Anti-Viral Performance for Air Filter Coated with Ag Nanoparticles : Against Airborne Infectious Virus** Dae Hoon PARK[1]*, Yun Haeng JOE[2] and Jungho HWANG[1] [1]*Yonsei University, Republic of Korea* [2]*Korea Institute of Energy Research, Republic of Korea*
[PS0368] OS4-B03	**Use of GREATpa System in Solving Aerosol Related Problems** Maosheng YAO[1]* [1]*Peking University, China*

Incineration & Combustion Aerosols

July 4 (Tue)	Room 401 [C] 10:30 - 11:45
Chairperson	Dr. Jason OLFERT (University of Alberta, Canada) Dr. Hungsoo JOO (Anyang Uninversity, Republic of Korea)

[PS0360] OS4-C01

Soot Formation Model of Gasoline Surrogates: The Effects of PAH Species on Soot Nucleation

Longfei CHEN[1]*

[1]*Beihang University, China*

[PS0170] OS4-C02

Spatial And Temporal Variability Of The Black Carbon Mass Concentration In A Southeast Asian Megacity: A Case For Metro Manila, Philippines

Honey Dawn ALAS[1]*, Thomas MÜLLER[1], Wolfram BIRMILI[2], James Bernard SIMPAS[3], Maria Obiminda CAMBALIZA[3], Mylene CAYETANO[4], Simonas KECORIUS[1], Edgar VALLAR[5], Maria Cecilia GALVEZ[5] and Alfred WIEDENSOHLER[1]

[1]*Leibniz Insitute for Tropospheric Research, Leipzig, Germany*
[2]*Federal Environment Agency, Berlin, Germany*
[3]*The Manila Observatory, Quezon City, Philippines*
[4]*Institute of Environmental Science and Meteorology, University of the Philippines, Diliman, Quezon City, Philippines*
[5]*Applied Research for Community, Health and Environment Resilience and Sustainability, De La Salle Univerisity, Taft Avenue, Manila, Philippines*

[PS0243] OS4-C03

An Investigation of the Effect of NaCl Additive on the Evolution of Particles in a Diffusion Flame

Alireza MOALLEMI[1], Mohsen KAZEMIMANESH[1], Larry KOSTIUK[1] and Jason OLFERT[1]*

[1]*University of Alberta, Canada*

[PS0321] OS4-C04

Characteristics of PM and Trace Elements from Combustion of Bituminous Coals

Mona Loraine BARABAD[1]*, Youngmin CHO[1], Sangwon GO[1], Kiyoung LEE[1] and Duckshin PARK[1]

[1]*Korea Railroad Research Institute, Republic of Korea*

[PS0425] OS4-C05

Chemical Characterization and Oxidative Potential of Fine Particles Produced from Coal Combustion

Hungsoo JOO[1,3]*, Tsatsa BATMUNKH[1], Ji Yi LEE[2], Yuwoon CHANG[2], Lucille BORLAZA[1] and Kihong PARK[1]

[1]*Gwangju Institute of Science and Technology (GIST), Republic of Korea*
[2]*Chosun University, Republic of Korea*
[3]*Anyang University, Republic of Korea*

Micro and Nanotechnology

July 4 (Tue)	Room 402 [D] 10:30 - 12:00
Chairperson	Dr. Kazuhiko SEKIGUCHI (Saitama University, Japan) Dr. Sun Kyung KIM (Korea Institute of Geoscience and Mineral Resources, Republic of Korea)
[IN4-PS0389] OS4-D01 Invited	**Facile Process Route for Si/SiOx-Conductive Polymer Core-Shell Nanospheres as a High Capacity Anode Material for Lithium-Ion Battery** Eunjun PARK[1], Jeonghun KIM[2], Dong Jae CHUNG[1], Jung Ho KIM[2] and Hansu KIM[1]* [1]*Hanyang University, Republic of Korea* [2]*University of Wollongong, Australia*
[PS0129] OS4-D02	**One-Step Synthesis of Silicon-Graphene Composites via Aerosol Process for Lithium Ion Batteries** Sun Kyung KIM[1]*, Hankwon CHANG[1], Ji-Hyuk CHOI[1], Dae Sup KIL[1] and Hee Dong JANG[1] [1]*Korea Institute of Geoscience and Mineral Resources, Republic of Korea*
[PS0218] OS4-D03	**Antifungal Properties of Silver Nanoparticles Supported by TiO2 Against Mould Growth on Building Materials** Yen Chi CHEN[1]* and Kuo Pin YU[1] [1]*National Yang-Ming University, Taiwan*
[PS0238] OS4-D04	**Degradation and Mineralization of VOC Gas on Ultrasonic Mist Using Advanced Oxidation Processes** Kazuhiko SEKIGUCHI[1]*, Soma NARAHARA[1], Kenshi SANKODA[1], Norikazu NAMIKI[2] and Susumu NII[3] [1]*Saitama University, Japan* [2]*Kogakuin University, Japan* [3]*Kagoshima University, Japan*
[PS0267] OS4-D05	**Study of a Hign-Power DCFC System: Reducing the Charge Transfer Resistance via New Design Approach** Raihan CHOUDHURY[1]*, Donggeun LEE[1], Chengguo LI[1], Juhong CHUN[1] and A Hyun KANG[1] [1]*Pusan National University, Republic of Korea*

Long-Range Transported Air Pollutants in East Asia - Observation, Measurements, and Model Analysis II

July 4 (Tue) | Halla [A] 14:30 - 16:30

Chairperson: Dr. Song GUO (Peking Univ., China)
Prof. Kojiro SHIMADA (Waseda Univ., Japan)

[IN3-PS0492]
OS5-A01
Invited

What We Have Learned from Seven South East Asian Studies (7-SEAS)

Neng-Huei (George) LIN[1]*

[1]*Department of Atmospheric Sciences, National Central University, Taoyuan, Taiwan*

[PS0054]
OS5-A02

Long-Term Trend of Source Apportionment of PM2.5 Over Japan Evaluated by the Tagged Tracer Method on the Air Quality Model

S. ITAHASHI[1]*, H. HAYAMI[1]

[1]*Environmental Science Research Laboratory, Central Research Institute of Electric Power Industry, Japan*

[PS0070]
OS5-A03

Aerosol In High Altitude Russian Arctic

O. POPOVICHEVA[1]*, A. MAKSHTAS[2]

[1]*Lomonosov Moscow State University, Moscow, Russian Federation*
[2]*Arctic Antarctic Research Institute, Russian Federation*

[PS0177]
OS5-A04

Region-Wide Source Apportionment of PM2.5 in the Pearl River Delta, China

Zibing YUAN[1]*, Xiaxia ZHANG[2], Alexis LAU[2] and Jian Zhen YU[2]

[1]*South China University of Technology, China*
[2]*Hong Kong University of Science and Technology, Hong Kong*

[PS0143]
OS5-A05

Chemical Characteristics and Causes of Atmospheric Fine Particles During Air Pollution Episodes in an Intensive Industrial City

Chung-Shin YUAN[1]*

[1]*Institute of Environmental Engineering, National Sun Yat-sen Univerisity, Taiwan*

[PS0204]
OS5-A06

Sources and Mixing State of Black Carbon at a High-Altitude Mountain Site in Southwest China

Tianyi TAN[1]*, Min HU[1], Zhuofei DU[1] and Nan MA[2]

[1]*Peking University, China*
[2]*Leibniz Institute for Tropospheric Research, Germany*

[PS0269]
OS5-A07

Seasonal and Annual Changes in PAHs Transported from East Asia to Cape Hedo, Okinawa

Kojiro SHIMADA[1]*, Kaori MIURA[1], Taichi SUGIYAMA[1], Kei SATO[2], Akinori TAKAMI[2], Chak K. CHAN[3], Yong Pyo KIM[4], Neng-Huei LIN[5] and Shiro HATAKEYAMA[6]

[1]*Tokyo University of Agriculture and Technology, Japan*
[2]*National Institute for Environmental Studies, Japan*
[3]*City University of Hong Kong, Hong Kong*
[4]*Ewha Womans University, Republic of Korea*
[5]*Tokyo University of Agriculture and Technology, Taiwan*
[6]*Center for Environmental Science in Saitama, Japan*

LG Electronics Special Session

July 4 (Tue)	Samda [B] 14:30 - 16:30
Chairperson	Prof. Jungho HWANG (Yonsei Univ., Republic of Korea) Prof. Gedi MAINELIS (Rutgers University, USA)
[IN5-PS0524] OS5-B01 Invited	**Use of An Integrated System in Addressing Aerosol Problems** Maosheng YAO[1]* [1]*Peking University, China*
[PS0522] OS5-B02	**Study on Air cleaning Using Diffusin Charging and Dielectric Filter** Yanghwa LEE[1], Keonwang LEE[1], Deok HUH[1] and Hyungho PARK[1]* [1]*Air Solution R&D lab, Air care advanced Team, LG Electronics, Republic of Korea*
[PS0181] OS5-B03	**Bioaerosol Field Studies Using Electrostatic Sampler and Impactor with MALDI-TOF MS for Different Abundance and Diversity of Bacteria** Hyeong Rae KIM[1]* and Jungho HWANG[1] [1]*Yonsei University, Republic of Korea*
[PS0189] OS5-B04	**Investigation of Bioaerosol Characterization on a Global Scale Using Automobile Air Conditioning Filter** Jing LI[1]* and Maosheng YAO[1] [1]*Peking University, China*
[PS0264] OS5-B05	**Inactivation of Airborne Virus (MS2 Bacteriophages) with Non-Conductive Ultrasonic Transducers (NCUT)** Michael VERSOZA[1]* and Duckshin PARK[1] [1]*Korea Railroad Research Institute, Republic of Korea*
[PS0248] OS5-B06	**Advances in Bioaerosol Capture via Passive Techniques: Design and Performance of Rutgers Electrostatic Passive Sampler (REPS)** Gedi MAINELIS[1]*, Jennifer THERKORN[1] and Jerry SCHEINBEIM[1] [1]*Rutgers University, USA*
[PS0221] OS5-B07	**PM2.5 Meets Blood: in Vivo Damages and Immune Defense** Xiangyu ZHANG[1]* and Maosheng YAO[1] [1]*Peking University, China*

Aerosol Modeling

July 4 (Tue)	Room 401 [C] 14:30 - 16:00
Chairperson	Dr. Ho-Tang LIAO (National Taiwan University, Taiwan) Prof. Sung-Hoon PARK (Suncheon University, Republic of Korea)

[PS0088] OS5-C01

Quantification of Long-Range Transported Secondary Aerosols Using An Integrated Trajectory-Source Apportionment Method

H.-T. LIAO[1] and C.-F. WU[1,2,3]*

[1]*Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University, Taiwan*
[2]*Institute of Environmental Health, National Taiwan University, Taiwan*
[3]*Department of Public Health, National Taiwan University, Taiwan*

[PS0184] OS5-C02

Evaluation of Transparent Electrode Efficiency by Using Dynamic Mesh

Ali MOHAMADI[1]* and Jungho HWANG[1]

[1]*Yonsei University, Republic of Korea*

[PS0197] OS5-C03

Receptor Modeling of VOCs, PM2.5 and Gaseous Pollutants with Contribution Constraints

Yan-Da CHEN[1]*, Ho-Tang LIAO[1] and Chang-Fu WU[1]

[1]*National Taiwan University, Taiwan*

[PS0242] OS5-C04

Grouped Monte Carlo Method for Multicomponent Aerosol Aggregation

Zhenghang XIAO[1]*, Jiankun ZHUO[1], Qiang YAO[1] and Richard L. AXELBAUM[2]

[1]*Tsinghua University, China*
[2]*Washington University in St Louis, USA*

[PS0254] OS5-C05

Development of an Aerosol Behavior Model Estimating Particle Size Growth in Nuclear Power Plants

Jihyeon LEE[1]* and Jungho HWANG[1]

[1]*Yonsei University, Republic of Korea*

[PS0341] OS5-C06

Source Apportionment of PM2.5 in Daebu Island, Korea Using Organic Markers for CMB Model

Sun-Hye KIM[1]*, Tae Young KIM[1], Dae Gun PARK[1], Seung-Muk YI[1] and Jongbae HEO[1]

[1]*Seoul National University, Republic of Korea*

Nanoparticles and Materials

July 4 (Tue)	Room 402 [D] 14:30 - 16:15
Chairperson	Dr. Rashed KAISER (Pusan National University, Republic of Korea) Prof. Tawatchai CHARINPANITKUL (Chulalongkorn University, Thailand)
[PS0303] OS5-D01	**A SnS2-2D Material as High Performance NO2 Sensing with Ultrafast Response and High Sensitivity** Duy Thach PHAN[1]*, Young-Ho KIM[1], Cheol-Min PARK[2] and Ki-Joon JEON[1] [1]*Inha University, Republic of Korea* [2]*Kumoh National Institute of Technology, Republic of Korea*
[PS0348] OS5-D02	**Synthesis of ZnO-TiO2 Core-shell Nanowires Using Thermal CVD Method for Photoelectrochemical Application.** Kyuwon JUNG[1], Jinse PARK[1]*, Prashant DESHMUKH[1] and Weon Gyu SHIN[1] [1]*Chungnam National University, Republic of Korea*
[PS0266] OS5-D03	**Effect of Aspiration Pressure on Rapid Solidification of Liquid Metal During Gas Atomization.** Rashed KAISER[1]* and Donggeun LEE[1] [1]*School of Mechanical Engineering,Pusan National University, Republic of Korea*
[PS0132] OS5-D04	**Synthesis of Magnetite and Hematite Nanoparticles Deposited on Crumpled Graphene as Supercapacitor Electrode Materials** Chongmin LEE[1]*, Sun Kyung KIM[2], Ji-Hyuk CHOI[2], Hankwon CHANG[2] and Hee Dong JANG[2] [1]*University of Science and Technology (UST), Republic of Korea* [2]*Korea Institute of Geoscience and Mineral Resources, Republic of Korea*
[PS0347] OS5-D05	**Synthesis Of Boron-Tio2 Core-Shell Nanoparitcles Using Thermal Chemical Vapor Deposition** Minsang SHIN[1]*, Jinyeong SUNG[1], Haneol LEE[1] and Weon Gyu SHIN[1] [1]*Chungnam National University, Republic of Korea*
[PS0298] OS5-D06	**Black P-Graphene Heterojunction: Fast Response Humidity Sensor with Good Reversibility and Stability** Duy-Thach PHAN[1]*, Inyong PARK[1], Cheol-Min PARK[2] and Ki-Joon JEON[1] [1]*Inha Universiry, Republic of Korea* [2]*Kumoh National Institute of Technology, Republic of Korea*
[PS0317] OS5-D07	**A Deterministic Model for Predicting Production of Carbon Nanotubes Based on a Combination of Thermodynamics and Kinetics of Glycerol and Ferrocene Pyrolysis** Tawatchai CHARINPANITKUL[1]*, Prakitr SRISUMA[1], Nutatawat SUWATTANAPONGTADA[1] and Konrat KERDNAWEE[1] [1]*Chulalongkorn University, Thailand*

Atmospheric Aerosols I

July 5 (Wed)	Halla [A] 10:30 - 12:15
Chairperson	Dr. Naoki KANEYASU (National Institute of Advanced Industrial Science and Technology, Japan) Dr. Song GUO (Peking University, China)

[PS0073] OS6-A01

Characteristics of Submicron Aerosols in 2013 Summer of Beijing: Particle Size, Density, Hygroscopicity, and Mixing State

S. GUO[1]*, M. HU[1], D. SHANG[1], J. ZHENG[1], Z. DU[1], R. ZHANG[1,2]

[1]*State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, Beijing, 100871, China*
[2]*Department of Atmospheric Sciences, Texas A&M University, College Station, TX 77843, USA*

[PS0087] OS6-A02

Source Identification of Nitrosamines in the Atmosphere at Seoul, Republic of Korea

Na Rae CHOI[1]*, Yun Gyong AHN[2], Hyung Bae LIM[3], Ji Yi LEE[4], Yong Pyo KIM[1, 5]

[1]*Department of Environmental Science and Engineering, Ewha Womans University, Republic of Korea*
[2]*Omics System Research Team, Western Seoul Center, Korea Basic Science Institute, Republic of Korea*
[3]*Air Quality Research Division, National Institute of Environmental Research, Republic of Korea*
[4]*Department of Renewable Energy Convergence, Chosun University, Republic of Korea*
[5]*Department of Chemical Engineering and Materials Science, Ewha Womans University, Republic of Korea*

[PS0094] OS6-A03

Seasonal Characteristics of Atmospheric PM2.5 and its Secondary Formation During Heavy Air Pollution in 2015 in Beijing

Yao XIAO[1]*, Min HU[1], Mengren LI[1] and Tianyi TAN[1]

[1]*Peking University, China*

[PS0098] OS6-A04

The Phase State of Sub-Micrometer Particles in the Winter of Urban Beijing China

Yuechen LIU[1]*, Zhijun WU[1], Yu WANG[1], Fangting GU[1], Yusheng WU[1], Liming ZENG[1] and Min HU[1]

[1]*Peking University, China*

[PS0100] OS6-A05

Size Characteristics of Resuspended 137Cs Adsorbed on Soil Particles Measured after the Fukushima Accident

Naoki KANEYASU[1]*, Hideo OHASHI[2], Fumie SUSZUKI[2], Tomoaki OKUDA[3], Fumikazu IKEMORI[4], Naofumi AKATA[5] and Toshihiro KOGURE[6]

[1]*National Institute of Advanced Industrial Science and Technology, Japan*
[2]*Tokyo University of Marine Science and Technology, Japan*
[3]*Keio University, Japan*
[4]*Nagoya City Institute for Environmental Sciences, Japan*
[5]*National Institute for Fusion Science, Japan*
[6]*The University of Tokyo, Japan*

[PS0104] OS6-A06

Chemical Characteristics and Source Apportionment of PM2.5 in Taiwan

Chung-Te LEE[1]*, Charles C.-K. CHOU[1], Shih-Yu CHANG[1], Wei WANG[1], Nai-Yun LIN[1] and Shao-En SUN[1]

[1]*National Central University, Taiwan*

[PS0124] OS6-A07

Effects of Aqueous-Phase and Photochemical Processing on Secondary Organic Aerosol Formation and Evolution in Beijing,China

Weiqi XU[1], Jie LI[1]*, Pingqing FU[1], Zifa WANG[1], Douglas R. WORSNOP[2], Yele SUN[1], Tingting HAN[1], Wei DU[1], Qingqing WANG[1], Chen CHEN[1], Jian ZHAO[1] and Yingjie ZHANG[1]

[1]*Institute of Atmospheric Physics, Chinese Academy of Sciences, China*
[2]*Aerodyne Research, Inc., Billerica, Massachusetts, USA*

Filtration and Control Technology II

July 5 (Wed)	Samda [B] 10:30 - 12:30
Chairperson	Prof. Yoshio OTANI (Kanazawa University, Japan) Dr. Sven SCHUETZ (Palas GmbH, Germany)

[IN6-PS0523] OS6-B01 Invited

Filtration Solutions to Mitigate PM2.5 Pollutants in Urban Air

David Y.H. PUI[1]*

[1]*University of Minnesota, USA*

[PS0212] OS6-B02

Effect of Slip Flow on the Pressure Drop of Nanofiber Filters

Hyun-Jin CHOI[1, 2]*, Yuki INUI[2], Mikio KUMITA[2], Takafumi SETO[2], Hidenori HIGASHI[2], Li BAO[3], Toshiyuki FUJIMOTO[4], Yoshio OTANI[2]

[1]*Korea Environment Institute, Republic of Korea*
[2]*Kanazawa University, Japan*
[3]*Nippon Muki Co., Ltd., Japan*
[4]*Muroran Institute of Technology, Japan*

[PS0255] OS6-B03

Study on the Faceseal Leakage Characteristics of Self-Contained Breathing Apparatus

Shyang-Haw YANG[1]*, Sheng-Hsiu HUANG[1], Chih-Wei LIN[1], Wan-Chen LEE[1] and Chih-Chieh CHEN[1]

[1]*National Taiwan University, Taiwan*

[PS0292] OS6-B04

Improvement of Quantitative Fit Testing Methods Using Ambient Aerosols

Hsien-I CHIU[1], Ting-Xuan ZHOU[1], Kai-Jie YANG[1], Chih-Wei LIN[1], Sheng-Hsiu HUANG[1] and Chih-Chieh CHEN[1]*

[1]*National Taiwan University, Taiwan*

[PS0290] OS6-B05

Evaluation of the Leakage Test Systems for Exhalation Valve

Ning YU[1]*, Wan-Chen LEE[1], Chih-Wei LIN[1], Sheng-Hsiu HUANG[1] and Chih-Chieh CHEN[1]

[1]*National Taiwan University, Taiwan*

[PS0116] OS6-B06

Modular Filter Test Rig System In Accordance to Engine Intake Filter ISO 5011/ ISO TS 19713 as well as General Ventilation Air Filters EN 779/ ASHRAE 52.2 and ISO/DIS 16890

Sven SCHUETZ[1]*

[1]*Palas GmbH, Germany*

[PS0196] OS6-B07

Development of a PAPR System for Motorcycle Helmets

Ai-Lun JIAN[1]*, Sheng-Hsiu HUANG[1], Wan-Chen LEE[1] and Chih-Chieh CHEN[1]

[1]*National Taiwan University, Taiwan*

Health Related Aerosols I

July 5 (Wed)	Room 401 [C] 10:30 - 12:15
Chairperson	Dr. Kin-Fai HO (The Chinese University of Hong Kong, Hong Kong) Prof. Hsiao-Chi CHUANG (Taipei Medical University, Taiwan)

[PS0111] OS6-C01

Polycyclic Aromatic Hydrocarbons (PAHs) and Oxygenated-PAHs (OPAHs) and Related Bioreactivity in PM2.5 in Northern China

Xinyi NIU[1]*, Junji CAO[2] and Kin-Fai HO[3]

[1]*Xian Jiaotong University, China* [2]*Institute of Earth Environment, Chinese Academy of Sciences, China*

[3]*The Chinese University of Hong Kong, Hong Kong*

[PS0424] OS6-C02

Variability in Toxicity and Chemical Composition Among Aerosols Produced from Different Sources

Minhan PARK[1]*, Hungsoo JOO[1], KwangYul LEE[1], Tsatsral BATMUNKH[1], Lucille BORLAZA[1], Han-Gyul SONG[1], Heung-Bin LIM[2], Han-Jae SHIN[3], Myoseon JANG[4], Ji Yi LEE[5], Min-Suk BAE[6], Kyuhuck JUNG[7] and Kihong PARK[1]

[1]*Gwangju Institute of Science and Technologyn, Republic of Korea* [2]*Chungbuk National University, Republic of Korea*

[3]*KT&G Central Research Institute, Republic of Korea* [4]*University of Florida, USA* [5]*Chosun University, Republic of Korea*

[6]*Mokpo University, Republic of Korea* [7]*Sungkyunkwan University, Republic of Korea*

[PS0015] OS6-C03

Wind Speed Regulated Particulate Bioreactivity in a Vicinity of a Petrochemical Complex

Hsiao-Chi CHUANG[1]*, Ruei-Hao SHIE[2], Chia-Pin CHIO[3], Tzu-Hsuen YUAN[3], Jui-Huan LEE[2], Chang-Chuan CHAN[3]

[1]*School of Respiratory Therapy, College of Medicine, Taipei Medical University, Taipei, Taiwan*

[2]*Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan*

[3]*Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan*

[PS0021] OS6-C04

Characterization and Bioreactivity of PM2.5 near Landfill Sites in Hong Kong

K.F. HO[1]*, K. H. LUI[1], Tim JONES[2], Kelly BÉRUBÉ[3], and S. C. LEE[4]

[1]*The Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong*

[2] *School of Earth and Ocean Sciences, Cardiff University, Cardiff, UK* [3] *School of Biosciences, Cardiff University, Cardiff, UK*

[4] *Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hong Kong*

[PS0423] OS6-C05

Differences in Elemental Carbon Fractions Between Ambient and Carbon Nanotube (CNT) Raw Material Samples

Kyung Hwan KIM[1]*, Jong Bum KIM[2], Jun Ho JI[3], Seung-Bok LEE[2] and Gwi-Nam BAE[2]

[1]*Dong-il Shimadzu, Republic of Korea*

[2]*Korea Institute of Science and Technology, Republic of Korea*

[3]*EcoPictures, Republic of Korea*

[PS0099] OS6-C06

Human Lung Cells Exposed to Various Combustion Aerosols at the Air-Liquid-Interface: Cytotoxic and Molecular Biological Effects

Ralf ZIMMERMANN[1]* and HICE- CONSORTIUM[1]

[1]*Helmholtz Zentrum München/ University of Rostock, Germany*

[PS0400] OS6-C07

Ambient PM2.5 in South Korea: Chemical Characteristics, Oxidative Potential, and Source Apportionment

Lucille Joanna BORLAZA[1]*, Kwangyul LEE[1], Minhan PARK[1], Haebam LEE[1], Kihong PARK[1], Hungsoo JOO[1] and Seojong KIM[1]

[1]*Gwangju Institute of Science and Technology, Republic of Korea*

Instrumentation and Measurement Ⅳ

July 5 (Wed)	Room 402 [D] 10:30 - 12:15
Chairperson	Prof. Jeonghoon LEE (Korea University of Technology and Education, Republic of Korea) Prof. Se-Jin YOOK (Hanyang University, Republic of Korea)

[PS0312] OS6-D01

Development of Electric Field Assisted Megasonic Atomization for Generating Nanoparticles

Hyeong-U KIM[1], Vinit KANADE[1]*, Atul KULKARNI[1], Soohyun HA[1], Dongjoo SHIN[1] and Taesung KIM[1]

[1]*Sungkyunkwan University(SKKU), Republic of Korea*

[PS0337] OS6-D02

Evaluation of a NanoAerosol Generator of Kanomax FMT Inc. in Aerosolization of Size Standard Nanoparticles and Proteins

Hiromu SAKURAI[1]*, Yoshiko MURASHIMA[1], Yohei HAYAKAWA[2] and Nobuhiko FUKUSHIMA[2]

[1]*AIST, Japan*
[2]*Kanomax Japan, Inc., Japan*

[PS0344] OS6-D03

The Effect of Sheath Flow Rate on the Particle Trajectory Inside an Optical Cavity with Direct Flow Configuration

Weon Gyu SHIN[1], Haneol LEE[1]*, Young-Su JEONG[2] and Kibong CHOI[2]

[1]*Chungnam National University, Republic of Korea*
[2]*Agency for Defense Development, Republic of Korea*

[PS0363] OS6-D04

A New Condensation Particle Counter for Measuring Solid Soot Particles Only Under a Wide Range of Operation Temperature

Longfei CHEN[1]*

[1]*Beihang University, China*

[PS0064] OS6-D05

Particle Trajectory Simulation for Flux Tower Measurement

Seung-Yoon NOH[1], Se-Jin YOOK[1]*, Gwang-Jae LEE[2], and Jun-Ho JI[2]

[1]*School of Mechanical Engineering, Hanyang University, Seoul, Republic of Korea*
[2]*EcoPictures Co., Ltd., Seoul, Republic of Korea*

[PS0447] OS6-D06

A Non-Filter Based Measurement of Black Carbon Using a Photothermal Interferometer

Jeonghoon LEE[1]*

[1]*School of Mechanical Engineering, Korea University of Technology and Education, Republic of Korea*

[PS0401] OS6-D07

Insights Into Aerosol Chemistry During The 2015 China Victory Day Parade: Results From Simultaneous Measurements At Ground Level And 260 m In Beijing

Jian ZHAO[1]* and Yele SUN[1]

[1]*Institute of Atmospheric Physics, Chinese Academy of Sciences, China*

Atmospheric Aerosols II

July 6 (Thu)	Halla [A] 10:30 - 12:00
Chairperson	Dr. Lin Chi WANG (Cheng Shiu University, Taiwan) Dr. Hwajin KIM (Korea Institute of Science and Technology, Republic of Korea)

[PS0247] OS7-A05

Chemical Composition, Sources and Atmospheric Processes of Organic Aerosol in Urban Air of China During Haze Pollution Events

Ru-Jin HUANG[1]*, Yichen WANG[1], Yao HE[1] and Junji CAO[1]

[1]*Institute of Earth Environment, Chinese Academy of Sciences, China*

[PS0240] OS7-A01

A New Balance Formula To Estimate Particle Formation Rate: Reevaluating the Effect of Coagulation Scavenging

Runlong CAI[1]* and Jingkun JIANG[1]

[1]*Tsinghua University, China*

[PS0205] OS7-A02

Influence of Intense Secondary Aerosol Formation and Long Range Transport on Aerosol Chemistry and Properties During Spring Time: Results from KORUS-AQ Campaign.

Hwajin KIM[1]* and Qi ZHANG[2]

[1]*Korea Institute of Science and Technology, Republic of Korea*
[2]*Universtiy of California, Davis, USA*

[PS0213] OS7-A03

Assesment of Ambient Particulate Matter in Urban Areas of Indonesia

Muhayatun SANTOSO[1]*, Diah Dwiana LESTIANI[1], Syukria KURNIAWATI[1], Endah DAMASTUTI[1], Indah KUSMARTINI[1], Djoko Prakoso Dwi ATMODJO[1], Dyah Kumala SARI[1], Rita MUKHTAR[2], Esrom HAMONANGAN[2], Tamrin[3], Windi Dwi WINDIANDI[4], Slamet WIDODO[5], Sukadi[1], Sunarta[6] and Henny Dwi FERITA[7]

[1]*National Nuclear Energy Agency of Indonesia (BATAN), Indonesia*
[2]*Minister of Environment and Forestry, Indonesia*
[3]*Environmental Protection Agency of Jakarta Province, Indonesia*
[4]*Environmental Protection Agency of West Java Province, Indonesia*
[5]*Environmental Protection Agency of Central Java Province, Indonesia*
[6]*Environmental Protection Agency of East Java Province, Indonesia*
[7]*Environmental Protection Agency of Surabaya City, Indonesia*

[PS0232] OS7-A04

The Vertical Profile of Particle Number Size Distributions Near Surface Boundary Layer in Beijing, China

Zhijun WU[1]*, Yishu ZHU[1], Yonghee PARK[2], Yu WANG[1], Haichao WANG[1], Yusheng WU[1], Keding LU[1], Limin ZENG[1], Kang-Ho AHN[2] and Min HU[1]

[1]*Peking University, China*
[2]*Hanyang University, Republic of Korea*

[PS0279] OS7-A06

Chemical Compositional Bulk Analysis of Size-Segregated Aerosol Particles Using ATR-FTIR

Li WU[1]*, Hee-Seung CHAE[1], Abdul MALEK[1] and Chul-Un RO[1]

[1]*Inha University, Republic of Korea*

Aerosol Emissions

July 6 (Thu)	Samda [B] 10:30 - 11:45
Chairperson	Dr. Seung-Bok LEE (KIST, Republic of Korea)

[PS0285] OS7-B01

Analysis of Particulate Matter Sources in Subway Tunnels

Won Seok JUNG[1] and Duckshin PARK[1]*

[1]*Korea Railroad Research Institute, Republic of Korea*

[PS0349] OS7-B02

A Fast Method for Estimating the Emission Factors of Air Pollutants from In-use Vehicles

Seung-Bok LEE[1]*, Kyung Hwan KIM[2], Bo-Eun PARK[1] and Gwi-Nam BAE[1]

[1]*Korea Institute of Science and Technology, Republic of Korea*

[2]*Dong-il SHIMADZU, Republic of Korea*

[PS0008] OS7-B03

Source Apportionment of Water-Soluble Humic-Like Substances (HULISWS) and Their Oxidative Potential in Fine Particulate (PM2.5) in Beijing

Yiqiu MA[1,2]*, Yubo CHENG[2] and Di HU[2]

[1]*State Key Joint Laboratory for Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, Beijing, China*

[2] *Department of Chemistry, Hong Kong Baptist University, Hong Kong*

[PS0032] OS7-B04

Formation of Secondary Organic Aerosols From Gas–Phase Emissions of Heated Cooking Oils

Tengyu LIU[1], Zijun LI[2], Man Nin CHAN[2,3], and Chak K. CHAN[1]*

[1]*School of Energy and Environment, City University of Hong Kong, Hong Kong*

[2]*Earth System Science Programme, The Chinese University of Hong Kong, Hong Kong*

[3]*The Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong, Hong Kong*

[PS0294] OS7-B05

Hygroscopic Properties and Respiratory System Deposition Behavior of Particulate Matter Emitted By Mining and Smelting Operations

Jong-Sang YOUN[1]*, Janae CSAVINA[2], Kyle RINE[3], Taylor SHINGLER[3], Mark TAYLOR[4], Eduardo SAEZ[3], Eric BETTERTON[3] and Armin SOROOSHIAN[3]

[1]*Inha University, Republic of Korea*

[2]*National Ecological Observatory Network, USA*

[3]*University of Arizona, USA*

[4]*Macquarie University, Australia*

Health Related Aerosols II

July 6 (Thu)	Room 401 [C] 10:30 - 12:30
Chairperson	Dr. Jongbae HEO (Seoul National University, Republic of Korea) Prof. Tawatchai CHARINPANITKUL (Chulalongkorn University, Thailand)

[PS0366] OS7-C01

Isokinetic Sampling for Observing Formation of Carbon Nanoparticles and Their Derivatives in Pyrolysis of Glycerol and Ferrocene

Tawatchai CHARINPANITKUL[1]*, Naphon OPASANON[1], Karanick MENAKANIST[1] and Konrat KERDNAWEE[1]

[1]*Chulalongkorn University, Thailand*

[PS0234] OS7-C02

Direct- and Electrospray-Depositions of Particles Derived from Burning Candles

Ferry FAIZAL[1]*, S. YOKOTE[1], M. P. KHAIRUNISSA[1] and Wuled LENGGORO[1]

[1]*Tokyo University of Agriculture and Technology, Japan*

[PS0429] OS7-C03

The Association Between Air Pollution and Neurodevelopment Among Preterm Children in the Greater Taipei Area

Hsing CHAO[1]*, Yu-Ting YANG[1], Ling-Chu CHIEN[1], Chuen-Bin JIANG[2] and Chih-Da WU[3]

[1]*Taipei Medical University, Taiwan*
[2]*Taipei Mackay Memorial Hospital, Taiwan*
[3]*National Chiayi University, Taiwan*

[PS0297] OS7-C04

Direct Detection of Exhaled Particles in Human Breath by Using NanoSESI-HRMS

Dandan JIN[1]* and Xue LI[1]

[1]*Jinan University, China*

[PS0354] OS7-C05

Important Sources and Chemical Species of Ambient Fine Particles related to Adverse Health Effects

Jongbae HEO[1]*

[1]*Seoul National University, Republic of Korea*

[PS0369] OS7-C06

Different Toxicity of Particulate Matters in Multiple Cities tested by the GFP-tagged Saccharomyces Cerevisiae Yeast

Ting ZHANG[1]*, Kaiyue CHEN[1], Maosheng YAO[1] and Chunxiong LUO[1]

[1]*Peking University, China*

[PS0391] OS7-C07

Diurnal Trends Of Particulate Matter Induced Oxidative Potential In Different Urban Environments

Nirmal Kumar GALI[1]*, Zhi NING[1], Svetlana STEVANOVIC[2] and Zoran RISTOVSKI[2]

[1]*City University of Hong Kong, Hong Kong*
[2]*Queensland University of Technology, Australia*

[PS0083] OS7-C08

Effect of Particle Morphology on Performance of ESP-ALI

Jing-Chi LIN[1] and Ta-Chih HSIAO[1]*

[1]*Graduate Institute of Environmental Engineering, National Central University, Taiwan*

Instrumentation and Measurement Ⅴ

July 6 (Thu)	Room 402 [D] 10:30 - 11:45
Chairperson	Dr. Volker ZIEGLER (GRIMM Aerosol Technik Ainring, Germany) Prof. Donggeun LEE (Pusan National University, Republic of Korea)
[PS0384] OS7-D01	**Smart Air Quality Network, the Measurement Network for the Future** Volker ZIEGLER[1]* and Markus PESCH[2] [1]*GRIMM Aerosol Technik Ainring, Germany* [2]*GRIMM Aerosol Technik Pouch, Germany*
[PS0403] OS7-D02	**Real-time Measurement of Carbonaceous Aerosols Using Laser-Induced Breakdown Spectroscopy** Gibaek KIM[1], Myoseon JANG[2], Hae Bum LEE[1]*, Hyunok MAENG[1], Gangnam CHO[1] and Kihong PARK[1] [1]*Gwangju Institute of Science and Technology (GIST), Republic of Korea* [2]*University of Florida, USA*
[PS0421] OS7-D03	**Quantitative Analysis of 9 N-nitrosamines in Atmospheric PM2.5 Using Direct Liquid Extraction and Gas Chromatography-triple Quadrupole Mass Spectrometry (GC-TQMS)** Kyung Hwan KIM[1]*, Youngmin HONG[1], Hangji OK[1], Minhe LEE[1], Jin-Young KIM[2] and Gwi-Nam BAE[2] [1]*Dong-il Shimadzu, Republic of Korea* [2]*Korea Institute of Science and Technology, Republic of Korea*
[PS0395] OS7-D04	**Measurement of Atmospheric Charged Particle During a Lightning Event** Hong Ku LEE[1]* and Kang-Ho AHN[1] [1]*Hanyang University, Republic of Korea*
[PS0287] OS7-D05	**Development of Aerosol Mass Spectrometer Coupled with Light Scattering Module for Detection of a Single Particle with High Hitting Efficiency** Hee-Joo CHO[1]*, Taewan SON[2], Donggeun LEE[2] and Kihong PARK[1] [1]*GIST, Republic of Korea* [2]*Pusan National University, Republic of Korea*

Atmospheric Aerosols III

July 6 (Thu)	Halla [A] 13:30 - 15:15
Chairperson	Prof. Chak K. CHAN (City University, Hong Kong) Dr. Hungsoo JOO (Anyang University, Republic of Korea)

[PS0171] OS8-A01

Composition and Variation of PM2.5 in Northern Taiwan During Winter Monsoon and Local Pollution Episode in 2015

Yi Na LI[1]*, Kai Hsien CHI[1] and Tuan Hung NGO[1]

[1]*National Yang-Ming University, Taiwan*

[PS0300] OS8-A02

Real-Time Investigation of Chemical Compositions and Hygroscopic Properties of Aerosols Generated from NaCl and Oxalic Acid Mixture Solutions Using in Situ Raman Microspectrometry

Xue LI[1]*, Jisu LEE[1] and Chul-Un RO[1]

[1]*Inha University, Republic of Korea*

[PS0330] OS8-A03

Diurnal and Seasonal Variation of PM2.5 OC / EC in Tokyo in 2016

Hiroaki SAINO[1]*, Hiroshi HAYAMI[2], Kazuhiko MIURA[1] and Shinji SAITO[3]

[1]*Tokyo University of Science, Japan*
[2]*Central Research Institute of Electric Power Industry, Japan*
[3]*Tokyo Metropolitan Research Institute for Environmental Protection, Japan*

[PS0332] OS8-A04

Analysis of PM2.5 Chemical Composition During High PM2.5 Events Over Central Tokyo

Kiyotaka TANAKA[1]*, Hiroshi HAYAMI[2], Hiroaki SAINO[1], Kazuhiko MIURA[1], Shuichi ITAHASHI[2] and Shinji SAITO[3]

[1]*Tokyo University of Science, Japan*
[2]*Central Research Institute of Electric Power Industry, Japan*
[3]*Tokyo Metropolitan Research Institute for Environmental Protection, Japan*

[PS0414] OS8-A05

Abundance and Sources of Phthalic Acids, Benzene-Tricarboxylic Acids and Phenolic Acids in PM2.5 in The Pearl River Delta Region, China

Ting ZHANG[1], Dui WU[2], J. Z. YU[2], Xiao HE[3]* and X.H. Hilda HUANG[4]

[1]*Atmospheric Research Center, HKUST Fok Ying Tung Graduate School, China*
[2]*Institute of Technology on Atmospheric Environmental Safety and Pollution Control, Jinan University, China*
[3]*Division of Environment, The Hong Kong University of Science and Technology, China*
[4]*Institute of Environment, The Hong Kong University of Science and Technology, China*

[PS0422] OS8-A06

Characteristics of N-Nitrosamines in Atmospheric PM2.5 and PM0.1 at Roadside Environment

Kyung Hwan KIM[1]*, Youngmin HONG[1], Hangji OK[1], Minhe LEE[1], Masatoshi KINOSHITA[2], Shinji KUDO[2], Kazuhiko SAKAMOTO[2] and Kazuhiko SEKIGUCHI[2]

[1]*Dong-il Shimadzu, Republic of Korea*
[2]*Saitama University, Japan*

[PS0446] OS8-A07

Diurnal And Day-to-day Characteristics Of Ambient Particle Mass Size Distributions From HR-ToF-AMS Measurements At An Urban Site And A Suburban Site In Hong Kong

Berto LEE[1], Hao WANG[2] and Chak K. CHAN[1]*

[1]*City University, Hong Kong*
[2]*Hong Kong University of Science and Technology, Hong Kong*

Filtration and Control Technology III

July 6 (Thu)	Samda [B] 13:30 - 14:30
Chairperson	Dr. Yun Haeng JOE (KIER, Republic of Korea) Dr. Myong-Hwa LEE (KITECH, Republic of Korea)
[PS0263] OS8-B01	**Aerosol Removals in Pool Under Severe Accident in Nuclear Power Plant** Hyun Joung JO[1]*, Kwang Soon HA[1] and Jungho HWANG[2] [1]*Korea Atomic Energy Research Institute, Republic of Korea* [2]*Yonsei University, Republic of Korea*
[PS0331] OS8-B02	**Antimicrobial Test of Silver Nanowire Coated Nanofiber Filter** Kyuhyun PARK[1]* and Jungho HWANG[1] [1]*Yonsei University, Republic of Korea*
[PS0351] OS8-B03	**Numerical Simulation of Cyclone Separator Using DDPM** In Sik HWANG[1]*, Sangwoo KIM[1] and Jungho HWANG[1] [1]*Yonsei University, Republic of Korea*
[PS0186] OS8-B04	**Design and Performance Evaluation of a 11-Stage Electrical Low Pressure Impactor for Real-Time Measurement of the Size Distribution of Airborne Particulate Matter** Jangseop HAN[1]*, Jungho HWANG[1], Joohee SEO[1] and Junho HYUN[1] [1]*Yonsei University, Republic of Korea*


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POSTER SESSION

Aerosol Chemistry

[PS0521]
PS-AC01

Chemical Speciation and Radioactive Particle Analysis of Asian Dust Using Non-Destructive Analytical Techniques

Kishore Babu DASARI[1]*, H. CHO[1], S. H. CHOI[2] and Y. –H. YIM[1]

[1]*Center for Inorganic Analysis, Division of Metrology for Quality of Life, Korea Research Institute of Standards and Science, Republic of Korea*
[2]*Pohang Accelerator Laboratory, Pohang University of Science and Technology, Republic of Korea*

[PS0519]
PS-AC02

Decomposition of Gas Using a Visible Photo Catalyst Impregnated Activated Carbon Filter

Hooncheol JEON[1]*, Sunyoung MOON[1], Deok HUH[1] and Hyungho PARK[1]

[1]*Air Solution R&D lab, LG Electronics, Republic of Korea*

[PS0497]
PS-AC03

Seasonal Variation Characteristics of Organosulfates Isolated from Urban Aerosol in Beijing: A Study by Ultra-High-Resolution Mass Spectrometry

Jingyi ZHANG[1]*, QUAN SHI[1] and Yongmei LIANG[1]

[1]*China University of Petroleum (Beijing), China*

[PS0490]
PS-AC04

Feedbacks Between Atmospheric Aerosol Microphysics and Photochemical Aging

Pablo CORRAL[1]*, Peter ALPERT[1], Jing DOU[2], Ulrich KRIEGER[2], Beiping LUO[2] and Markus AMMANN[1]

[1]*Paul Scherrer Institute, Switzerland*
[2]*ETH Zurich, Switzerland*

[PS0394]
PS-AC05

Size Resolved Aerosols by the Different Regional Influences in the West Coastal Korea During KORUS-AQ Campaign

Min-Suk BAE[1]*, Zang-Ho SHON[2], Sea-Ho OH[1], Taehyoung LEE[3], Seung-Shik PARK[4] and Gyutae PARK[3]

[1]*Mokpo National University, Republic of Korea*
[2]*Dong-Eui University, Republic of Korea*
[3]*Hankuk University of Foreign Studies, Republic of Korea*
[4]*Chonnam National University, Republic of Korea*

[PS0209]
PS-AC06

The Ratio of Plant-Derived Carbon in PM2.5 in Summer and Autumn in Kazo, Japan

Kouki SASAKA[1]*, Qingyue WANG[2] and Kazuhiko SAKAMOTO[3]

[1]*Center for Environmental Science in Saitama, Japan*
[2]*Graduate School of Science and Engineering, Saitama University, Japan*
[3]*Asia Center for Air Pollution Research, Japan*

[PS0175]
PS-AC07

Secondary Organic Aerosol During the Biomass Burning Season in Northern Southeast Asia

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[PS0075]
PS-AC08

The Effects of Inorganic Seed Aerosol on the Oxidation State of Secondary Organic Aerosol - α-Pinene Ozonolysis

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Aerosol Chemistry

[PS0068]
PS-AC09

Reactive Uptake of Dimethylamine by Ammonium Sulfate and Ammonium Sulfate – Sucrose Mixed Particles

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[PS0030]
PS-AC10

The Pollution Characteristics of Carbonaceous Aerosol in Handan City During a Heavy Haze in Winter

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[PS0013]
PS-AC11

Aerosol Assisted Langmuir-Blodgett Assembly of Nanomaterials

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Aerosol Emissions

[PS0520]
PS-AE01

Decrease of VOC Emissions from Vehicular Emissions in Hong Kong from 2003 to 2015: Results from a Tunnel Study

Shun-Cheng LEE[1]*, L. CUI[1], X.L. WANG[2], K.F. HO[3], Judith C. CHOW[2] and John G. WATSON[2]

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[3]*School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong*

[PS0488]
PS-AE02

Electricity Output Trend in North Korea Using the Data Produced by North Korea

Min Ju YEO[1]* and Yong Pyo KIM[1]

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[PS0402]
PS-AE03

Determination of Source Profiles for Laboratory-Generated Aerosols from Various Sources and Their Comparison with US EPA Source Profiles

Kwangyul LEE[1], Kihong PARK[1], Wajih Ur REHMAN[1]* and Hungsoo JOO[1]

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[PS0373]
PS-AE04

Estimation of Non-Exhaust (Tire and Break Wear) PM Emissions from Road Traffic in Seoul Metropolitan Area

Sehyun HAN[1]*, Ki-Joon JEON[1] and Yong-Won JUNG[1]

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[PS0355]
PS-AE05

Comparison and Evaluation of the Air Pollutant Emissions in North Korea from Various Sources

Min Ju YEO[1]* and Yong Pyo KIM[1]

[1]*Ewha Womans University, Republic of Korea*

[PS0323]
PS-AE06

Physical Characterization of Tire Wear Particles Under Various Driving Conditions Using a Tire Simulator

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Aerosol Emissions

[PS0320]
PS-AE07

A Study on BC Emission from Vehicles Using Different Types of Fuel

KyungHoon KIM[1]*, Jihwan SON[2], Jounghwa KIM[2], Sunmoon KIM[2], Gyutae PARK[1], Kijae SUNG[2], Ingu KIM[2], Taekho CHUNG[2], Taehyun PARK[1], Seokwon KANG[1], Ji Hee BAN[1], Jeong Soo KIM[2], Jung-Hun WOO[3] and Taehyoung LEE[1]

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[PS0291]
PS-AE08

Emissions of Nanoparticle and Volatile Organic Compounds (VOCs) in 3D Printing Operations

Jong-Sang YOUN[1]*, Eunji HAN[1], Sehyun HAN[1], Yong-Won JUNG[1], Ki-Joon JEON[1] and Eungyoung YANG[1]

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[PS0256]
PS-AE09

A Study on Potential Aerosol Formation from Different Vehicle`s Fuel Types Using HR-ToF-AMS in an Oxidation Flow Reactor

Gyutae PARK[1]*, Taehyoung LEE[1], Jihwan SON[2], Jounghwa KIM[2], Sunmoon KIM[2], Kyunghoon KIM[1], Kijae SUNG[2], Ingu KIM[2], Taekho CHUNG[2], Taehyun PARK[1], Seokwon KANG[1], Ji Hee BAN[1] and Jeong Soo KIM[2]

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[PS0241]
PS-AE10

Dangerous Emissions Sources and Their Assessments in India and Russia

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[PS0150]
PS-AE11

Metal Composition and Sources Apportionment of PM2.5 in the Vicinity of The Electric Arc Furnace Steel Plant in Central Taiwan

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[PS0148]
PS-AE12

Using Bivariate Polar Plots and Positive Matrix Factorization to Characterize the Emission Sources of PM2.5 in Sheng-Gang, Taiwan

Ruei-De PAN[1]*, Hui-Tsung HSU[1] and Ruei-Hao SHIE[2]

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[PS0142]
PS-AE13

Methodologies to Estimate of NOx Emission from Mobile Sources in Korea

Nakyung KIM[1]*, Jihyung HONG[2] and Yong Pyo KIM[3]

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[2]*National Institute of Environmental Research, Republic of Korea*
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[PS0084]
PS-AE14

Investigating Tourist Exposures to Ultrafine and Multi-Sized Particles in an Asian Street Market

Tsai-Yu LIN[1], Li-Te CHANG[2]*, Chin-Sheng TANG[3] and Shih-Chun Candice LUNG[4]

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Aerosol Emissions

[PS0017] PS-AE15

Wildfire in the Boreal Eurasia: Temporal and Spatial Variations and Controlling Factors

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[PS0029] PS-AE16

Comparison of Chemical Properties of Emission from Diesel Engine Fuelled with Conventional and 10% Biodiesel Fuel (B10) Under Transient Mode

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Aerosol Modeling

[PS0504] PS-AM01

Development of a Numerical Model to Predict the Growth of Hygroscopic Aerosol Particles Due to Coagulation and Condensation

Sung Hoon PARK[1], Min Young KIM[1]*, Ju-Yong KIM[1], Byung Wook CHO[1] and Dong Wan KIM[1]

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[PS0493] PS-AM02

The Role of Glycerol During Aerosol Formation in an Electrically Heated Tobacco Product

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[PS0483] PS-AM03

A Simple Numerical Simulation on Electrostatic Particle Removal of a Charged Conductive Fiber

Jung Yeul YUN[1], Hyung-Woo LEE[2], Hye Moon LEE[1], Dong Yun CHOI[1]*, Eun Jeong AN[1], Soo-Ho JUNG[1], Dong Keun SONG[3] and Duckshin PARK[4]

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[PS0445] PS-AM04

The Impact of Industrial Zones on Aerosol Concentration of Nearby Cities in Korea

Sungjoo KIM[1]* and Pyosuk SEO[2]

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[2]*Yonsei University, Republic of Korea*

[PS0441] PS-AM05

Characteristics of Meteorological Parameters and Fine Dust Adsorbents According to the Inflow Path of Fine Dust

Su Been PARK[1]* and Hyun Jeong CHOI[1]

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[PS0431] PS-AM06

Particulate Matter's Pathway Modeling According to the Urban Thermal Environment Using Envi-Met.

Donghwi KIM[1]* and Hyun Jeong CHOI[1]

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[PS0386] PS-AM07

Urban PM10 Distribution According to the Thermal Comfort Evaluation Using the Envi-Met. Micro Climate Model

Hyun Jeong CHOI[1]*

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Aerosol Modeling

[PS0275] PS-AM08

A Numerical Analysis on the Effect of Droplet Sizes on the Performance of a Spray Type Scrubber

Hyuksang CHANG[1]* and Chanhyun LEE[1]

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[PS0159] PS-AM09

Numerical Methods for Factor Characterization in Source Apportionment Studies

H.-T. LIAO[1], P.K. HOPKE[2], S.-M. YI[3] and C.-F. WU[1]*

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[2]*Clarkson University, USA*
[3]*Seoul National University, Republic of Korea*

[PS0016] PS-AM10

Numerical Analysis on Removal Efficiency of Water Droplets in a Curved Vane Mist Eliminator

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Aerosol Physics

[PS0473] PS-AP01

Nucleation with Excluded Volume and the Kolmogorov-Avrami Theory

Alexander SHCHEKIN[1]* and Anatoly KUCHMA[1]

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[PS0462] PS-AP02

Particle Size Selection in Post-Spark Dusty Plasma in Non-Uniform Electric Field

Peter PIKHITSA[1]*, Mansoo CHOI[1] and Woongsik KIM[1]

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[PS0438] PS-AP03

Designing Urban Structure to Induce Air Circulation

Hyun Jeong CHOI[1] and Hoyeon CHANG[1]*

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[PS0276] PS-AP04

Characteristics of Aerosol Suspension Time in a Rotating Chamber

Sheng-Hsiu HUANG[1], Chih-Chich CHEN[1], Wei-Ren KE[1]*, Yu-Mei KUO[2] and Chih-Wei LIN[1]

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[2]*Chung Hwa University of Medical Technology, Taiwan*

Atmospheric Aerosols

[PS0517] PS-AA01

Combining Multiple Satellites and Models to Understand Changes in Asian Aerosol Emissions

Jason COHEN[1]*

[1]*Sun Yat-Sen University, China*

[PS0516] PS-AA02

CFD Simulations of Urban Air Quality in a Densely Populated Area Based on the Estimation of On-Road Vehicle Emissions

Kyung-Hwan KWAK[1]*, Yeon-Uk KIM[1], Jae-Hee HAHM[1], Seung-Bok LEE[2] and Gwi-Nam BAE[2]

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[2]*Korea Institute of Science and Technology, Republic of Korea*

Atmospheric Aerosols

[PS0515]
PS-AA03

Analysis of Aerosol Influx by Wind Element at 1km, Using UAV in Ansan, Korea

Jaehyuk BAE[1], Hee Sang KIM[1]*, Kang-Ho AHN[1], Hongku LEE[1], Heeram EUN[1], Yonghee PARK[1] and Wooyoung KIM[1]

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[PS0512]
PS-AA04

Development of Aerosol Detection/Classification Algorithms for Next Generation Geostationary Satellite

Gi-Hun HONG[1]*, Mi-Kyung CHOI[1] and Kwon-Ho LEE[1]

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[PS0511]
PS-AA05

Identification of Major Sources of Polycyclic Aromatic Hydrocarbons (PAHs) in The Ambient Aerosols at Seoul

Sanghee HAN[1]*, Yong Pyo KIM[1], Ji Yi LEE[2] and Jongbae HEO[3]

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[2]*Chosun University, Republic of Korea*
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[PS0508]
PS-AA06

Relationship Between Visibility Distance and Atmospheric PM2.5 Concentration in Major Urban Areas

Yong-Hee LEE[1]*, Jae-Hee HAHM[1], Ha-Yoon JEONG[1], A-Young KIM[1], Kwon-Chan PARK[1] and Kyung-Hwan KWAK[1]

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[PS0507]
PS-AA07

Comparison in Air Pollutant Concentrations Between Inside and Outside Tunnels in Seoul, Republic of Korea

Seung-Bok LEE[1], Gwi-Nam BAE[1], Kyung-Hwan KWAK[2], Seung-Hyeop LEE[2], Seong-Chan LIM[2], Sang-Eun LEE[2] and Yeon-Uk KIM[2]*

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[2]*Kangwon National University, Republic of Korea*

[PS0495]
PS-AA08

Estimation of Secondary Organic Carbon Combined with Measurement of Equivalent Black Carbon During KORUS-AQ

Jeonghoon LEE[1]*, Min-Suk BAE[2] and Joon-Young AHN[3]

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[2]*Mokpo National University, Republic of Korea*
[3]*National Institute of Environmental Research, Republic of Korea*

[PS0494]
PS-AA09

Group Analysis of Organic Aerosol in the Atmosphere Over Seoul Based Using Two Dimensional Gas Chromatography-Time of Flight Mass Spectrometry (GC×GC TOFMS) Data

Sohyeon JEON[1]*, Hyungbae LIM[2], Narae CHOI[3], Jiyi LEE[2], Yunkyong AHN[1] and Yong Pyo KIM[3]

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[2]*Chosun University, Republic of Korea*
[3]*Ewha Womans University, Republic of Korea*

[PS0491]
PS-AA10

Source Apportionment of PM2.5 Using Chemical Speciation and PMF Modeling in Busan, Korea

Geehyeong PARK[1]*, Eunyu KWON[1], Jeonggoo CHO[1] and Byeongkyu LEE[2]

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[2]*Civil and Environmental Engineering, University of Ulsan, Republic of Korea*

Atmospheric Aerosols

[PS0471] PS-AA11	**Microbial Population Structure in Aerosols from Near-Ground During Fog–Haze Days in Northern China** Yunping HAN[1]*, Lin LI[1] and Junxin LIU[1] [1]*Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China*
[PS0463] PS-AA12	**Classification of Aerosol Type Based on AERONET Clustering Analysis at Gangenung, Korea** Sung-Kyun SHIN[1]* and Kwon-Ho LEE[1] [1]*Gangneung-Wonju National University, Republic of Korea*
[PS0461] PS-AA13	**Size Distribution and Source of Black Carbon Aerosol in Urban Beijing During Winter Haze Episodes** Yunfei WU[1]* and Renjian ZHANG[1] [1]*Institute of Atmospheric Physics, Chinese Academy of Sciences, China*
[PS0434] PS-AA14	**Removal of Nitrogen Oxide by Na2S** San KIM[1]* [1]*Korea Institute of Machinery and Materials, Republic of Korea*
[PS0417] PS-AA15	**Measurement of Ultrafine and Fine Particles at Different Locations (Urban, Coastal, and Arctic Sites)** KwangYul LEE[1], Hee-Joo CHO[1]*, Jiyeon PARK[1], Minhan PARK[1], Hoseung CHAE[1], Dohyung KIM[1], Peter MCMURRY[1] and Kihong PARK[1] [1]*Gwangju Institute of Science and Technology, Republic of Korea*
[PS0406] PS-AA16	**Measurements of Long-Range Transported Aerosols Over the Yellow Sea** Hyunok MAENG[1]*, Seojeong KIM[1], Kwangyul LEE[1], Se Pyo LEE[2], Joo Wan CHA[2], Sang Boom RYOO[2] and Kihong PARK[1] [1]*GIST, Republic of Korea* [2]*NIMS, Republic of Korea*
[PS0404] PS-AA17	**Elemental Composition of Arctic Soils and Aerosols in Ny-Ålesund Measured Using Laser-Induced Breakdown Spectroscopy** Gibaek KIM[1]*, Young-Jun YOON[2], Hae Bum LEE[1], Hee-Joo CHO[1] and Kihong PARK[1] [1]*Gwangju Institute of Science and Technology (GIST), Republic of Korea* [2]*Korea Polar Research Institute, Republic of Korea*
[PS0399] PS-AA18	**Physical and Chemical Characterization of Road Dust at Urban Sites in Korea and Mongolia** Kwangyul LEE[1]*, Tsatsral BATUNKH[1], Hung Soo JOO[1] and Kihong PARK[1] [1]*Gwangju Institute of Science and Technology, Republic of Korea*
[PS0397] PS-AA19	**Different Ratios of Thermal-Optical Elemental Carbon to Equivalent Black Carbon by Chemical Characteristics During KORUS-AQ Campaign** Min-Suk BAE[1]*, Jeonghoon LEE[2], Hye-Jung SHIN[3] and Joon-Young AHN[3] [1]*Mokpo National University, Republic of Korea* [2]*Korea University of Technology and Education, Republic of Korea* [3]*National Institute of Environmental Research, Republic of Korea*

Atmospheric Aerosols

[PS0396]
PS-AA20

Classification and Identification of Organic Aerosols in The Atmosphere Over Seoul Using Two Dimensional Gas Chromatography-Time of Flight Mass Spectrometry (GC×GC/TOF-MS) Data

Sohyeon JEON[1]*, Hyungbae LIM[2], Narae CHOI[3], Jiyi LEE[2], Yunkyong AHN[1] and Yong Pyo KIM[3]

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[2]*Chosun University, Republic of Korea*
[3]*Ewha Womans University, Republic of Korea*

[PS0393]
PS-AA21

Relationship Between Reactive Oxygen Species and Benzene Carboxylic Acids in the Coastal Area During KORUS-AQ Campaign

Min-Suk BAE[1]*, Zang-Ho SHON[2], Taehyoung LEE[3], Ju-Hee JEONG[4], Chul-Un RO[5] and James SCHAUER[6]

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[2]*Dong-Eui University, Republic of Korea*
[3]*Hankuk University of Foreign Studies, Republic of Korea*
[4]*Pusan National University, Republic of Korea*
[5]*Inha University, Republic of Korea*
[6]*University of Wisconsin-Madison, USA*

[PS0387]
PS-AA22

Implication Of Light Absorption Enhancement And Mixing State Of Black Carbon (BC) By Coatings

Guoliang LI[1]* and Zhi NING[1]

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[PS0385]
PS-AA23

Detection of Organic Component in Ambient Particulate Matter Samples Using Surface Enhanced Raman Spectroscopy (SERS)

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[PS0380]
PS-AA24

Effect of NOx and NH3 on Secondary Organic Aerosol formation of Isoprene from Ozonolosis and Photooxidation

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[PS0378]
PS-AA25

A Study on the Emission Characteristics of Hazardous Air Pollutants (HAPs) from Solid Fuel (SRF and Bio-SRF) Using Facilities

Sun Hwa HEO[1]*, Kee Won JANG[1], Seung Young LIM[1], Dae Il KANG[1] and Sang Bo LEE[1]

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[PS0367]
PS-AA26

Estimation of Influence of Artifact on Carbonaceous Aerosol Measurement by Newly Developed Cyclone Sampler

Shuichi HASEGAWA[1]* and Tomoaki OKUDA[2]

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[2]*Keio University, Japan*

[PS0353]
PS-AA27

Source Apportionment of Semi-Continuous PM2.5 Data in South Korea Using PMF Model – Long Range Transport and Local Effects of High Concentration Events

Jieun PARK[1]*, Eun Ha PARK[1], Kwang-Joo MOON[2], Jongbae HEO[1], Yoo-Duck HONG[2] and Seung-Muk YI[1]

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Atmospheric Aerosols

[PS0350]
PS-AA28

Surface Flux of Particle Numbers and Ionic Species Measured Over Rice Paddy in Greater Tokyo

Hiroshi HAYAMI[1]*, Syuichi ITAHASHI[1], Hiroaki SAINO[3], Kentaro HAYASHI[2] and Keisuke ONO[2]

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[3]*TUS, Japan*

[PS0345]
PS-AA29

Characteristics of the Cloud Condensation Nuclei at the Summit of Mt. Fuji (3776m a.s.l.) During the Summer of 2015, 2016

Konosuke SATO[1]*, Ryota KATAOKA[1], Yoko IWAMOTO[1] and Kazuhiko MIURA[1]

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[PS0333]
PS-AA30

Mongolian Ecological Footprint Accounts and Its Trend

Enkhjargal VOLODYA[1]*

[1]*Ewha Womans University, Republic of Korea*

[PS0329]
PS-AA31

Identification of PM2.5 Sources in Japan Using Organic and Inorganic Markers by Positive Matrix Factorization

Akihiro IIJIMA[1]*, Shinji KUDO[1], Kimiyo KUMAGAI[2], Hiroshi TAGO[2], Yoshinori SAITOH[2], Shinya KIMURA[2] and Kazuhiko SEKIGUCHI[2]

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[PS0328]
PS-AA32

Chemical Composition of Aerosol Measurements in the Air Pollution Plume During KORUS-AQ

Taehyun PARK[1]*, Yury DESYATERIK[2], Jaebum LEE[3], Yongjae LIM[3], Junyoung AHN[3], Jinsoo PARK[3], Jongho KIM[4], Soobog PARK[4], Jeffrey COLLETT[2] and Taehyoung LEE[1]

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[2]*Colorado State University, USA*
[3]*National Institute of Environmental Research, Republic of Korea*
[4]*Hanseo University, Republic of Korea*

[PS0326]
PS-AA33

Temporal Variation and Characteristics of Organic Compounds in PM2.5 at a Background Area in Korea

Jong Sik LEE[1]*, Eun Sil KIM[2], Yong Pyo KIM[3], Chang Hoon JUNG[4], Ki Ae KIM[1], Soo Bin HONG[1] and Ji Yi LEE[1]

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[3]*Ewha Womans University, Republic of Korea*
[4]*Kyungin Womens College, Republic of Korea*

[PS0318]
PS-AA34

Characteristics of Temperature-Resolved Fractions of OC and EC in PM2.5 Based on One Year Observation at Anmyeon Island, a Background Site in South Korea

Yu Woon CHANG[1]*, Jong Sik LEE[1], Eun Sil KIM[2], Yong Pyo KIM[3], Chang Hoon JUNG[4] and Ji Yi LEE[1]

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[PS0302]
PS-AA35

Characteristics of PM2.5 Aerosol and Precursor Gas Species and Its Source Apportionment

Basma LOUAHEMMSABAH[1]*, Al Maliki Dugham RADHI OBAID[1], Modeste MUGABO[1], Seokwon KANG[1], Kyunghoon KIM[1], Taehyun PARK[1] and Taehyoung LEE[1]

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Atmospheric Aerosols

[PS0301]
PS-AA36

Single-Particle Investigation of Antarctic Sea Spray Aerosols Using Low-Z particle EPMA, Raman Microspectrometry, and ATR-FTIR Imaging Techniques

Xue LI[1]*, Hyo-Jin EOM[1], Heejin HWANG[2], Soondo HUR[2], Yeontae GIM[3] and Chul-Un RO[1]

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[PS0284]
PS-AA37

Transboundary Transport of Anthropogenic Sulfur in PM2.5 at a Coastal Site in the Sea of Japan

Yayoi INOMATA[1]*, Tsuyoshi OHIZUMI[2], Naoko TAKE[2] and Keiichi SATO[3]

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[2]*Niigata Prefectural Institute of Public Health and Environmental Sciences, Japan*
[3]*Asia Center for Air Pollution Research, Japan*

[PS0278]
PS-AA38

Characterization of Ambient Aerosols from Amazonian Rainforest and City of Manaus, Brazil

Cybelli BARBOSA[1], Li WU[2]*, Dhrubajyoti GUPTA[2], Ricardo H. M. GODOI[1] and Chul-Un RO[2]

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[PS0273]
PS-AA39

Characteristic Evaluation of Chemical Components in PM0.1-2.5 and PM0.1 Collected in Chiang Mai, Thailand during Biomass Burning Season

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[PS0271]
PS-AA40

Detailed Analysis of Water-Soluble Organic Components in Size-Segregated Particles Collected at a Suburban Site in Saitama, Japan Using an Inertial Filter Sampler

Yuta KUROTSUCHI[1]*, Kazuhiko SEKIGUCHI[1] and Kenshi SANKODA[1]

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[PS0253]
PS-AA41

Hygroscopic Behavior of Individual Ambient Aerosol Particles Collected at Gosan, Jeju Island, South Korea with Special Emphasis on Reacted Sea Salt Aerosols

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[PS0228]
PS-AA42

New Particle Formation Observed at the Tokyo Skytree, Japan

Takenori SATO[1]*, Ryota KATAOKA[1], Masahiro MOMOI[1], Kazuhiko MIURA[1] and Yoko IWAMOTO[2]

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[PS0227]
PS-AA43

Investigation of Organic Markers of the Carbonaceous Aerosols for the Source Identification at a Background Site in Korea

Sang Hee HAN[1]*, Yong Pyo KIM[1], Ji Yi LEE[2], Jongsik LEE[2], Jongbae HEO[3] and Eun-Sill KIM[4]

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[2]*Chosun University, Republic of Korea*
[3]*Seoul National University, Republic of Korea*
[4]*Meteorological Administration, Republic of Korea*

Atmospheric Aerosols

[PS0226] PS-AA44	**Absorption Properties of Brown Carbon in PM2.5 at an Urban Site of Gwangju During KORUS-AQ Campaign** Geun-Hye YU[1]*, Jaemyeong YU[1] and Seungshik PARK[1] [1]*Chonnam National University, Republic of Korea*
[PS0225] PS-AA45	**Investigation on Sources of Water-Soluble Organic Aerosols in PM2.5 at an Urban Site Using a US EPA Positive Matrix Factorization Model** Geun-Hye YU[1]* and Seungshik PARK[1] [1]*Chonnam National University, Republic of Korea*
[PS0217] PS-AA46	**Source Apportionment of Organic Aerosols by Using Aerosol Mass Spectrum Data of Traffic Intersection in Japan** Yuji FUJITANI[1]*, Akinori TAKAMI[1] and Shinji KOBAYASHI[1] [1]*National Institute for Environmental Studies, Japan*
[PS0201] PS-AA47	**Characteristics of Water-Soluble Inorganic Ions of PM2.5 in a Coastal City of China** Xin WU[1]*, Junjun DENG[1], Jinsheng CHEN[1], Youwei HONG[1], Lingling XU[1], Liqian YIN[1], Wenjiao DU[1], Zhenyu HONG[1], Nanzhen DAI[1] and Chung-Sing YUAN[2] [1]*Institute of Urban Environment, Chinese Academy of Sciences, China* [2]*Institute of Environmental Engineering, National Sun Yat-sen University, China*
[PS0163] PS-AA48	**Estimation of Visual Range for Fog Detection on Road Using Human Eyes and a CCTV-Based Image** Kyungwon KIM[1]* [1]*Department of Environment and Energy Science, Gyeongju University, Republic of Korea*
[PS0162] PS-AA49	**Detection of Sea Fog Using a Pattern Recognition Method of an Image** Kyungwon KIM[1]* [1]*Department of Environment and Energy Science, Gyeongju University, Republic of Korea*
[PS0149] PS-AA50	**Characterization of Aerosols Collected during KORUS-AQ (Korea US Air Quality) Sampling Period in Olympic Park, Seoul, Using Low-Z Particle EPMA and ATR-FTIR Techniques** Han-Jin YOO[1]*, Hyeonsu KIM[1] and Chul-Un RO[1] [1]*Inha University, Republic of Korea*
[PS0146] PS-AA51	**Characteristics Of Fine And Coarse Aerosol Particles In South Korea** Byeongsu CHO[1]* and Mijung SONG[1] [1]*Chonbuk National University*
[PS0138] PS-AA52	**Impact of Biomass-Burning Aerosol from Indochina on Cloud Water Chemistry at Mt Bamboo in Taiwan** Thu Thuy BUI[1]*, Wei-Ti TSENG[1] and Neng-Huei LIN[1] [1]*National Central University, Taiwan*
[PS0113] PS-AA53	**Viscosities of Secondary Organic Aerosols Derived from α-Pinene and Ammonia** Suhan HAM[1]* and Mijung SONG[1] [1]*Department of Earth and Environmental Sciences, Chonbuk National University, Republic of Korea*

Atmospheric Aerosols

[PS0101]
PS-AA54

Characterization of Elements Focused on Coal Combustion and Rare Earth Elements in PM2.5 in China, Japan and Jeju, Korea

Shinichi YONEMOCHI[1]*, Senlin LU[2], Yu SHANG[2], Ki-Ho LEE[3] and Young-ju KIM[3]

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[2]*Shanghai University, China*
[3]*Jeju National University, Republic of Korea*

[PS0096]
PS-AA55

Particle Size Characteristics Based on HR-ToF-AMS Measurements at Two Suburban Sites in the PRD Region

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[PS0086]
PS-AA56

Analysis of Aerosol Chemical Composition Observed at Urban and Rural Sites

A. TAKAMI[1]*, A. YOSHINO[1], M. HAYASHI[2], K. HARA[2], C. NISHITA[2], N. KANEYASU[3], and S. HATAKEYAMA[4]

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[3]*National Institute of Advanced Industrial Science and Technology, Japan*
[4]*Institute of Agriculture, Tokyo University of Agriculture and Technology, Japan*

[PS0074]
PS-AA57

Individual Particle Analysis of Marine Aerosols Collected Over the North Pacific Around the Izu Islands During Summer

Momoka YOSHIZUE[1]*, Yoko IWAMOTO[1], Koji ADACHI[2], Fumikazu TAKETANI[3], Kazuo OSADA[4] and Kazuhiko MIURA[1]

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[2] *Meteorological Research Institute, Japan*
[3] *Japan Agency for Marine-Earth Science and Technology, Japan*
[4] *Nagoya University, Japan*

[PS0067]
PS-AA58

Factors Controlling Daytime and Nighttime New Particle Formation at the Summit of Mt. Fuji, Japan

R. KATAOKA[1], M. MOMOI[2], K. MIURA[2]*, Y. IWAMOTO[2], M. YABUKI[3] and S. KATO[4]

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[PS0059]
PS-AA59

Comparison of Surface and Column Measurements of Aerosol Size Distribution Over Tokyo, Japan

Masahiro MOMOI[1]*, Kazuhiko MIURA[1], Kazuma AOKI[2]

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[2] *University of Toyama, Japan*

[PS0034]
PS-AA60

Comparison of Morphology and Elemental Composition Between Artificially-Prepared Dust Particles and Desert Soil Under Scanning Electron Microscope: Cases of Tengger Desert

Natsuo MURAKAMI[1], Feng WU[2], Satoshi FUKUSHIMA[1], Makiko NISHI[1], Shinichiro FUKUYAMA[1], Rin TOMISAKI[1], Yuka HORIKAWA[1], Wei HU[1], Ayumi NAGANUMA[1], Daizhou ZHANG[1]

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[2]*Institute of Earth Environment, Chinese Academy of Science, Xī'an, China*

Bioaerosols

[PS0505] PS-BI01	**Novel Electrostatic Precipitator (ESP) System Using Al-Coated Fibrous Filter: Evaluation of Antimicrobial Performance** Juhee KANG[1]*, Ki Joon HEO[2], Dong Yun CHOI[3], Eun Jeong AN[3], Soo-Ho JUNG[3], Byung Uk LEE[2], Hye Moon LEE[3] and Jae Hee JUNG[1] [1]*Korea Institute of Science Technology (KIST), Republic of Korea* [2]*Konkuk University, Republic of Korea* [3]*Korea Institute of Materials and Science, Republic of Korea*
[PS0502] PS-BI02	**Highly Enriched, Continuous, and Automated Bioaerosol Sampling System Using an Air-To-Liquid Wet-Cyclone Technique** Yusung CHO[1]*, Jongbeom PARK[2] and Jaehee JUNG[3] [1]*Korea University, Republic of Korea* [2]*University of Seoul, Republic of Korea* [3]*Korea Institute of Science and Technology, Republic of Korea*
[PS0478] PS-BI03	**Detection of Air-Borne Bacteria Using the Paper Disc Immobilized with Luciferase-Luciferin** Hey Ri KIM[1], Min Kyoung SON[1], Byoung Chan KIM[1] and Dung NGUYEN[1]* [1]*Korea Institute of Science and Technology (KIST), Republic of Korea*
[PS0472] PS-BI04	**Bioaerosol Emission and Microbial Characteristics of a Full-scale Thermophilic Biofilter for Sludge Drying Exhaust Removal** Lin LI[1]* [1]*Research Center for Eco-Environmental Sciences Chinese Academy of Sciences, China*
[PS0453] PS-BI05	**A Portable Thermal Energy Generator and Airborne Microorganisms** Byung Uk LEE[1], Sang Bin JEONG[1]*, Ki Joon HEO[1] and Chang Hun SIN[1] [1]*Konkuk University, Republic of Korea*
[PS0416] PS-BI06	**Walking of Humans and the Concentration of Bioaerosols in Indoor Environments** Ki Joon HEO[1]*, Cheol Eon LIM[1], Sang Bin JEONG[1] and Byung Uk LEE[1] [1]*Konkuk University, Republic of Korea*
[PS0415] PS-BI07	**Antimicrobial Activity of Wet Electrostatic Precipitator Using Grapefruit Seed Extract** Won Ki CHO[1]* [1]*Korea Institute of Machinery and Materials, Republic of Korea*
[PS0336] PS-BI08	**Effect of Collection Media on Microbial Recovery in the Electrostatic Particle Concentrator** Seongkyeol HONG[1]*, Myeong-Woo KIM[1] and Jaesung JANG[1] [1]*UNIST (Ulsan National Institute of Science and Technology), Republic of Korea*
[PS0137] PS-BI09	**Quantification of Viable Staphylococcus Aureus and Viable Bacteria in Indoor Air by PMA-qPCR** Ching-Wen CHANG[1]* and Meng-Hsuan LIN[1] [1]*National Taiwan University, Taiwan*

Filtration and Control Technology

[PS0525] PS-FCT01

A Study on Effect of Functional Essential Oil Generated by Electrospray

S.H. LEE[1]*, S.J. BAECK[1], O.C. HYUN[1], H.C. LEE[1], B.Y. CHUNG[1]

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[PS0500] PS-FCT02

Air Purification Technique Using Magnetic Nanoparticle-Coated Fibrous Filter

Juyoung KIM[1]*, Seung Chan HONG[2], Gwi-Nam BAE[1] and Jae Hee JUNG[1]

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[2]*Seoul National University, Republic of Korea*

[PS0489] PS-FCT03

Fabrication Of Fe-Cr-Al Porous Metal With Different Powder Sizes

Yujeong YI[1]*

[1]*KIMS, University of Ulsan, Republic of Korea*

[PS0484] PS-FCT04

Acid Gas (SO2 and HCl) Removal Performance of Two Different Sorbents Tested in a Dry Type Reactor with Downstream Baghouse at Waste to Energy Plant Conditions

Naim HASOLLI[1]*, Seong-Min JEON[1], Kang-San LEE[1], Jae-Rang LEE[1], Jae-Won HAN[2], Gwang-Deuk KIM[1] and Young-Ok PARK[1]

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[2]*Hanyang University, Republic of Korea*

[PS0482] PS-FCT05

Low Flow-Resistive, Low-Cost, Al-Coated Conductive Fibrous Filters for High-Efficient Removal of Ultrafine Particulate Pollutants

Dong Keun SONG[1], Duckshin PARK[2], Jung Yeul YUN[3], Hyung-Woo LEE[4], Hye Moon LEE[3], Dong Yun CHOI[3]*, Eun Jeong AN[3] and Soo-Ho JUNG[3]

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[2]*Korea Railroad Research Institute, Republic of Korea*

[3]*Korea Institute of Materials and Science, Republic of Korea*

[4]*Pusan National University, Republic of Korea*

[PS0481] PS-FCT06

Filtration Characteristics of Star Shape Ceramic Filter in Pilot Scale Air Pollution Control System

Jae-Rang LEE[1], Jungho HWANG[2], Young-Ok PARK[1], Kang-San LEE[1]*, Naim HASOLLI[1], Seong-Min JEON[1] and Kwang-Deuk KIM[1]

[1]*Korea Institute of Energy Research, Republic of Korea*

[2]*Department of Mechanical Engineering, Republic of Korea*

[PS0469] PS-FCT07

Evaluation and Improvement of the Leakage Test System for Exhalation Valve

Ning YU[1]*

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[PS0460] PS-FCT08

Sustainable Purification Techniques For The Removal Of Airborne And Waterborne Endocrine Disruptors In Personal Care Products' Antimicrobials

Chun-Hsuan BAI[1]*, Yen-Chi CHEN[1] and Kuo-Pin YU[1]

[1]*National Yang-Ming University, Taiwan*

[PS0440] PS-FCT09

Investigation of a Cyclone Separator Having a Collector Housing With Low Pressure Drop

Joonmok SHIM[1]*, Yun-Haeng JOE[1] and Heon-Seol PARK[1]

[1]*Korea Institute of Energy Research, Republic of Korea*

Filtration and Control Technology

[PS0436] PS-FCT10	**Analysis of Filtration Mechanism of an Electret Filter** Hyun-Seol PARK[1], Yun-Haeng JOE[1]* and Joonmok SHIM[1] [1]*Korea institute of energy research, Republic of Korea*
[PS0435] PS-FCT11	**Study on Water Droplet Removal and Pressure Drop Performance of a Cyclone** Sumin KIM[1]* [1]*Korea Institute of Machinery and Materials, Republic of Korea*
[PS0346] PS-FCT12	**Experimental Investigation And Numerical Modeling Of The Orientation Angle Of Silver Nanowires Passing Through Polyester Filters** Seoungho LIM[1], Haneol LEE[1]*, Hyunseol PARK[2] and Weon Gyu SHIN[1] [1]*Chungnam National University, Republic of Korea* [2]*Korea Institute of Energy Research, Republic of Korea*
[PS0342] PS-FCT13	**Development of Filter-Free Removal of PM2.5 Ultrafine Particles Using Corona Discharger** Tae June PARK[1]*, Miji LEE[1] and Donggeun LEE[1] [1]*Pusan National University, Republic of Korea*
[PS0340] PS-FCT14	**Experimental and Theoretical Studies of a Two-Stage Electrostatic Precipitator for Oil Fume Control** Chuen-Jinn TSAI[1], Mo-Fei TUNG[1], Yung-Jie LIN[1], Wen-Chang KONG[1] and Ziyi LI[2]* [1]*National Chiao Tung University, Taiwan* [2]*University of Science and Technology Beijing, China*
[PS0281] PS-FCT15	**Effect of an Image Force on the Collection of Highly Charged Molecular Ions by Metal Screen** Tomoya TAMADATE[1]*, Hyun-Jin CHOI[1], Toshiyuki FUJIMOTO[2], Takafumi SETO[1], Yoshio OTANI[1], Mikio KUMITA[1] and Hidenori HIGASHI[1] [1]*Kanazawa University, Japan* [2]*Muroran Institute of Technology, Japan*
[PS0260] PS-FCT16	**Challenged Amounts of Organic Solvents to Neutralize Electret Filters** Eun-Seon PARK[1], Taesung KIM[2] and Myong-Hwa LEE[1]* [1]*Korea Institute of Industrial Technology, Republic of Korea* [2]*Sungkyunkwan University, Republic of Korea*
[PS0259] PS-FCT17	**Characterization of Flow Through Centrifugal Filter** Yutaka TANAKA[1], Takafumi SETO[1], Yoshio OTANI[1], Yuki HIRUMA[1]*, Totrangkhanon SHIN-ARTS[1] and Mikio KUMITA[1] [1]*Kanazawa University, Japan*
[PS0258] PS-FCT18	**Capture of Heavy Metal Species on Dust Cake Layer** Han-Bin KIM[1]*, Min-Jeong OH[1], Ki Bong LEE[2] and Myong-Hwa LEE[1] [1]*Korea Institute of Industrial Technology, Republic of Korea* [2]*Korea University, Republic of Korea*
[PS0223] PS-FCT19	**Collection Performance of Centrifugal Filter Under Dust-Loaded Conditions** Yoshio OTANI[1]*, Yutaka TANAKA[2], Ryo OZAWA[1], Kosuke SHIMADZU[1], Hidenori HIGASHI[1], Mikio KUMITA[1] and Takafumi SETO[1] [1]*Kanazawa University, Japan* [2]*Tokyo Dylec Corp., Japan*

Filtration and Control Technology

[PS0222]
PS-FCT20

Effect of Surface Characteristics of Wall Materials on The Deposition of Submicron Particles Driven by The Negative Air Ionizer

Kuo-Pin YU[1]*, Whei-May LEE[2] and Chang-Jhe PENG[1]

[1]*National Yang-Ming University, Taiwan*
[2]*National Taiwan University, Taiwan*

[PS0216]
PS-FCT21

Influence of Deliquesce of Salt Particles Collected in Filter on Pressure Drop of Air Filters

Yoshio OTANI[1], Shota TSURUI[1]*, Takaharu KATO[2], Kentaro ISHIDA[1], Hidenori HIGASHI[1], Mikio KUMITA[1] and Takafumi SETO[1]

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[2]*AQC Co., Ltd., Japan*

[PS0215]
PS-FCT22

An Electrostatic Air Filter Mounting on a Quadcopter Drone

Seongkyeol HONG[1]*, Myeong-Woo KIM[1] and Jaesung JANG[1]

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[PS0214]
PS-FCT23

Charge Neutralization of Electret Filter by Organic Solvent

Hyun-Jin CHOI[1, 2], Takafumi SETO[2], Mikio KUMITA[2], Hidenori HIGASHI[2], Mizuki TANAKA[2], Hiroshi TANAKA[3], Toshiaki HAYASHI[4], Yoshio OTANI[2]*

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[4]*Toyobo Co., Ltd., Japan*

[PS0210]
PS-FCT24

Generation of CNF Test Aerosol with Super-Jet Mill

Yoshio OTANI[1], Naoya MORIOKA[1]*, Hiroyuki AMANO[2], Hidenori HIGASHI[1], Mikio KUMITA[1] and Takafumi SETO[1]

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[2]*Sinto Kogio Ltd., Japan*

[PS0038]
PS-FCT25

Inactivation of an Airborne Virus by an Ozone Free Vacuum Ultraviolet Photocatalyst

Jeonghyun KIM[1] and Jaesung JANG[1]*

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Health Related Aerosols

[PS0503]
PS-HRA01

Atmospheric Concentrations of Respirable Crystalline Silica During Part of the Yellow Dust Storm Periods

Boowook KIM[1]*

[1]*Occupational Lung Disease Institute, Republic of Korea*

[PS0480]
PS-HRA02

Assessment of Formaldehyde Concentration in the Paints for Auto-Vehicle

Won-Seok CHA[1]*

[1]*Korea Worker's Compensation & Welfare Service, Republic of Korea*

Health Related Aerosols

[PS0479]
PS-HRA03

Study on the Behavioral Intention of the Action of Fine Suspended Particles in Science and Technology University and Its Related Factors

Wang-Kun CHEN[1]*, Gwo-Liang YE[1], Chie-Chien TSENG[1] and Yi-Ching TSAI[1]

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[PS0474]
PS-HRA04

Real-time Measurement of Fibers Using an HY-Differential Mobility Analyzer with an Optical Particle Counter(KOFAM)

Hyunwook KIM[1], Sungwon CHOI[2]*, Kwangmyung JANG[1] and Kyunghoon PARK[1]

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[PS0439]
PS-HRA05

Urban Inversion Layer and Air Pollutions

Gyulim KANG[1]* and Hyunjung CHOI[1]

[1]*Korea Science Academy of KAIST, Republic of Korea*

[PS0334]
PS-HRA06

Development of Eye-Only Exposure Chamber for Environmental Eye disease Research

Jaeseong YI[1]*, Sehyun HAN[1], Hyunsoo LEE[2], Jeongwon SEO[3] and Kijoon JEON[1]

[1]*Inha University, Republic of Korea*
[2]*The Catholic University of Korea, Republic of Korea*
[3]*Hallym University, Republic of Korea*

[PS0299]
PS-HRA07

Development of In-Vivo and In-Vitro Techniques for the Identification of Mechanism in Environmental Eye Disease Caused by Exposure of Fine Particles (PM10, PM2.5)

Ki-Joon JEON[1], Sehyun HAN[1]*, Jong-Sang YOUN[1], Soon-Jo KWON[1], Hyun-Soo LEE[2], Jungwon SEO[3] and Se-Joon PARK[4]

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[2]*The Catholic University of Korea, Republic of Korea*
[3]*Hallym University, Republic of Korea*
[4]*Myongji University, Republic of Korea*

[PS0173]
PS-HRA08

Oxidative Potential of Biomass Burning Particles Under Different Burning Stages

Kihong PARK[1], Bhuwan PAUDEL[1], Seojong KIM[1], Lucille Joanna BORLAZA[1]* and Hungsoo JOO[1]

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[PS0172]
PS-HRA09

Oxidative Potential and Chemical Characteristics of Ambient PM2.5 Collected from Various Sites in the Philippines

Lucille Joanna BORLAZA[1]*, Kihong PARK[1], Melliza CRUZ[2] and James SIMPAS[2]

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[2]*Manila Observatory, Philippines*

[PS0152]
PS-HRA10

Relationship Between Airborne Markers and Biomarkers for Secondhand Smoke Exposure of Non-Smoking Staffs in Hospitality Venues

Jeonghoon KIM[1]*, Kiyoung LEE[2], Ho-Jang KWON[3], Do Hoon LEE[4], Kil-Yong CHOI[1], Chae-Bong KIM[1], Eunsun LEE[1] and Kyoosang KIM[1]

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[2]*Graduate School of Public Health, Seoul National University, Republic of Korea*
[3]*Dankook University College of Medicine, Republic of Korea*
[4]*National Cancer Center, Republic of Korea*

Health Related Aerosols

[PS0147]
PS-HRA11

Relationship Between the Air Pollutant and Atopic Dermatitis: Systematic Review and Meta Analysis

Chaebong KIM[1]*, Kyoosang KIM[1], Yongmin CHO[2] and Minkyung HAN[3]

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[2]*Smartive Coporation Institute, Republic of Korea*
[3]*Yonsei University, Republic of Korea*

[PS0119]
PS-HRA12

Assessing Uncertainty in Estimating the Health Impact of Fine Particulate Matters

Sun Kyoung PARK[1]*

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[PS0079]
PS-HRA13

Exposure Assessment of Particulate and Gaseous Pollutants Emitted from Surgical Practice in a Hospital

Hsiao-Chi CHUANG[1]*, Ta-Chih HSIAO[2], Tzu-Ting YANG[3], Kai-Jen CHUANG[4], Yang-Hwei TSUANG[5]

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[2]*Graduate Institute of Environmental Engineering, National Central University, Taoyuan, Taiwan*
[3]*Department of Environmental Engineering and Health, Yuanpei University of Medical Technology, Hsin Chu, Taiwan*
[4]*School of Public Health, College of Public Health and Nutrition, Taipei Medical University, Taipei, Taiwan*
[5]*Department of Orthopedics, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan*

[PS0033]
PS-HRA14

Development of the High Volume Simultaneous Sampler for Fine and Coarse Aerosol Particles Using a Combination of Virtual Impactor and Multi-Cyclone

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Incineration and Combustion Aerosols

[PS0398]
PS-ICA01

Measurement of Physicochemical Properties of PM2.5 Produced from Biomass Burning

KwangYul LEE[1]*, Shila MASKEY[1], Arom SEO[1], Lucille BORLAZA[1], Min-Suk BAE[2] and Kihong PARK[1]

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[2]*Mokpo National University, Republic of Korea*

[PS0379]
PS-ICA02

The Characteristics of Particulate Matter from Industrial Facilities Using Solid Fuel

Keewon JANG[1]*, Seungyoung LIM[1], Sunhwa HEO[1], Hyungchun KIM[1], Sangbo LEE[1] and Daeil KANG[1]

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[PS0249]
PS-ICA03

Using Magnetic Tube to Reduce PAH Emissions from a Diesel Engine Generator

Lin-Chi WANG[1]*, Chia-Yang CHEN[2], Wen-Jhy LEE[2] and John MWANGI[1]

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[2]*National Cheng Kung University, Taiwan*

[PS0245]
PS-ICA04

Using Waste Cooking Oil as Auxiliary Fuel to Reduce PCDD/F Emissions from a Hazardous Waste Incinerator

Lin-Chi WANG[1]*, Chia-Yang CHEN[2], Wen-Jhy LEE[2], Jhong-Lin WU[2] and Sheng-Lun LIN[1]

[1]*Cheng Shiu University, Taiwan*
[2]*National Cheng Kung University, Taiwan*

Incineration and Combustion Aerosols

[PS0224] PS-ICA05	**Light Absorption Characteristics of Water-Soluble Organic Aerosols from Size-Resolved Biomass Burning Smoke Emissions** Jaemyeong YU[1]* and Seungshik PARK[1] [1]*Chonnam National University, Republic of Korea*
[PS0168] PS-ICA06	**Experimental Investigation of Cavitation Effect of Diesel Atomization** Jiaping FENG[1]*, Sang In CHOI[1], Ho Suk SEO[2] and Young Min JO[1] [1]*Kyunghee University, Republic of Korea* [2]*Easy Power Tec Co., Ltd., Republic of Korea*
[PS0166] PS-ICA07	**Cavitation Effects for Split of Diesel Fuel** Sang In CHOI[2]*, Mi Jeong PARK[2], Dong Won JEONG[2], Ho Suk SEO[1] and Young Min JO[2] [1]*Easy Power Tec Co., Ltd., Republic of Korea* [2]*Kyunghee University, Republic of Korea*

Indoor Aerosols

[PS0513] PS-IA01	**Prediction of the PM10 Concentration in Subway Station Using Deep Learning Method** Minhae KIM[1]*, Sechan PARK[1], Hyeong-Gyu NAMGUNG[2] and Soon-Bark KWON[2] [1]*University of Science and Technology, Republic of Korea* [2]*Korea Railroad Research Institute, Republic of Korea*
[PS0510] PS-IA02	**Characteristics of Nanoparticle Generation in Monochrome and Color Output** Hyeong-Gyu NAMGUNG[1]*, Sechan PARK[1], Minhae KIM[1] and Soon-Bark KWON[1] [1]*Korea Railroad Research Institute, Republic of Korea*
[PS0499] PS-IA03	**Effect of Mold Exposure During Pregnancy on the Development of Offspring's Atopic Dermatitis** Sung Chul SEO[1], Ji Tae CHOUNG[1], Kilyong CHOI[1]* and Young YOO[1] [1]*Anam, Korea University, Republic of Korea*
[PS0498] PS-IA04	**Evaluation System for Indoor Environment for Evacuation Study** Shigeru KIMOTO[1]*, Yoshiro SADATANI[1], Koichi KINOSHITA[2], Yuya UCHIYAMA[2], Yasuto MATSUI[1] and Minoru YONEDA[1] [1]*Kyoto University, Japan* [2]*Tokyo Dylec Corp., Japan*
[PS0470] PS-IA05	**Ventilation to Reduce Pollutant Exposures from a Residential Natural Gas Stove** Yu-Cheng CHEN[1]* and Chin-Yu HSU[1] [1]*National Health Research Institutes, Taiwan*
[PS0464] PS-IA06	**Air Cleaning Performance of an Electrostatic Air Cleaning Device Using Activated Carbon Fiber Filter** Giteak LIM[1]* [1]*Korea Institute of Machinery & Materials, Republic of Korea*

Indoor Aerosols

[PS0458] PS-IA07	**Indoor Air Quality Analysis of Particle Matters and Volatile Organic Compounds in Malaysia** Yasuto MATSUI[1]*, Nobumitsu SAKAI[1], Shigeru KIMOTO[1] and Minoru YONEDA[1] [1]*Kyoto University, Japan*
[PS0456] PS-IA08	**Observation Of Particles In a Chamber Using PIV** Yoshiro SADATANI[1]*, Shigeru KIMOTO[1], Nobuyuki KATO[2], Yasuto MATSUI[1] and Minoru YONEDA[1] [1]*Kyoto University, Japan* [2]*National Institute of Occupational Safety and Health, Japan*
[PS0444] PS-IA09	**Short-Term Exposure to Indoor PM2.5 and Particle Number Concentrations for Passengers at Two Intercity Bus Terminals in Taipei City** An-Chi LI[1]* and Yu-Hsiang CHENG[1] [1]*Ming Chi University of Technology, Taiwan*
[PS0433] PS-IA10	**Species Profiles of Indoor Volatile Organic Compounds and Their Concentration Levels at Two Intercity Bus Terminals in Taipei City** Gu-Wei YEN[1]* and Yu-Hsiang CHENG[1] [1]*Ming Chi University of Technology, Taiwan*
[PS0408] PS-IA11	**Comparison Between AHAM CADR and CA Clean Air Delivery Rate of Indoor Air Cleaner** Keejung HONG[1]* [1]*Korea Institute of Machinery & Materials, Republic of Korea*
[PS0207] PS-IA12	**Characterization of Ultrafine Particles Emitted from a Fixing Unit of Laser Printers** Nishino YUKI[1]* [1]*Kogakuin University, Japan*
[PS0206] PS-IA13	**Collection of Ultrafine Particles Using Droplets Atomized by Ultrasonic Irradiation** Nishishita KIMITO[1]* [1]*Kogakuin University, Japan*
[PS0151] PS-IA14	**The Exposure of Surgeons to Volatile Organic Compounds in Electrosurgical Smoke Resulted from Surgeries** Yaw-Huei HWANG[1]*, Nai-Yun CHENG[1], Hsiao-Chi CHUANG[2] and Ruei-Hao SHIE[3] [1]*College of Public Health, National Taiwan University, Taiwan* [2]*Green Energy & Environmental Research Laboratories, Industrial Technology Research Institute, Taiwan* [3]*School of Respiratory Therapy, Taipei Medical University, Taiwan*
[PS0005] PS-IA15	**Characteristics of Particulate Matter Concentrations in an Office Building During Different Time Periods** Y.H. CHENG[1,]* and G.W. YEN[1] [1]*Department of Safety, Health and Environmental Engineering, Ming Chi University of Technology, Taiwan*

Instrumentation and Measurement

[PS0506]
PS-IM01

A Novel Miniature Inverted Burner for the Steady Generation of Soot Particles

Jason OLFERT[1]*, Mohsen KAZEMIMANESH[1] and Jordan TITOSKY[1]

[1]*University of Alberta, Canada*

[PS0466]
PS-IM02

Universal Spot Sampler: A New Approach with Unlimited Possibilities for the Chemical Characterization of Ambient Aerosols

Arantzazu EIGUREN[1]*, Patricia KEADY[2], Gregory LEWIS[1] and Susanne HERING[1]

[1]*Aerosol Dynamics Inc., USA*
[2]*Aerosol Devices Inc., USA*

[PS0465]
PS-IM03

An On-line Monitor of the Oxidative Capacity of Airborne Particulate Matter (o-MOCA)

Nathan KREISBERG[1], Susanne HERING[1] and Arantzazu EIGUREN[1]*

[1]*Aerosol Dynamics Inc., USA*

[PS0457]
PS-IM04

Online Measurement of Trace Multi-Elemental Aerosols Using Inductively Coupled Plasma Time-of-Flight Mass Spectrometry and X-ray Fluorescence Spectroscopy

Hiroyuki HAGINO[1]*, Martin TANNER[2], Olga BOROVINSKAYA[2], Toshihide HIKITA[3], Akio SHIMONO[4], Kohei NISHIGUCHI[5] and Yusuke MIZUNO[6]

[1]*Japan Automobile Research Institute, Japan*
[2]*Tofwerk, Switzerland*
[3]*Shoreline Science Research, Japan*
[4]*Science Research, Japan*
[5]*J-SCIENCE LAB, Japan*
[6]*Horiba, Japan*

[PS0450]
PS-IM05

Need of a High-Volume PM2.5 Sampler for Performing Better Gravimetric Measurements and Chemical Analyses

S.G. AGGARWAL[1], P. PATEL[1], C.J. TSAI[2], D. SONI[1], K. SINGH[1], T. OKUDA[3]*, R.K. KOTNALA[1], V.N. OJHA[1] and D.K. ASWAL[1]

[1]*CSIR-National Physical Laboratory, New Delhi 110012, India*
[2]*Institute of Environmental Engineering, National Chiao Tung University, Hsinchu 30010, Taiwan*
[3]*Department of Applied Chemistry, Keio University, Yokohama 223-8522, Japan*

[PS0437]
PS-IM06

Experimental Method to Evaluate Malfunction of SMPS Using ESP

Yun-Haeng JOE[1]*, Joonmok SHIM[1] and Hyun-Seol PARK[1]

[1]*Korea institute of energy research, Republic of Korea*

[PS0426]
PS-IM07

Development of On-Line Heavy Metal Analyzer Using X-ray Fluorescence Spectrometry

Mijin CHOI[1]*, Gwanhoon YOON[1], Sungchan KIM[1], Wonhee HAN[1], Myeongbok KIM[1] and Geunsung PARK[1]

[1]*APM Engineering Co., Ltd., Republic of Korea*

[PS0419]
PS-IM08

Nanoparticles Release Test from Nanoproducts Using a Chamber System

Gun Ho LEE[1]*, Hong Ku LEE[1], Hee Ram EUN[1], Yong Hee PARK[1], Il Je YU[2] and Kang-Ho AHN[1]

[1]*Hanyang University, Republic of Korea*
[2]*Hoseo University, Republic of Korea*

Instrumentation and Measurement

[PS0418] PS-IM09	**Atmospheric Aerosol Measurement Using Tethered Balloon Package System (TBPS)** Yonghee PARK[1]*, Hongku LEE[1], Gunho LEE[1], Heeram EUN[1], Heesang KIM[1], Wooyoung KIM[1], Jaehyeok BAE[1] and Kang-Ho AHN[1] [1]*Hanyang University, Republic of Korea*
[PS0411] PS-IM10	**Application of Laser Induced Breakdown Spectroscopy for Real Time Detection of Contamination Particles in Industrial Fabrication Process.** Hae Bum LEE[1]*, Hyunok MAENG[1], Gibaek KIM[1], Kyoungtae KIM[1] and Kihong PARK[1] [1]*Gwangju Institute of Science and Technology, Republic of Korea*
[PS0407] PS-IM11	**Development of a Triggering-Laser Induced Breakdown Spectroscopy (LIBS) System for Real-Time Detection of Elements in a Single Particle** Hyunok MAENG[1]*, Hoseung CHAE[1], Heesung LEE[1], Gibaek KIM[1], Haebum LEE[1], Kyoungtae KIM[2], Jihyun KWAK[1], Gangnam CHO[1] and Kihong PARK[1] [1]*GIST, Republic of Korea* [2]*Samsung Electronics, Republic of Korea*
[PS0381] PS-IM12	**Development of PM2.5 Organic and Elemental Carbon Analyzer** J.H. KANG[1], Y.D. KIM[1]*, M.E. KIM[1], J.Y. LEE[1], J.S. JUNG[1], S. LEE[1] [1]*Korea Research Institute of Standards and Science, Republic of Korea*
[PS0371] PS-IM13	**Extending the Use of 1nm-Growth Enhancers to a Wider Range of CPCs** Axel ZERRATH[1]*, Jacob SCHECKMAN[1], Juergen SPIELVOGEL[2] and Andrea TIWARI[1] [1]*TSI Inc., USA* [2]*TSI GmbH, Germany*
[PS0358] PS-IM14	**Investigation of Process Mediated Particle Characteristics Using PBMS** Dongbin KIM[1]*, Hyeongu KIM[2], Ju-Young YUN[3], Sang-Woo KANG[3] and Taesung KIM[1] [1]*Mechanical Engineering, Sungkyunkwan Univ., Republic of Korea* [2]*Sungkyunkwan Advanced Institute of Nano Technology, Sungkyunkwan Univ., Republic of Korea* [3]*Vacuum Center, Korea Research Institute of Standards and Science, Republic of Korea*
[PS0325] PS-IM15	**High Spatial Resolution Aerosol Lidar with a Multispectral Detector** Masanori YABUKI[1]*, Fumiya KITAFUJI[1] and Toshitaka TSUDA[1] [1]*Research Institute for Sustainable Humanosphere, Kyoto University, Japan*
[PS0257] PS-IM16	**Study on Particulate Collecting Efficiency and Jet to Sintering Filter Distance of Inertial Impactor** C.H. HUANG[1]* and I.C. WANG[1] [1]*Yuanpei University of Medical Technology, Taiwan*
[PS0208] PS-IM17	**Development of a Downsized Virtual Impactor for PM2.5/10 Mass Concentration Measurements for Stack Samplings** Sho OKAMOTO[1]* [1]*Kogakuin University, Japan*
[PS0160] PS-IM18	**Aerosol Temperature and Humidity Effects of the Evaporation Loss of PM2.5 Water Soluble Inorganic Ions from Filter Samplers** Pei-Yun SHIH[1], Chuen-Jinn TSAI[1], Thi Cuc LE[1]* and Sneha GAUTAM[1] [1]*National Chiao Tung University, Taiwan*

Materials Processing

[PS0487] PS-MP01	**The Reduction of Nickel Oxide in the Hydrogen Reduction Fluidized Bed Reactors** Jae Rang LEE[1]*, Naim HASOLLI[1], Seong Min JEON[1], Kang San LEE[1], Kwang Deuk KIM[1] and Young Ok PARK[1] [1]*Korea Institute of Energy Research, Republic of Korea*
[PS0486] PS-MP02	**Enhanced Antimicrobial Efficacy of Thermal-Reduced Silver Nanoparticles Supported by Titanium Dioxide** Wan-Tien SHEN[1]* [1]*National Yang-Ming University Institute of Environmental and Occupational Healt, Taiwan*
[PS0452] PS-MP03	**Consideration of Simulation Parameters on the Ball Motion in a Ball Milling Process by Discrete Element Method (DEM)** Heekyu CHOI[1]* [1]*Changwon National University, Republic of Korea*
[PS0432] PS-MP04	**Development of Beneficiation Process for Securing Rare Earth Elements (REE), Titanium and Zircon Minerals from Placer Deposit Developed in Korea** Joobeom SEO[1]*, Fausto MOSCOSO PINTO[2], Yong Jun AHN[1], In-Kook BAE[1] and Hyung-seok KIM[1] [1]*Korea Insitute of Geoscience and Mineral Resources (KIGAM), Republic of Korea* [2]*Korea Insitute of Geoscience and Mineral Resources (KIGAM), University of Science and Technology (UST), Republic of Korea*
[PS0295] PS-MP05	**Extraction of Ash-free Coal From Various Types of Biomass by Solvent Extraction** Juhong CHUN[1], A Hyun KANG[1]*, Chengguo LI[1], Raihan CHOUDHURY[1] and Donggeun LEE[1] [1]*School of Mechanical Engineering, Pusan National University, Republic of Korea*
[PS0272] PS-MP06	**Study on Particle Collection by the Thermophoretic Effect in Flame Aerosol Reactor** Hyuksang CHANG[1]* and Moonhyeok SEO[1] [1]*Yeungnam University, Republic of Korea*
[PS0157] PS-MP07	**Numerical and Experimental Studies of Znic Oxide Nanoparticle Formation in a Quenching Chemical Vapor Synthesis Reactor** Yi-Ling LIU[1]*, Chuen-Jinn TSAI[1], Feng JIA[1] and Yu-Ling SHIH[1] [1]*National Chiao Tung University, Taiwan*
[PS0122] PS-MP08	**Mineral CO2 Sequestration by Steel Slag and Serpentine Carbonation** Seung-Woo LEE[1], Soochun CHAE[1]* and Jun-Hwan BANG[1] [1]*Korea Institute of Geoscience and Mineral Resources, Republic of Korea*
[PS0105] PS-MP09	**Inhibition of Coalescence of Carbide Grains Using Premixed Powder** Hanjung KWON[1]* [1]*Korea Institute of Geoscience and Mineral resources, Republic of Korea*

Micro and Nanotechnology

[PS0496]
PS-MN01

A Study on the Fabrication of Spheroidized Alumina Particles by Transferred Arc Plasma System

Jung Hyeun KIM[1], Dongho PARK[1], Jungho SONG[1]* and Byungkwon KIM[1]

[1]*University of Seoul, Republic of Korea*

[PS0268]
PS-MN02

Improvement of Degradation Performance for Organic Pollutants in Water Using Ultrasonic Atomization and Reaction on Mist Surface

Yusei ONO[1]*, Kazuhiko SEKIGUCHI[1] and Kenshi SANKODA[1]

[1]*Saitama University, Japan*

[PS0265]
PS-MN03

Unipolar Charging of Aerosol by Surface-Discharge Microprasma

Ryoki ITO[1]*, Takafumi SETO[1] and Yoshio OTANI[1]

[1]*Kanazawa University, Japan*

[PS0115]
PS-MN04

High Efficiency of CH4 and H2 by Reducing Waste Water Using a Non-Diaphragm-Based Electrochemical Method

Hong Seok JIN[1]*

[1]*Kumoh National institute of Tecnology, Republic of Korea*

Nanoparticles and Materials

[PS0518]
PS-NM01

Effect of the Diffusive Force on the Accuracy of the Aerosol Particle Mass Analyzer

BoXi LIAO[1]*, Neng-Chun TSENG[1], Chun-Wan CHEN[2], Shi-Nian UANG[2], Cheng-Yao CHEN[2] and Chuen-Jinn TSAI[1]

[1]*National Chiao Tung University, Taiwan*
[2]*Occupational Safety and Health, Ministry of Labor, Taiwan*

[PS0514]
PS-NM02

Characteristics of New Particle Formations at Four Sites in and Around the Seoul Metropolitan Area in Korea During KORUS-AQ Campaign

Jisoo PARK[1]*, Yongjoo CHOI[1], Pilho KIM[1], Young Sung GHIM[1], Young-Kyo SEO[2], Jin-Young CHOI[2], Young Jae LEE[2], Dan Bi KIM[2], You-Deog HONG[2], Kitai KANG[3] and Hyeok CHUNG[3]

[1]*Hankuk University of Foreign Studies, Republic of Korea*
[2]*National Institute of Environmental Research, Republic of Korea*
[3]*ART PLUS Co., Ltd, Republic of Korea*

[PS0509]
PS-NM03

Analysis of Nano-Particle Generation from Railway Braking

Sechan PARK[1]*, Hyeong-Gyu NAMGUNG[1], Minhae KIM[1] and Soon-Bark KWON[1]

[1]*KRRI, Republic of Korea*

[PS0501]
PS-NM04

Synthesis of Monodisperse Polystyrene Beads Prepared by Polymerization Process

Seong Hyeon BAEK[1]*, Dahee PARK[1], Sangsun YANG[1], Jei Pil WANG[2] and Jung Yeul YUN[3]

[1]*Powder Technology Deparment, korea institute of materials science(KIMS), Republic of Korea*
[2]*School of material science & Engineering, University of PUKYUNG, Republic of Korea*
[3]*KIMS Materials Research Institute, Republic of Korea*

Nanoparticles and Materials

[PS0477] PS-NM05	**An Experiment on Efficiency Enhancement of an Organic Solar Cell Using Silicon Nanoparticles** Kyung-Hoon YOO[1], Won-Il SONG[1]*, Han-Sol KIM[2], Han-Bin JEONG[2], Jae-Kwan LEE[2], Sang-Ho LEE[1], Jun-Young HWANG[1], Kyung-Tae KANG[1] and Heul-Seok KANG[1] [1]*Korea Institute of Industrial Technology, Republic of Korea* [2]*Chosun University, Republic of Korea*
[PS0476] PS-NM06	**Reduced Desorption of Cesium and Strontium from Montmorillonite-Prussian Blue Hybrid** Kuk CHO[1]*, Husnul Aulia ALAMUDY[1], Jin Su KIM[1], Zeqiu LI[1] and Le Thi Ngoc QUYNH[1] [1]*Pusan National University, Republic of Korea*
[PS0475] PS-NM07	**Preparation, Antibacterial Effect and Application of Silver Nanometer Composites: Taking Hospital Field as Example** Yu-Chiao WU[1]*, Yen-Chi CHEN[1], Wan-Tien SHEN[1] and Kuo-Pin YU[1] [1]*National Yang-Ming University, Taiwan*
[PS0467] PS-NM08	**Vertical Stacking of Aerosol-Based Three-Dimensional Nanostructures for Advanced Optical Applications** Mansoo CHOI[1], Kiwoong LEE[1]*, Hoseop CHOI[2], Dae Seong KIM[1] and Min Seok JANG[3] [1]*Global Frontier Center for Multiscale Energy System, Seoul National University, Republic of Korea* [2]*Samsung Electronics Mechatronic R&D Center, Republic of Korea* [3]*School of Electrical Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea*
[PS0305] PS-NM09	**Surface Properties of Manufactured Carbon Nanotubes(CNTs)** Byeong-Uk YU[1]*, Hyo-Geun CHA[1] and Naroo LEE[1] [1]*Occupational Safety & Health Research Institute, Korea Occupational Safety & Health Agency, Republic of Korea*
[PS0296] PS-NM10	**Microstructure Control of Bi-Component Catalysts Using Corona Discharging : Effects of Charging States in Terms of Polarity and Charge Number** Dongkyo JEONG[1], Youhyun OCK[1], Miji LEE[1]* and Donggeun LEE[1] [1]*Energy System, PNU, Republic of Korea*
[PS0293] PS-NM11	**Numerical Study of Multi-stage Atomization For Producing Liquid Metal Droplets** Junho CHOI[1], Jaebang HAN[1]* and Donggeun LEE[1] [1]*Pusan National University, Republic of Korea*
[PS0282] PS-NM12	**Surface Enhanced Raman Scattering of Si Quantum Dots Coated With Ag Nanoparticles Generated By Laser Ablation** Eisuke OKUCHI[1]*, Mohamed ABD EL-AAL[1], Takafumi SETO[1] and Yoshio OTANI[1] [1]*Kanazawa University, Japan*
[PS0280] PS-NM13	**Synthesis of Monodisperse Si Nanospheres by Laser Ablation** Tatsunori KOOKA[1]*, Taisei HANADA[1], Takafumi SETO[1] and Yoshio OTANI[1] [1]*Kanazawa University, Japan*

Nanoparticles and Materials

[PS0274] PS-NM14

Effect of Aggregation on Heat Conduction in Particulate Composites

Jeonggeon KIM[1]*, Yong-Rak KOO[1] and Donggeun LEE[1]

[1]*Pusan National University, Republic of Korea*

[PS0261] PS-NM15

Exploiting the Colloidal Nanocrystal Library to Construct High Performance Electronic Components

Ji-Hyuk CHOI[1]* and Hee Dong JANG[1]

[1]*KIGAM, Republic of Korea*

[PS0198] PS-NM16

Continuous Self-Assembly Approach for Fresh In Situ Fabrication of Biofunctional Nanocomposites

Jeong Hoon BYEON[1]*

[1]*Yeungnam University, Republic of Korea*

[PS0165] PS-NM17

Enhanced Photocatalytic Activity of TiO2-Ag Nanocomposite Films Prepared via One-step Gas-phase Deposition by Heat Treatment

Dianping JIANG[1]*, K KUSDIANTO[2], Masaru KUBO[1] and Manabu SHIMADA[1]

[1]*Hiroshima University, Japan*

[2]*Hiroshima University, Institut Teknologi Sepuluh Nopember (Indonesia), Japan*

[PS0131] PS-NM18

Synthesis of Micron-Sized Graphene Ball via Hybrid Liquid-Aerosol Process and its Application to Supercapacitors

Taehyeong HA[2]*, Sun Kyung KIM[1], Hankwon CHANG[1] and Hee Dong JANG[1]

[1]*Korea Institute of Geoscience and Mineral Resources, Republic of Korea*

[2]*Sogang University, Republic of Korea*

[PS0130] PS-NM19

Synthesis of Multiwall Carbon Nanotube/Graphene Composite by Aerosol Process and Its Application to Supercapacitors

Chan Mi KIM[1]*, Sun Kyung KIM[2], Chongmin LEE[1], Ji-Hyuk CHOI[2], Hankwon CHANG[2] and Hee Dong JANG[2]

[1]*University of Science and Technology, Republic of Korea*

[2]*Korea Institute of Geoscience & Mineral Resource, Republic of Korea*

[PS0107] PS-NM20

Improvement of Light Scattering Capacity in Dye-Sensitized Solar Cells by Doping with SiO2 Nanoparticles

Jun Yong PARK[1]* and Tae Oh KIM[1]

[1]*Kumoh National Institute of Technology, Republic of Korea*

[PS0103] PS-NM21

Hydrogen Effect on the Synthesis of Silicon Thin Films by Thermal Chemical Vapor Deposition

Woong-Kyu YOUN[1], Nong-Moon HWANG[1] and Chan-Soo KIM[2]*

[1]*Seoul National University, Republic of Korea*

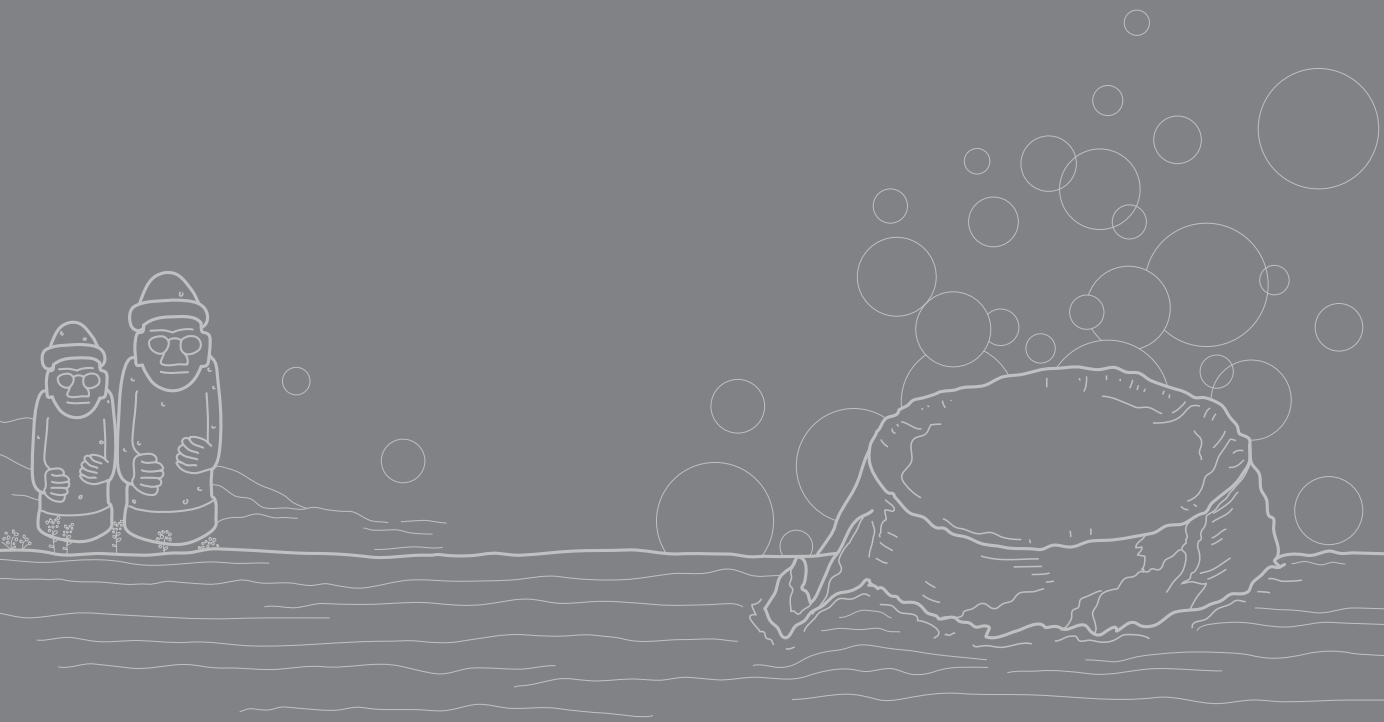
[2]*Korea Institute of Energy Research, Republic of Korea*

Nanoparticles and Materials

[PS0060] PS-NM22	**Synthesis of Porous Fine Particles for SOFC Anode by Citric Acid-Addition Ultrasonic Spray Pyrolysis Method** Yoshiya WADA[1]* [1]*Kansai University, Japan*
[PS0040] PS-NM23	**Synthesis of Vanadium Pentoxide Nanoparticles Supported on Silica Particles in a Flame Reactor** Tomohide KUBO[1]*, Daiki YAMAOKA[1], Kengo MUKAI[1], Yoshiki OKADA[1] and Takuya KINOSHITA[1] [1]*Kansai University, Japan*
[PS0036] PS-NM24	**Formation of Nickel Nanoparticles Exhibiting Non-Sintering** S. MATSUMOTO[1]*, M. NAKAZAWA[1], R. SAWAI[1], T. KINOSHITA[1] and Y. OKADA[1] [1]*Graduate school of Science and Engineering, Kansai University, Japan*
[PS0014] PS-NM25	**Modifying Surface of Magnetic Heating Fine Particles with Polyethylene Glycol for Hyperthermia** K. SUGIHARA[1], T. ONISHI[1], T. KINOSHITA[1]* and Y. OKADA[1] [1]*Department of Chemical, Kansai University, Japan*

AAC 2017
Asian Aerosol Conference 2017

INDEX



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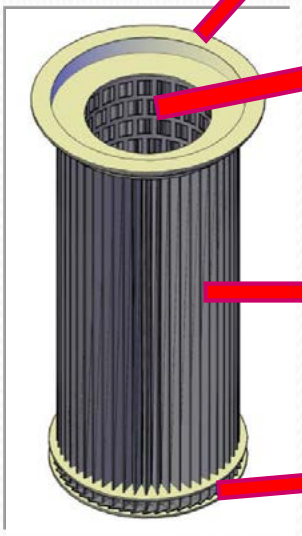
Metal filter

- ▶높은 집진효율과 낮은 압력손실
- ▶우수한 탈진효율
- ▶고온/고압 집진 (400℃/80bar)
- ▶반 영구적인 수명
- ▶소재 재활용 [100% 금속필터]
- ▶대용량 설계-여과 면적 최대 20m2



❖ 상부CAP
- Flange type (편리성/기밀성 향상)
- STS Steel[내구성 향상]

❖ Core
- Media 보호[최대 80bar]
- Stainless Steel
- 공극률 향상 (압력손실 최소화)

❖ Media
- STS Steel
- Pleated type[최대 여과 면적 20m2)

❖ 하부CAP
- STS Steel[내열성 및 내구성 향상)
- 용접 접합 (cap 이탈방지)

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Technology for Manufacturing Graphene Based Energy Storage Materials from Graphite

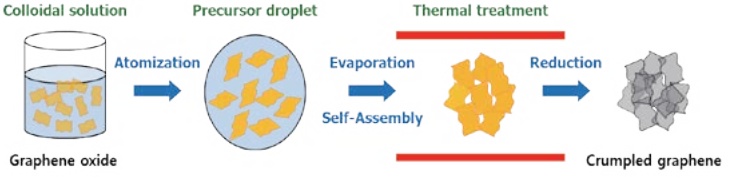
Project Manager: Hee Dong Jang, Ph. D.

Research Objectives

Development of Mass Production Technology of 3D Graphene from Natural Graphite for Energy Storage Materials

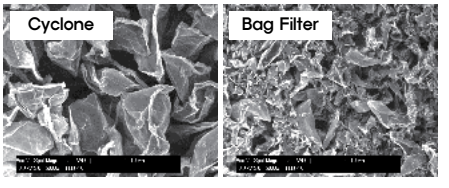
● Background

● Schematic illustration of the formation of 3D graphene from graphene oxide colloidal solution via aerosol spray method

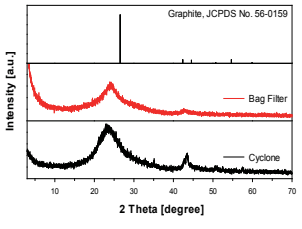


● Pilot-scale aerosol reactor for the mass-production of 3D graphene

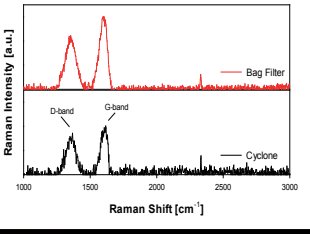
● FE-SEM images



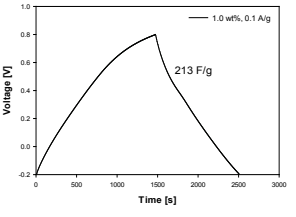
● XRD spectra



● Raman spectra



● Specific capacitance



Korea Institute of Geoscience and Mineral Resources (KIGAM)
Mineral Resources Division
124, Gwahak-ro, Yuseong-gu, Daejeon, 34132, Korea
Tel: +82-42-868-3612; Fax: +82-42-868-3415; E-mail: hdjang@kigam.re.kr

2017년 제8회

공기의 날

2017년 10월 20일(금) **한국프레스센터 국제회의실**

주최/주관 환경부 한국공기청정협회 KOREA AIR CLEANING ASSOCIATION 세계맑은공기연맹 GLOBAL ALLIANCE FOR CLEAN AIR(GACA)

후원 교육부, 서울시, 서울시 보건환경연구원, 국립환경과학원, 한국실내환경학회, 한국대기환경학회, 한국과학기술연구원 한국설비기술협회, 한국그린빌딩협의회, 한국생활환경학회, 한국입자에어로졸학회, 한국환경연합회

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2017년 제8회 공기의 날 기념행사 프로그램

VIP 간담회	09:30 ~ 10:00
기념행사 개막 및 기념사 (환경부장관, 국회의원, 단체장)	10:00 ~ 10:30
공기의날 유공자 포상	10:30 ~ 10:50
공기의날 공모전 시상	10:50 ~ 11:10
공기의날 퍼포먼스	11:10 ~ 11:30
공기의날 주제가 합창 (레인보우 합창단)	11:30 ~ 11:40
기념촬영	11:40 ~
공기의날 국제 심포지움	14:00 ~ 17:00

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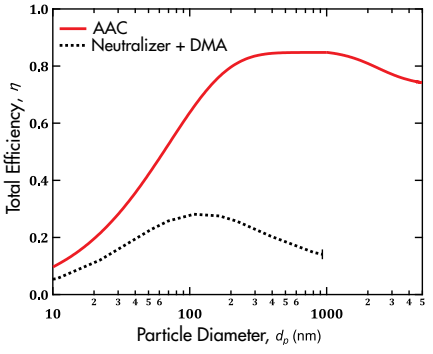
Classification of aerosol particles by their *aerodynamic diameter*...

...without charging

...without a radioactive or X-ray source!

...from 25nm to >5µm

Booth #13 - AAC 2017



"Abstract PS0022, J Symonds, Instrumentation & measurement session 1, ~11:45, Monday 3rd July, Room 401[C]"

Centrifugal Particle Mass Analyzer

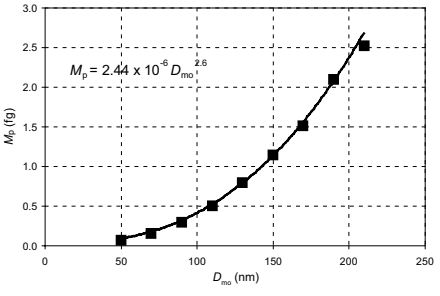
Classification by mass:charge ratio

Forms part of an aerosol mass standard

High throughput, high resolution

Determination of particle density & morphology

Ideal for instrument calibration (e.g. SP2, AMS...)



Carbon/Salt Particle Image Credits:
Nasa/Goddard Space Flight Center

Fast Aerosol Mobility Size Spectrometer

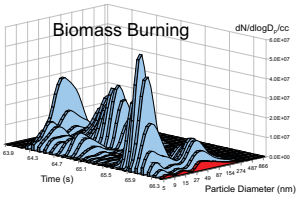
Fastest time response (200 ms $T_{10\text{-}90\%}$ @ 10 Hz)

Widest size range (5 nm – 1 µm or 2.5µm)

Widest concentration range (9 orders)

Best sensitivity...

...amongst fast response particle mobility sizers



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Development of air pollution control technologies in subway tunnels

Subway IAQ Research Corps., Leader of research : Dr. Duckshin Park
(Korea Railroad Research Institute, Uiwang, South Korea)

1 Development of air quality map inside urban subway tunnels and management of air quality at hot spot sections

2 Development of train-mounted fine dust removal technology for urban subway tunnels

3 Development of particulate matter removing vehicle system

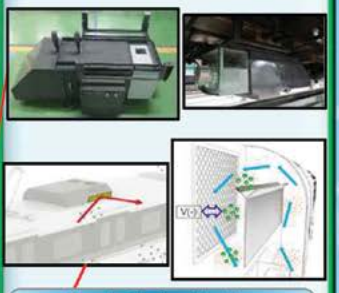
KRRI

Measuring pollutants in the tunnel and Mapping technology

Core technology development

KIST

Mounted on a cabin fine dust reduction technology

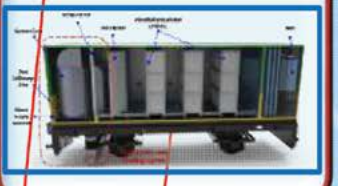


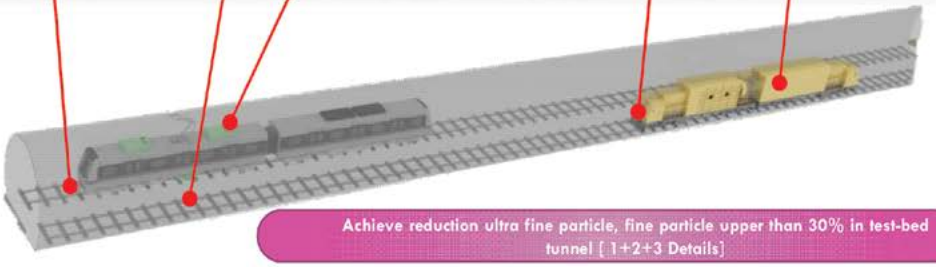
Fine dust influx blocking technology

Seoul Metro

Ultrafine dust collector vehicle development

Ultrafine dust collector technology





Achieve reduction ultra fine particle, fine particle upper than 30% in test-bed tunnel [1+2+3 Details]

This work was supported by research grants for the Railway Technology Research Project from the Ministry of Land, Infrastructure and Transport, Republic of Korea (17RTRP-B082486-04).

KAIA Korea Agency for Infrastructure Technology Advancement

KRRI Korea Railroad Research Institute

KIST Korea Institute of Science and Technology

Seoul Metro

KIMM Air Cleaning Technology

Air Cleaner Test & Evaluation

Clean air delivery rate measurement

Particle collection efficiency test

Deodorization efficiency test

Noise measurement

Energy consumption efficiency rating

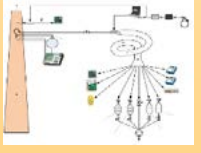
Ozone emission test

Emission Control Technology

ESP for coal-fired power plant

Oil-gas separator

Electrostatic Scrubber for Semiconductor process



Exhaust particle monitoring for coal-fired power plant

ESP for diesel/marine engine emission

Computational Fluid Dynamics

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Series 1000M/A NMCI

NCTU Micro-orifice Cascade Impactor

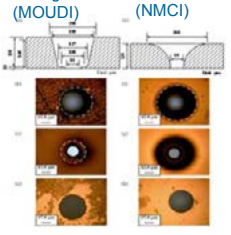
Advantage

- **Patented nozzle design (7th-10th Stage)**
- **All nozzles can be cleaned with an ultrasonic cleaner**
- **Can replace the existing nozzles of the MODUI with new patented nozzles**
- **Each jet-to plate distance of Impactor has been calibrated to obtain highly accurate data**
- **With Semi – Automatic (1000M) and Fully Automatic (1000A) Series**
- **With CE mark**

√ **Win**

Traditional drilling nozzles (MOUDI)

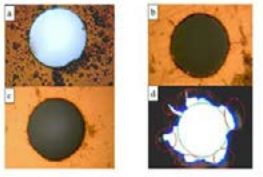
Patented design nozzle (NMCI)



NMCI can be cleaned with an ultrasonic cleaner about 1hr **MOUDI's** nozzles are damaged only 1 minute

√ **Win**

NMCI **MOUDI**



1000M NMCI

1000A NMCI

Series 9000 On-line Analyzer

for $PM_{2.5}$ /Aerosol and Gas

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A State of the Art Device for Continuous Unattended Measurements of Ultrafine Particles

Markus Pesch1, Volker Ziegler2

Abstract

1 Grimm Aerosol Technik Pouch GmbH, Germany
2 GRIMM Aerosol Technik Ainring GmbH & Co.KG, Germany

Keywords: Ultrafine Particles, Air quality network, source apportionment, hot-spot measurements

Although ultrafine particles account only for a little share in the total mass concentration, they are under a cloud of being harmful to health. For this reason an additional monitoring of this particle fractions´ exposure is absolutely necessary. First steps of continuous measurements of ultrafine particles have already been realized in high sophisticated systems like the Grimm EDM665 Wide Range Aerosol Spectrometer. Due to the temporal resolution of the integrated mobility spectrometer (SMPS) as well as it comparatively high costs it does not focus on area-wide monitoring of ultrafine particles. A more competitive alternative for measuring the particle ambient exposure of ultrafine particles with high temporal resolution (1 second) is the combination of special environmental Condensation Particle Counter (CPC) in combination with a well-established Nafion drying system and an air conditioned mini-shelter.

[1] Ref.: Review of evidence on health aspects of air pollution – REVIHAAP project: final technical report. Hrsg.: World Health Organisation, Regional Office Europe, Kopenhagen, Dänemark (2013)
[2] Birmili, W., Rückerl, R., Hoffman, W., Weinmayer, G., Schins, R., Kuhlbusch T.A.J., Vogel, A., We-ber, K., Franck, U., Cyrys, J., Peters, A.: Ultrafeine Partikel in der Außenluft: Perspektiven zur Aufklä-rung ihrer Gesundheitseffekte. Gefahrstoffe Reinhaltung der Luft 74 (2014) Nr. 11/12.
[3] Peters, A.; Wichmann, H. E.; Tuch, T.; Heinrich, J.; Heyder. J.: Respiratory effects are associated with the number of ultrafine particles. Am. J. Respir. Crit. Care Med. 155, Nr. 4, (1997) S.1376-1383

Smart Air Quality Network, the measurement network for the future

V.Ziegler [1], Dr.M.Pesch [2]

Abstract

[1] GRIMM Aerosol Technik Ainring GmbH & Co.KG, Germany
[2] GRIMM Aerosol Technik Pouch GmbH, Germany

Keywords: Alternative Measurement Network, Instrumentation, Low Cost Sensor, Algorithm

Air Quality and with this, subjective and health related life quality, is one of the biggest topics of modern cities and developing countries in our time. For many regions and cities it is difficult to take action regarding air quality in mobility, residential or working areas, because there is no fine-meshed and profound database available for making in time the right decisions.
Although the necessary basic data as well as the measurement principles would be available, the platform for connection and the strategy for combination of the data to get a profound decision base is still missing.
SmartAirQualityNetwork shall be a very pragmatic and data driven attempt in which all available data for the first time will be combined with mobile measurements into an integrated measurement strategy.
With the connection and combination of open data sources like metrology, official data as well as research data, city development plans, remote sensing of influencing factors, comprehensive coverage with ultra-low-cost-Sensors, “scientific scouts”, demand-oriented usage of UAVs together with methods of real-time-modelling and analyzing, a new measurement and analyzing concept will be developed.

Corresponding author: vz@grimm-aerosol.com
Founding: mFUND / BMVI; Cooperation partners: Karlsruher Institut für Technologie (KIT-TECO), Karlsruhe; Karlsruher Institut für Technologie (KIT-IMK-IFU), Garmisch-Partenkirchen; Aerosol Akademie e.V., Pouch; Helmholtz Zentrum München, Neuherberg; Universität Augsburg, Augsburg

GRIMM Aerosol Technik, a member of the Durag Group, is one of the worldwide leading companies in the field of high-tech aerosol measurement instrumentation due to its innovations and quality manufacturing. We determine particle number and particle size as well as particle mass distribution.

The company is developing and manufacturing devices from portable handheld spot measurements to complete stationary systems.

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- Particle Counters for Filter Efficiency Tests
- Aerosol Generators

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미래창조과학부 글로벌프런티어사업

(재)멀티스케일 에너지 시스템 연구단

Global Frontier Center for Multiscale Energy Systems

1 Objective of Research

•To develop new technology for solar and molecular energy as an alternative to fossil fuels by implementing an innovative approach for highly efficient multiscale future energy systems
•To create a new scientific blended technology based on multi-scale energy research

2 Research Overview

•**Research Period:** 2011. 9 ~ 2020. 8 (9 years)
•**Annual Research Budget:** about USD 10 millions
•**Participating institution:** SNU, UNIST, KAIST, Hanyang U, KIMM, Sogang U, Yonsei U, SKKU, KIST, POSTECH, KIRCT, Korea U, U of Pittsburgh, U of Seoul, DGIST

•**Participants:** 400 researchers per year

3 Research content

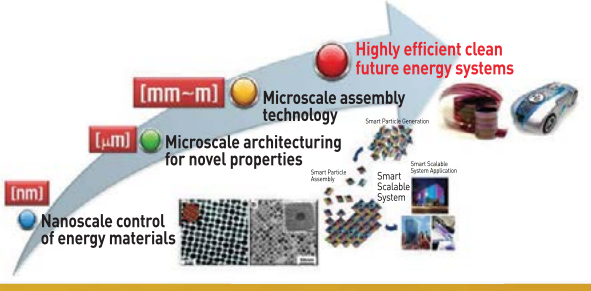
⊙To develop a multi-scale architecturing technology that integrates nano, micro and macroscales
⊙To build a new concept of solar and molecular energy convergence systems

4 Strategy

⊙To build a non-profit organization that performs four core research projects
⊙To secure world-class technology based on the values of challenge, convergence, and openness
⊙To build a global evaluation system through peer review process from international counseling advisors
⊙To accommodate moving targets; future target to be subject to change and be upgraded according to technological and social environment developments

5 Director

Director Mansoo Choi is a professor in mechanical engineering at Seoul National university (SNU). He received his BS and MS degrees in mechanical engineering from Seoul National University (SNU), in 1980, 1982 respectively and PhD degrees from University of California, Berkeley, in 1987. He became a director of Global Frontier Center for Multiscale Energy systems in 2011 and has been leading the center to develop new concept solar and fuel cells employing multiscale approach.



글로벌탑 환경기술개발사업

그린패트롤 측정기술개발사업단

초미세먼지 측정기술장비개발

Ultra Fine Particle Measurement Technology Equipment Development

◆연구목적

1. 초미세먼지 입경 별 수 농도 및 질량농도를 신속하게 측정할 수 있는 실시간 초소형 초미세먼지 측정 기술 필요
2. 초미세먼지를 측정하는 장치를 고속 이동 시스템(UAV, 차량, 지하철 등)에 탑재할 수 있는 시스템의 개발이 필요

◆연구개요

1. 연구기간 : 2014.12 ~ 2018.04 (40개월)
2. 연구예산 : 7,794,000,000원
3. 총괄책임자 : 안강호
4. 참여기관 : KENTEK, 순천향대학교 SOON CHUN HYANG UNIVERSITY, KRISS 한국표준과학연구원, HCTM CO.,LTD., Blue System, scinco, 3S SOLUTION

◆기대효과

1. 기술적효과
   - 초미세먼지 계측에 대한 우리나라 전반적인 기술 수준 향상
2. 산업, 경제적 효과
   - 외화 절감 & 반도체 및 디스플레이 산업, 자동차 산업 등 여러 산업 분야에서의 비용절감을 통한 제품의 가격 경쟁력 도모
   - 중국 시장 진출로 해외 진출의 교두보 역할 기대
3. 환경적 효과
   - 환경 분야에서의 대 국민 서비스 향상에 크게 기여
   - 효과적인 대기오염관리 정책 수립, 국민 삶의 질 향상에 기여

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- Application of anti-corrosion technology.
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- Minimum operating cost
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- Perfect treatment of fine powder and harmful white smoke.
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구석구석더멀리 순수한공기를보냅니다

지금까지의 공기청정기에 없던 새로운 움직임이 시작됩니다
클린부스터가 순수한 공기를 집안 곳곳 멀리까지 보냅니다

퓨리케어만의 신개념 청정시스템

클린부스터
방향을 움직이며
순수한 공기를
구석구석 멀리까지
내보내다

360° 청정
360도 사방에서
오염된 공기를
흡입하다

공기청정기의 새로운 움직임
LG PuriCare™
360° 공기청정기