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IMPORTANT INFORMATION

REGISTRATION HOURS

Friday, September 8 . . . . . .7:30 am – 11:00 am
(History Symposium Registration)
Saturday, September 9 . . . . . .7:30 am – 11:00 am
(History Symposium Registration)
Saturday, September 9 . . . . . .5:00 pm – 9:00 pm
Sunday, September 10 . . . . . .7:00 am – 8:00 pm
Monday, September 11 . . . . . .7:00 am – 6:30 pm
Tuesday, September 12 . . . . . .7:00 am – 5:30 pm
Wednesday, September 13 . . . . . .7:00 am – 5:30 pm
Thursday, September 14 . . . . . .7:00 am – 4:00 pm
Friday, September 15 . . . . . .7:00 am – 2:00 pm

EXHIBIT HOURS

Sunday, September 10 . . . . . .12:00 pm – 5:00 pm (Set-up)
. . . . . .5:00 pm – 8:00 pm
Monday, September 11 . . . . . .9:00 am – 8:00 pm
Tuesday, September 12 . . . . . .9:00 am – 3:30 pm
Wednesday, September 13 . . . . . .9:00 am – 5:30 pm
Thursday, September 14 . . . . . .9:00 am – 3:00 pm

PLATFORM SESSIONS

A platform session is based on a submitted and approved abstract. Each oral presentation is limited to 20 minutes, including time for questions, and should be accompanied by PowerPoint presentations. No other visual equipment (overhead projectors, slide projectors, etc.) will be provided.

POSTER SESSIONS

Poster Session 1 and Continental Breakfast
Tuesday, September 12
9:20 am – 11:00 am

Poster Session 2 and Continental Breakfast
Thursday, September 14
9:20 am – 11:00 am

A poster in the poster session is based on a submitted and approved abstract. The size of a poster can not exceed 4 feet by 4 feet. Posters will be located in the Great River Ballroom and Garden Court East and West located in the Crowne Plaza St. Paul Riverfront . There are two poster sessions during which alternating authors will present their posters and be available for discussions.

POSTER SESSION VIEWING TIMES

Sunday, September 10
Exhibits and Poster Preliminary Viewing and Welcome Reception
6:00 pm – 8:00 pm

Monday, September 11
Posters Open
9:00 am – 8:00 pm

Tuesday, September 12
Posters Open
9:00 am – 3:30 pm
Poster Session and Continental Breakfast
9:20 am – 11:00 am

Wednesday, September 13
Posters Open
9:00 am – 5:30 pm

Thursday, September 14
Posters Open
9:00 am – 3:00 pm
Poster Session and Continental Breakfast
9:20 am – 11:00 am

Friday, September 15
Posters Open
9:00 am - 12:40 pm

Instructions to Poster Presenters
Posters for Sessions 1-6 should be placed on the boards between the hours of 3:00 pm - 6:00 pm on Sunday, September 10. They should be removed between 3:40 pm and 4:00 pm on Tuesday, September 12.

Posters for Sessions 7-14 should be placed on the boards between the hours of 4:00 pm - 7:00 pm on Tuesday, September 12 or 7:00 am - 8:00 am on Wednesday, September 13. They should be removed during the hours of 12:40 pm - 2:00 pm on Friday, September 15.

THIRD SYMPOSIUM ON THE HISTORY OF AEROSOL SCIENCE

Organizer: David S. Ensor

This pre-conference symposium will bring together researchers who will discuss the evolution of the field of aerosol science and engineering. Presenters will provide a historical perspective of the field and describe the work of giants, evolution of the scientific concepts and instruments. Much of what we do today has a connection to the past – so come take a peek and we can leap into the future.

WELCOME RECEPTION

Sunday, September 10
6:00 pm – 8:00 pm
Join fellow colleagues for a special networking experience in a relaxed environment. This is your opportunity to meet and greet the exhibitors. Enjoy learning about new products and the latest in technology and advances in the field.

AAAR ANNUAL BUSINESS MEETING

Monday, September 11
5:30 pm – 7:00 pm
This important session provides an overview of the highlights of the AAAR today and tomorrow. There will be a special tribute to the current Conference Chairs, David Y. H. Pui and Gilmore J. Sem, and their committee, as well as others who have served AAAR and the IAC Conference during the year. You will find out more about the upcoming 2007 AAAR Annual Conference. The ceremonial passing of the gavel will mark the transfer of leadership from Tony Wexler to the incoming president Pratim Biswas.

WORKING GROUP MEETINGS

Wednesday, September 13
5:30 pm – 6:30 pm
All IAC members are encouraged to attend the Working Group Meetings. Please refer to the Schedule-at-a-Glance for topics and specific meeting times.

EXHIBITOR RECEPTION

Monday, September 11
6:00 pm – 8:00 pm

The Exhibitors' Reception is a time to visit and catch-up with industry leaders, sample wonderful foods, and relax in a casual setting in our Exhibit Hall with our much appreciated exhibitors and conference attendees.

IAC CONFERENCE DINNER

Wednesday, September 13, 2006
6:30 pm – 10:00 pm
Join your friends and colleagues on Wednesday evening, September 13, 2006, for an evening dinner cruise aboard the Anson and Betsey Northrup vessels of the Padelford Packet Boat Co.

Founded in 1969, the Padelford Packet Boat Co. is Minnesota's oldest and largest riverboat company. The Padelford fleet of four large riverboats has welcomed more than 3 million passengers on board to cruise the Mississippi from its landings in Minneapolis and St. Paul.

The IAC private charter cruise will leave from the Harriett Island landing in St. Paul. Transportation will be provided from the Crowne Plaza St. Paul Riverfront to the landing. Vessel boarding will commence at 6:30 pm, and departure will be at 7:00 pm. The return to Harriett Island is scheduled for 10:00 pm. Buses will transport you back to the Crowne Plaza St. Paul Riverfront.

INTERNATIONAL DINNER

Monday, September 11, 2006
8:00 pm
International attendees are invited to participate in an off-site International Dinner. This gathering is intended to bring together attendees who may not normally have a chance to socialize outside of the general meeting. The dinner will be attended by members of the AAAR Membership Committee and will be held on Monday, September 11, 2006, at 8:00 pm. The price of approximately $25 will be paid by each individual at the restaurant.

Please check the conference bulletin board for dinner location.

25TH ANNIVERSARY OF AAAR: CELEBRATION LECTURE

Sheldon K. Friedlander

This exciting talk will describe how aerosol science and engineering is an "enabling discipline" and describe the various areas where aerosol scientists have made contributions. Starting with an historical perspective, the talk will provide the exciting opportunities for aerosol scientists in the future.

The talk will be followed by recognition of the activities of the AAAR in the last 25 years. The contribution of international societies and the growth of the International Aerosol Research Assembly (IARA) will also be recognized.

AMERICANS WITH DISABILITIES ACT

The IAC will use its best efforts to provide reasonable accommodations for attendees with disabilities.

CM POINTS

The American Board of Industrial Hygiene will award CM points to CIHs as follows:
.5 points per half day, 4.5 Industrial Hygiene CM points – approval #: 06-070

All participants of the 2006 IAC are encouraged to contact their respective professional certifying agency for the applicability of the IAC Conference program toward additional CM points and CEU credits.

AWARD PRESENTATIONS

Awards will be presented immediately after each plenary session. Please refer to the Schedule-at-a-Glance for the specific award presentation times. Join us in honoring the recipients of AAAR's major awards: Thomas T. Mercer, Kenneth T. Whitby Award, David Sinclair Award, Sheldon K. Friedlander Award, and Benjamin Y.H. Liu Award. The IARA awards include: Fissan-Pui-TSI Award, Fuchs Memorial Award, and International Aerosol Fellow Award. The GAeF will also present the Smoluchowski Award.

SPEAKER READY ROOM

There will be a Speaker Ready Room for presenters in the Judges' Suite at the Crowne Plaza St. Paul Riverfront. It is required that all speakers visit the Speaker Ready Room the day prior to their presentation. There will be a technician in the room to assist speakers with their presentation preparation. Please note: LCD projectors are the only form of visual equipment that will be provided. Overhead and slide projectors will not be available. You will be asked to transform any slides or transparencies to a PowerPoint presentation.

SPEAKER READY ROOM HOURS

Saturday, September 9 . . . . . .5:00 pm – 9:00 pm
Sunday, September 10 . . . . . .7:00 am – 8:00 pm
Monday, September 11 . . . . . .7:00 am – 6:30 pm
Tuesday, September 12 . . . . . .7:00 am – 5:30 pm
Wednesday, September 13 . . . . . .7:00 am – 5:30 pm
Thursday, September 14 . . . . . .7:00 am – 4:00 pm
Friday, September 15 . . . . . .7:00 am – 2:00 pm
Thursday, September 14 . . . . . .9:00 am – 3:00 pm

HOTEL INFORMATION

Crowne Plaza St. Paul Riverfront
11 East Kellogg Blvd.
St. Paul, Minnesota 55101
Telephone: 651-292-1900
Guest Fax: 651-605-0189

IAC INTERNATIONAL ADVISORY COMMITTEE

David Y.H. Pui – Co-Chair, USA
Gilmore J. Sem – Co-Chair, USA
James Blanchard, USA
Denis Boulaud, France
C.C. Chao, Taiwan
Charles Clement, U.K.
Ian Colbeck, U.K.
Aladar Czitrovszky, Hungary
Jean Francois Fabries, France
Heinz Fissan, Germany
Sheldon Friedlander, USA
Nobuhiko Fukushima, Japan
Kaarle Hämeri, Finland
Yasunobu Iwasaka, Japan
Jorma Jokiniemi, Finland
Gerhard Kasper, Germany
Chong S. Kim, USA
Sang Soo Kim, Korea
Wolfgang Koch, Germany
Wolfgang Kreyling, Germany
Zev Levin, Israel
Peter McMurry, USA
Kil Joo Moon, Korea
V. Venkat Raj, India
Erik Swietlicki, Sweden
Chuen-Jinn Tsai, Taiwan
Chiu-sen Wang, Taiwan

IAC TECHNICAL PROGRAM COMMITTEE

Pratim Biswas – Co-Chair, USA
Da-Ren Chen – Co –Chair, USA
Rob Griffin – Tutorial Co-Chair, USA
Rodney Weber – Tutorial Co-Chair, USA
Chak Chan, Hong Kong
Mengdawn Cheng, USA

Mansoo Choi, Korea
Keith Coffee, USA
Donald Dabdub, USA
P.C.S. Devara, India
David Ensor, USA
Ian Ford, U.K.
Evelyne Gehin, France
Vicki Grassian, USA
Robert Griffin, USA
Kebin He, China
Susanne Hering, USA
Helmuth Horvath, Austria
David Kane, USA
C.T. Lee, Taiwan
K.E.J. Lehtinen, Finland
Gedi Mainelis, USA
Matti Maricq, USA
Kikuo Okuyama, Japan
Tim Raymond, USA
Jacky Ann Rosati, USA
M. Shapiro, Israel
Charles Stanier, USA
Alfred Wiedensohler, Germany

IAC LOCAL ARRANGEMENTS COMMITTEE

Patricia Keady (Chair)
Tyler Beck
Rob Caldow
William Dick
Dabrina Dutcher
Earl Knutson
Thomas Kotz
Fred Quant
Stephen Stein

IAC EXHIBITS

Tyler Beck – *Chair*

2006 AAAR BOARD OF DIRECTORS

Anthony Wexler, President
Pratim Biswas, Vice President
Christopher Sorensen, Vice-President Elect
Lara Gundel, Treasurer
Melissa M. Lunden, Treasurer-Elect
Yung Sung Cheng, Secretary
Kaarle Hameri
Murray V. Johnston
Chong S. Kim
Michael Kleinman
Lupita Montoya
Kimberly Prather
Tiina Reponen
Paul A. Solomon
Cynthia Twohy

AAAR STAFF

Amy Williams, CAE – *Executive Director*
Deanna Bright – *Executive Assistant*
Ann Mitchell – *Meeting Manager*
Wendy Roller – *Assistant Meeting Manager*
Robin Geary – *Exhibits Manager*
Gail Valente – *Registration Manager*

2006 STUDENT ASSISTANTS

The IAC would like to acknowledge the 2006 Student Assistant Volunteers

Allison Aiken
Mohammad Arhami
Soubir Basak
David Benson
Ludovic Bernaudat
Anil Bika
Elsa Chang
Marile Colon-Robles
Weiwei Deng
Kerri Denkenberger
Marcus Drayton
Matthew Dreyfus
Hua Du
Katjia Dzepina
Mark Erupe
Jenny Esker
Gustavo Fernandes
Neha Gowadia
Sandeep Gupta
Allison Harris
John Hearn
Katherine Heaton
Ta-Chih Hsaio
Wei-Chun Hsieh
Yu-Mei Hsu
Kenjiro Iida
Jingkun Jiang
Kelly Johnson
JaeGun Jung
Alicia Kalafut
Ivan Kourtchev
Hartawan Laksmono
Jinhwa Lee
Ying Li
Yunchun Li
Ganhua Lu
Heide McIlwraith
Fan Mei
Zaheer Ahmad Nasar
Abhilash Nigam
Amanda Northcross
Jin Hyen Park
Manish Ranjan
Melissa Reinard
Josh Rocklage
Stephen Schayer
Tal Shakked
ManishKumar Shrivastava
Somnath Sinha
Matt Spencer
Ryan Sullivan
Ramya Sunder Raman
Istvan Szilard Szoke
Reka Szoke
Devraj Thimmaiah
Salimol Thomas
Hamilton Tsang
Ingrid Ulbrich
Kristina Wagstrom
Yun Wu
Nazanin Yaghoobian

2006 STUDENT TRAVEL GRANT WINNERS

Mohammad Arhami
Ludovic Bernaudat
Elsa Chang
Marile Colon-Robles
Weiwei Deng
Hua Du
Mark Erupe
Gustavo Fernandes
Sandeep Gupta
John Hearn
Ta-Chih Hsiao
Wei-Chun Hsieh
Yu-Mei Hsu
Jingkun Jiang
Ivan Kourtchev
YunChun Li
Ganhua Lu
Heide McIlwraith
Zaheer Ahmad Nasar
Abhilash Nigam
Jin Hyen Park
Melissa Reinard
Tal Shakked
Somnath Sinha
Matt Spencer
Reka Szoke
Devraj Thimmaiah
Salimol Thomas
Hamilton Tsang
Nazanin Yaghoobian

SCHEDULE-AT-A-GLANCE

Friday, September 8

7:30 am – 11:00 am	History Symposium Registration *Governors 1/5*
8:30 am – 5:00 pm	History of Aerosol Science *Governors 1/5*

Saturday, September 9

7:30 am – 11:00 am	History Symposium Registration *Governors 1/5*
8:30 am – 5:00 pm	History of Aerosol Science *Governors 1/5*
5:00 pm – 9:00 pm	IAC Registration for 2006 Attendees *Main Lobby*
5:00 pm – 9:00 pm	Speaker Ready Room *Judges' Suite*
8:00 pm – 9:00 pm	Student Assistant Orientation *State 1/2*

Sunday, September 10

7:00 am – 8:00 pm	Registration *Main Lobby*
7:00 am – 8:00 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:40 am	First Tutorial Session 1. Introduction to Aerosol Mechanics I Dr. William C. Hinds *Kellogg Suite* 2. Aerosol Thermodynamics Dr. Athanasios Nenes *Capitol Ballroom* 3. Air Pollution Exposure Assesments: Implications for Particulate Matter Epidemiology Dr. Jeremy A. Sarnat *Wabasha Suite* 4. Aerosol Characterization using Plasma Spectrochmistry Dr. Martin M. Shafer *Governors 1/5*

10:00 am – 11:40 am	Second Tutorial Session 5. Introduction to Aerosol Mechanics II Dr. William C. Hinds *Kellogg Suite* 6. Atmospheric Nucleation Dr. Markku Kulmala *Capitol Ballroom* 7. Human Aerosol Exposure: Toward a Mechanistic Understanding Dr. William W.Nazaroff *Wabasha Suite* 8. Basics of Light Absorbing Carbon Dr. Tami C. Bond *Governors 1/5*
11:40 am – 1:00 pm	Lunch (on your own)
12:00 pm – 5:00 pm	Exhibitor Set-up and Poster Set-up *Great River Ballroom, Garden Court East and West*
1:00 pm – 2:40 pm	Third Tutorial Session 9. Aerosol Sampling and Transport Dr. John E. Brockmann *Kellogg Suite* 10. Measurements of Aerosol Radiative Properties Dr. John Ogren *Capitol Ballroom* 11. Biokinetics and Toxicology of Nanoparticles Dr. Bunter Oberdurster *Wabasha Suite* 12. Secondary Aerosol Formation Dr. Paul Ziemann *Governors 1/5*
2:00 pm – 5:00 pm	Executive Committee Meeting *Board Room*
3:00 pm – 4:40 pm	Fourth Tutorial Session 13. Preparation of Nanoparticles and Nanostructured Powders by Spray Method for Their Applications in Nanotechnology Dr. Kikuo Okuyama *Kellogg Suite*

	14. Aerosol Technology for Drug Delivery Dr. Warren Finlay *Capitol Ballroom* 15. Instrumentation and Theory of Cloud Condensation Nuclei Measurements Dr. Athanasios Nenes *Wabasha Suite* 16. Making Use of Satellite-derived Aerosol Amounts, Distributions and Properties Dr. Ralph Kahn *Governors 1/5*
5:00 pm – 6:00 pm	AAAR Development Committee *Board Room*
6:00 pm – 8:00 pm	Welcome Reception and Exhibit/Poster Review *Great River Ballroom, Garden Court East and West*

Monday, September 11

7:00 am – 8:00 am	AAAR Bylaws Committee Meeting *Board Room*
7:00 am – 8:00 pm	Registration *Main Lobby*
7:00 am – 8:00 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:20 am	Plenary Session #1: Assembling Materials and Devices from Nanoscale Building Blocks Dr. Richard Siegel *Minnesota Ballroom*
9:00 am – 8:00 pm	Exhibits/Posters Open *Great River Ballroom, Garden Court East and West*
9:20 am – 9:40 pm	Speaker Ready Room
9:40 am – 11:00 am	Session #1: Platform 1A PM-10 and PM-2.5 Characterization –I *Minnesota Ballroom* 1B Organic Aerosol Speciation *Capitol Ballroom*

	1C Spray Pyrolysis *Governors 1/5* 1D Marine Boundary Layer Aerosols *Governors 2/3/4* 1E Mass Spectrometry as a Tool for Characterizing – Atmospheric Chemistry *Wabasha Suite* 1F Aerosols in the Workplace *Kellogg Suite* 1G Aerosol Physics (Poster) *Great River Ballroom, Garden Court East and West* 1H Atmospheric Aerosols: Urban (Poster) *Great River Ballroom, Garden Court East and West*
11:00 am – 11:20 am	Coffee Break *Great River Ballroom, Garden Court East and West*
11:20 am – 12:40 pm	Session #2: Platform 2A PM-10 and PM-2.5 Characterization –II *Minnesota Ballroom* 2B Marine Boundary Layer Processing *Capitol Ballroom* 2C Aerosol and Plasma Synthesis *Governors 1/5* 2D Impactors *Governors 2/3/4* 2E Laboratory Study of Organic Reactions- I *Wabasha Suite* 2F Nucleation in the Environment *Kellogg Suite* 2G Combustion (Poster) *Great River Ballroom, Garden Court East and West* 2H Instrumentation (Poster) *Great River Ballroom, Garden Court East and West*
12:40 pm – 2:00 pm	Lunch (on your own)
12:40 pm – 2:00 pm	AAAR Board of Directors Lunch Meeting *State 1/2*

12:40 pm – 2:00 pm	Junge Awards Committee *Room 122*
2:00 pm – 3:40 pm	Session #3: Platform 3A Urban Aerosol and Combustion *Minnesota Ballroom* 3B Radiative and Optical Effects *Capitol Ballroom* 3C Symposium: Nanoparticle Industry Forum *Governors 1/5* 3D Optical Aerosol Instrumentation *Governors 2/3/4* 3E Chemistry of Inorganic Atmospheric Particles –I *Wabasha Suite* 3F Nucleation Theory *Kellogg Suite* 3G Aerosol Physics (Poster) *Great River Ballroom, Garden Court East and West* 3H Indoor Aerosols (Poster) *Great River Ballroom, Garden Court East and West*
3:40 pm – 4:00 pm	Coffee Break *Great River Ballroom, Garden Court East and West*
4:00 pm – 5:20 pm	Session #4: Platform 4A PM-10 and PM-2.5 Characterization –III *Minnesota Ballroom* 4B Nucleation Field Studies *Capitol Ballroom* 4C Complex Material Systems *Governors 1/5* 4D Indoor Aerosols –I *Governors 2/3/4* 4E Laboratory Study of Organic Reactions- II *Wabasha Suite* 4F Nucleation Experts –I *Kellogg Suite* 4G Atmospheric Aerosols: Carbon (Elemental and Organic) (Poster) *Great River Ballroom, Garden Court East and West*

	4H Atmospheric Aerosols: Urban and Regional Air Quality (Poster) *Great River Ballroom, Garden Court East and West*
5:30 pm – 7:00 pm	AAAR Annual Business Meeting *Minnesota Ballroom*
5:30 pm – 7:00 pm	AAAR PM2.5 Organic Speciation Meeting *Capitol Ballroom*
6:00 pm – 8:00 pm	Exhibitor Reception *Great River Ballroom*
8:00 pm	International Dinner – Please check the conference bulletin board for dinner location (on own).

Tuesday, September 12

7:00 am – 8:00 am	AAAR Publications Committee Breakfast Meeting *State 1*
7:00 am – 8:00 am	AAAR Finance Committee Breakfast Meeting *State 2*
7:00 am – 5:30 pm	Registration *Main Lobby*
7:00 am – 5:30 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:20 am	Plenary Session #2: Indoor Aerosols: Do We Need More Data or More Science? Lidia Morawska *Minnesota Ballroom* Presentation of Smoluchowski and Whitby Awards
9:00 am – 3:30 pm	Exhibits/Posters Open *Great River Ballroom, Garden Court East and West*
9:20 am – 11:00 am	Continental Breakfast and Poster Session 1 *Great River Ballroom, Garden Court East and West*

11:00 am – 12:40 pm	Session #5: Platform 5A Urban Aerosol Sources *Minnesota Ballroom* 5B Organic Aerosol Characterization *Capitol Ballroom* 5C Methods of Aerosol Synthesis *Governors 1/5* 5D Indoor Aerosols – II *Governors 2/3/4* 5E Secondary Organic Aerosol Formation – I *Wabasha Suite* 5F Nucleation Expts – II *Kellogg Suite* 5G Atmospheric Aerosols: Marine, Tropospheric and Global Effects (Poster) *Great River Ballroom, Garden Court East and West* 5H Atmospheric Aerosols: PM-10 and PM-2.5 (Poster) *Great River Ballroom, Garden Court East and West*
12:40 pm – 2:00 pm	Lunch (on your own)
12:40 pm – 2:00 pm	IARA Board Lunch Meeting *Chief Justice Room*
1:00 pm – 2:00 pm	AAAR Membership Committee Lunch Meeting *Room 122*
1:00 pm – 2:00 pm	AAAR Education Committee Lunch Meeting *State 1*
2:00 pm – 3:40 pm	Session #6: Platform 6A Cloud and Fog Aerosol Interactions – I *Minnesota Ballroom* 6B Urban and Regional Aerosol *Capitol Ballroom* 6C Symposium: Aerosol Research and Education Software *Governors 1/5* 6D Indoor Aerosols – III *Governors 2/3/4*

	6E Chemistry of Inorganic Atmospheric Particles – II *Wabasha Suite* 6F Aerosol Coagulation *Kellogg Suite* 6G Atmospheric Aerosols: Urban (Poster) *Great River Ballroom, Garden Court East and West* 6H Instrumentation (Poster) *Great River Ballroom, Garden Court East and West*
4:00 pm	Buses Depart Hotel for Various Sites
3:40 pm – 6:30 pm	Industry Tours/Social Tours
5:30 pm – 7:00 pm	AAAR Newsletter Committee Meeting *Room 122*

Wednesday, September 13

7:00 am – 8:00 am	AAAR Long Range Planning Committee Breakfast Meeting *State 1/2*
7:00 am – 5:30 pm	Registration *Main Lobby*
7:00 am – 5:30 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:20 am	Plenary Session #3: Reinventing the Wheel: New Vistas for Aerosol Measurement Richard C. Flagan *Minnesota Ballroom* Presentation of the Mercer and Sinclair Awards
9:00 am – 5:30 pm	Exhibits/Posters Open – Great River Ballroom, Garden Court East and West
9:20 am – 9:40 am	Coffee Break *Great River Ballroom, Garden Court East and West*
9:40 am – 11:00 am	Session #7: Platform 7A Urban Aerosol – I *Minnesota Ballroom*

	7B Cloud and Fog Aerosol Interactions – II *Capitol Ballroom* 7C Symposium: NanoMaterials and Occupational Health – I *Governors 1/5* 7D Condensation Particle Counters *Governors 2/3/4* 7E Secondary Organic Aerosol Formation – II *Wabasha Suite* 7F Aerosol Generation *Kellogg Suite* 7G Symposium: Aerosol Research Education Software (Poster) *Great River Ballroom, Garden Court East and West* 7H Atmospheric Aerosols: Measurement Campaigns (Poster) *Great River Ballroom, Garden Court East and West*
11:00 am – 11:20 am	Coffee Break *Great River Ballroom, Garden Court East and West*
11:20 am – 12:40 pm	Session #8: Platform 8A Urban Aerosol – II *Minnesota Ballroom* 8B Aerosol Hygroscopicity *Capitol Ballroom* 8C Symposium: NanoMaterials and Occupational Health – II *Governors 1/5* 8D Particle Mass Spectrometry *Governors 2/3/4* 8E Waste Incineration *Wabasha Suite* 8F Aerosol Charging *Kellogg Suite* 8G Aerosol Chemistry (Poster) *Great River Ballroom, Garden Court East and West* 8H Health Effects and Bioaerosols (Poster) *Great River Ballroom, Garden Court East and West*
12:40 pm – 2:00 pm	Lunch (on your own)

12:40 pm – 2:00 pm	GAeF Board Lunch Meeting *Board Room*
12:40 pm – 2:00 pm	AAAR AS&T Editorial Advisory Board Lunch Meeting *State 1/2*
1:00 pm – 2:00 pm	AAAR Awards Committee Lunch Meeting *Room 122*
1:00 pm – 2:00 pm	AAAR Internet Committee Lunch Meeting *Room 121*
2:00 pm – 3:40 pm	Session #9: Platform 9A Ice Nucleation *Minnesota Ballroom* 9B Carbonaceous Aerosol (EC/OC) *Capitol Ballroom* 9C Nano Particle Measurement and Characterization – I *Governors 1/5* 9D Respiratory Deposition *Governors 2/3/4* 9E Combustion Emissions *Wabasha Suite* 9F Optical Properties of Aerosols *Kellogg Suite* 9G Aerosol Physics (Poster) *Great River Ballroom, Garden Court East and West* 9H Combustion and Materials (Poster) *Great River Ballroom, Garden Court East and West*
3:40 pm – 4:00 pm	Coffee Break *Great River Ballroom, Garden Court East and West*
4:00 pm – 5:20 pm	Session #10: Platform 10A Urban Aerosol – III *Minnesota Ballroom* 10B CCN Regional Effects *Capitol Ballroom* 10C Nano Particle Measurement and Characterization – II *Governors 1/5* 10D Pharmaceutical Aerosols *Governors 2/3/4*

	10E Biomass Combustion *Wabasha Suite* 10F Modeling Aerosol Properties *Kellogg Suite* 10G Aerosol Chemistry (Poster) *Great River Ballroom, Garden Court East and West* 10H Materials Synthesis (Poster) *Great River Ballroom, Garden Court East and West*
5:30 pm – 6:30 pm	GAeF General Assembly Meeting *Wabasha Suite*
5:30 pm – 6:30 pm	Atmospheric Aerosols Meeting *Minnesota Ballroom*
5:30 pm – 6:30 pm	Health Related Aerosols Meeting *Capitol Ballroom*
5:30 pm – 6:30 pm	Instrumentation Meeting *Governors 1/5*
5:30 pm – 6:30 pm	Combustion Meeting *Governors 2/3/4*
5:30 pm – 6:30 pm	Indoor Aerosols Meeting *State 1*
5:30 pm – 6:30 pm	Aerosol Chemistry Meeting *State 2*
5:30 pm – 6:30 pm	Aerosol Physics Meeting *Kellogg 1*
5:30 pm – 6:30 pm	Control Technology Meeting *Kellogg 2*
5:30 pm – 6:30 pm	History Meeting *Kellogg 3*
6:30 pm – 11:00 pm	IAC Dinner Mississippi River Boat Cruise (Off-site/Ticketed Event)

Thursday, September 14

7:00 am – 8:00 am	AAAR Conference Committee Breakfast Meeting *State 1/2*
7:00 am – 4:00 pm	Registration *Main Lobby*
7:00 am – 4:00 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:20 am	Plenary Session #4: Health Effects of Ambient Particulate Matter Bert Brunekreef *Minnesota Ballroom* Presentation of Friedlander and Liu Awards
9:00 am – 3:00 pm	Exhibits/Posters Open *Great River Ballroom, Garden Court East and West*
9:20 am – 11:00 am	Continental Breakfast and Poster Session #2 *Great River Ballroom, Garden Court East and West*
11:00 am – 12:40 pm	Session #11: Platform 11A Regional Modeling/Nucleation *Minnesota Ballroom* 11B Aerosol Properties *Capitol Ballroom* 11C Symposium: Nanoparticle Dosimetry, Toxicology, and Cellular Interactions – I (w / ISAM) *Governors 1/5* 11D Electrical Analyzers *Governors 2/3/4* 11E Nucleation and On Road Particle Formation *Wabasha Suite* 11F Aerosol Sampling *Kellogg Suite* 11G Health Effects: Workplace and Resp.Deposition; Nanoparticle Toxicology and Bioterrorism (Poster) *Great River Ballroom, Garden Court East and West*

	11H Control Technology (Poster) *Great River Ballroom, Garden Court East and West*
12:40 pm – 2:00 pm	Lunch (on your own)
12:30 pm – 3:30 pm	AAAR Aerosol Workshop Commmittee Planning Lunch Meeting *State 1/2*
2:00 pm – 3:40 pm	Session #12: Platform 12A Cloud and Fog Aerosol Interactions – III *Minnesota Ballroom* 12B Remote and Rural Aerosols *Capitol Ballroom* 12C Symposium: Nanoparticle Dosimetry, Toxicology and Cellular Interactions - II *Governors 1/5* 12D Continuous Physical and Chemical Characterization *Governors 2/3/4* 12E Motor Vehicle Combustion *Wabasha Suite* 12F Bioaerosols *Kellogg Suite* 12G Instrumentation and Symposium: Non-Invasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-Rays and Light (Poster) *Great River Ballroom, Garden Court East and West* 12H Control Technology (Poster) *Great River Ballroom, Garden Court East and West*
3:00 pm – 9:00 pm	Exhibitor Move-out
3:40 pm – 5:30 pm	Fuchs Award and other IARA Awards *Minnesota Ballroom* Friedlander and AAAR Celebration *Minnesota Ballroom*

6:00 pm – 10:00 pm	Fuchs Award and AAAR-25 Reception – Science Museum of Minnesota (Off-site Event) (Limited to 700 individuals)
7:00 pm – 8:00 pm	Working Group Chairs Meeting *State 1/2*

Friday, September 15

7:00 am – 2:00 pm	Registration *Main Lobby*
7:00 am – 2:00 pm	Speaker Ready Room *Judges' Suite*
8:00 am – 9:20 am	Plenary Session #5: Primary Versus Secondary and Biogenic Versus Anthropogenic Organic Aerosol: Grand Challenges in Atmospheric Aerosol Research Urs Baltensperger *Minnesota Ballroom* Recognition of Service to IARA and AAAR
9:20 am – 9:40 pm	Coffee Break *Garden Court East and West*
9:40 am – 11:00 am	Session #13: Platform 13A Atmospheric Nucleation *Minnesota Ballroom* 13B Urban/Regional Aerosol – I *Capitol Ballroom* 13C Symposium: Non-Invasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-Rays and Light – I *Governors 1/5* 13D Symposium: Aerosol and Bioterrorism Defense – I *Governors 2/3/4* 13E Remote Sensing *Wabasha Suite* 13F PM and Environmental Health – I *Kellogg Suite* 13G Instrumentation (Poster) *Great River Ballroom, Garden Court East and West* 13H Atmospheric Aerosols: Visibility, Remote and Rural Aerosols and Symposium: NanoMaterials and

	Occupational Health (Poster) *Great River Ballroom, Garden Court East and West*
11:00 am – 11:20 am	Coffee Break *Garden Court East and West*
11:20 am – 12:40 pm	Session #14: Platform 14A Aerosol Physical Properties *Minnesota Ballroom* 14B Biomass and Biogenic Aerosol *Capitol Ballroom* 14C Symposium: Non-invasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-Rays and Light – II *Governors 1/5* 14D Symposium: Aerosol and Bioterrorism Defense – II *Governors 2/3/4* 14E Control Technology – I *Wabasha Suite* 14F PM and Env Health – II *Kellogg Suite* 14G Aerosol Chemistry (Poster) *Great River Ballroom, Garden Court East and West* 14H Atmospheric Aerosols: Clouds, Fog and Nucleation (Poster) *Great River Ballroom, Garden Court East and West*
12:40 pm – 2:00 pm	Lunch (on your own)
12:40 pm – 4:00 pm	AAAR Board Meeting *State 1/2*
2:00 pm – 3:40 pm	Session #15: Platform 15A Long-range Transport *Minnesota Ballroom* 15B VOC/SVOC Aerosols – I *Capitol Ballroom* 15C Physics of Nano Particles *Governors 1/5* 15D Bioaerosol Detection and Identification – I *Governors 2/3/4*

	15E Control Technology – III *Wabasha Suite* 15F Deposition and Re-suspension *Kellogg Suite*
3:40 pm – 4:00 pm	Coffee Break *Garden Court East and West*
4:00 pm – 5:20 pm	Session #16: Platform 16A Atmospheric Particle Concentrations and Composition *Minnesota Ballroom* 16B VOC/SVOC Aerosols – II *Capitol Ballroom* 16C Chemistry of Carbonaceous and Metal Nanoparticles *Governors 1/5* 16D Bioaerosol Detection and Identification – II *Governors 2/3/4* 16E Control Technology – III *Wabasha Suite* 16F Urban/Regional Aerosols – III *Kellogg Suite*

NOTE: The Platform Sessions are arranged in topical area groups:

Nanoparticle Aerosols:	Sessions 1C to 16C
Materials Synthesis:	Sessions 1C to 5C
Combustion Aerosols:	Sessions 8E to 12E
Nucleation:	Sessions 1E, 4F, 5F, 11E
Bioaerosols:	Sessions 12F, 13D to 16D
Atmospheric Aerosols:	Sessions 1A to 16A Sessions 1B to 16B

This is not an exhaustive list. Browse through the Program or use the version on the CD to find a detailed listing.

TUTORIALS

Sunday, September 10

Session One: 8:00 am – 9:40 am

1. Introduction to Aerosol Mechanics I
Dr. William C. Hinds, UCLA, School of Public Health, Center for Occupational and Environmental Health, Department of Environmental Health Science, Los Angeles, CA

These two courses form a sequence that covers basic aerosol mechanics (particle motion) at an introductory level. Topics include: Stokes law, settling velocity, slip correction, aerodynamic diameter, non-spherical particles, acceleration, relaxation time, stopping distance, impaction, isokinetic sampling, diffusion, and coagulation. The course covers theory and applications and is suitable for those new to the field and for others who want to brush up on the basics.

William Hinds is a professor of environmental health sciences at the UCLA School of Public Health. He received a bachelor's degree in mechanical engineering from Cornell University and a doctorate in environmental health from Harvard University.

2. Aerosol Thermodynamics
Dr. Athanasios Nenes, Georgia Institute of Technology, Schools of Earth and Atmospheric Sciences and Chemical and Biomolecular Engineering, Atlanta, GA

The past few years have seen a significant and growing interest in measuring the potential of aerosols to act as cloud condensation nuclei (CCN). Numerous techniques during the years have been developed for this purpose; they all involve exposing of an aerosol sample to a controlled water vapor supersaturation and optically detect the size and concentration of droplets that form. We will review the diverse set of designs and detection approaches, as well as theoretically analyze the methodology embodied by each CCN instrument. Results from laboratory and field experiments will be presented to demonstrate the capabilities of these instruments and highlight their importance for quantitative understanding of aerosol-cloud interactions.

Athanasios Nenes is an assistant professor in the Schools of Earth and Atmospheric Sciences and Chemical and Biomolecular Engineering at the Georgia Institute of Technology. He received a diploma in chemical engineering from the National Technical University of Athens, a master's degree in atmospheric chemistry from the University of Miami, and a doctorate in chemical engineering from the California Institute of Technology.

3. Air Pollution Exposure Assessment: Implications for Particulate Matter Epidemiology
Dr. Jeremy A. Sarnat, Department of Environmental and Occupational Health, Rollins School of Public Health of Emory University, Atlanta, GA

Most epidemiologic studies examining the health effects from exposure to ambient particulate matter have used measurements from central site monitors as surrogates of corresponding personal exposures. The validity of this practice and its potential for introducing exposure misclassification bias into the observed epidemiologic results has been widely debated. In 1998 the National Research Council recommended that further research be conducted to characterize personal exposures to PM2.5, including its relationship to ambient PM2.5 and other multi-pollutant exposures. To address these issues, several panel studies were designed and conducted that characterized actual multi-pollutant personal exposures throughout the United States and Europe. This tutorial reviews the major results from these exposure studies and summarizes the collective findings for their impact on interpreting particulate matter epidemiologic studies. Directions for future exposure assessment and epidemiology research, including characterizing personal exposures to chemically- and size-resolved PM2.5, will also be discussed.

Jeremy Sarnat is an assistant professor at the Rollins School of Public Health of Emory University specializing in characterizing personal exposure to criteria air pollutants. He received his master's degree in environmental risk assessment and doctorate in environmental exposure assessment from Harvard University.

4. Aerosol Characterization using Plasma Spectrochemistry
Dr. Martin M. Shafer, Environmental Chemistry and Technology Program, University of Wisconsin-Madison, Madison, WI

Detailed elemental and chemical speciation analysis of aerosol particulate matter (PM) can provide valuable information on PM sources, transformations, and climate forcing. Certain PM sources may best be resolved using trace metal signatures, and elemental fingerprints can supplement and enhance molecular maker analysis of PM for source apportionment modeling. In the search for toxicologically relevant components of PM, health studies are increasingly demanding more comprehensive characterization schemes.
It is also clear that total metal analysis is at best a poor surrogate for the bioavailable component, and analytical techniques that address the labile component or specific chemical species are needed.

However, traditional analytical techniques (XRF, PIXIE, INAA) that have been widely applied in the past to determine the elemental composition of PM do not have the required sensitivity and

accuracy to quantify the full suite of trace elements in the microgram masses of samples typical of many fine particle collections. This state of affairs is exacerbated by the current trend toward even smaller sample sizes that is being driven by (1) particle size-resolved sampling; (2) personal sampler collections; and (3) fine temporal scale (1-4 hr) sampling.

Inductively-Coupled Plasma Mass Spectrometry (ICP-MS) is emerging as a powerful tool for the determination of the elemental composition and chemical speciation of atmospheric aerosols. In addition to exhibiting extreme sensitivity and high signal to noise, the technique offers other unique capabilities including: high precision, extremely wide dynamic range, a large element menu, and elemental isotopic capability. These features significantly advance the state-of-the art (making it the method of choice for most applications) over traditional aerosol analysis techniques. However, full realization of these advantages is contingent upon several key factors as prerequisites:

1. Full integration of clean techniques into collection/processing/analysis methods;
2. Application of efficient, unbiased, and precise solubilization methods; and
3. Minimization of polyatomic interferences in the ICP-MS analysis.

This tutorial will address each of these three areas in detail, providing practical solutions and recommendations for a variety of real-world applications. It will be stressed that ultra-trace ICP-MS analysis cannot be performed in isolation, but must be part of a complete package of contamination and interference control. The importance and practical implementation of method blanks and use of standard reference materials in protocol validation will be covered. Metrics of ICP-MS performance will be compared with those from more traditional methods as specifically relates to ambient aerosol characterization.

Contamination control strategies for specific steps (substrate preparation, field sampling, post-collection processing, and ICP-MS analysis) of the overall method will be discussed.
Lack of suitable solubilization methods for the complete suite of elements comprising atmospheric particulate matter has been a barrier to the use of solution nebulization techniques, including ICP-MS, for the analysis of aerosols. Concerns have included extraction efficiency, volatilization losses, contamination, and issues of dilution and sensitivity. This short course will detail digestion protocols that our research group (and others) has developed to effectively address these issues. Microwave-based methods will be emphasized. Various “selective” dissolution approaches for aerosols will also be covered – focusing on methods that target the labile metals/components. A host of interference control approaches for ICP-MS analysis will be discussed, including: (1) the use of high efficiency desolvating nebulizers; (2) collision/reaction cell ICP-MS; and (3) high mass resolution ICP-MS.

The tutorial will conclude with a discussion of several advanced applications of ICP-MS in the context of aerosol characterization. These will include chemical speciation analysis (oxidation state speciation, HPLC-ICP-MS), high precision isotope ratio analysis and applications, and direct solids/particle analysis using laser-ablation-ICP-MS.

Session Two: 10:00 am – 11:40 am

5. Introduction to Aerosol Mechanics II
Dr. William C. Hinds, UCLA, School of Public Health, Center for Occupational and Environmental Health, Department of Environmental Health Science, Los Angeles, CA

These two courses form a sequence that covers basic aerosol mechanics (particle motion) at an introductory level. Topics include: Stokes law, settling velocity, slip correction, aerodynamic diameter, non-spherical particles, acceleration, relaxation time, stopping distance, impaction, isokinetic sampling, diffusion, and coagulation. The course covers theory and applications and is suitable for those new to the field and for others who want to brush up on the basics.

William Hinds is a professor of environmental health sciences at the UCLA School of Public Health. He received a bachelor's degree in mechanical engineering from Cornell University and a doctorate in environmental health from Harvard University.

6. Atmospheric Nucleation
Dr. Markku Kulmala, University of Helsinki, Department of Physical Sciences, Helsinki, Finland

In order to be able to better understand the health and climatic effects of atmospheric aerosols, the formation and growth processes of atmospheric aerosols should also be better understood. Nucleation, the formation of ultrafine particles detected at a few nm, and subsequent growth to ~100 nm in 1-2 days, has been observed frequently all around the world, particularly in the continental boundary layer. Such observations span from Arctic and Antarctic areas, over the remote boreal forest, and urban and suburban areas in Scandinavia, to industrialized agricultural regions in Europe and North America, to coastal environments around Europe, and to Asian and American megacities. Our recent overview summarized the formation and growth properties from a global point of view, quantifying especially the formation and growth rates of nucleation events where available. It has been proposed and also observed that atmospheric new particle formation depends on the sulfuric acid concentration. On the other hand some observations support the idea that atmospheric ions are participating in new particle formation. In this tutorial, different atmospheric nucleation mechanisms – including barrierless (kinetic), binary, ternary, and ion induced nucleation as well as recently proposed cluster activa-

tion mechanisms – are explained and compared with atmospheric observations and laboratory experiments.

Markku Kulmala is an academy professor and professor in physics at the University of Helsinki, Finland. He acts also as a director of the Division of Atmospheric Sciences in the Department of Physical Sciences in Helsinki. He received master's and doctorate degrees in physics from the University of Helsinki.

7. Human Aerosol Exposure: Toward a Mechanistic Understanding
Dr. William W. Nazaroff, Department of Civil and Environmental Engineering, University of California, Berkeley, CA

This tutorial explores the relationships between particle sources and human inhalation exposure. The tools and techniques are those of the physical sciences and engineering, stressing causal connections. The lecture draws on key chemical and physical knowledge from atmospheric aerosol science. Focusing on human exposure as the outcome of concern leads to an emphasis on the proximity between sources and receptors. Most exposure occurs while people are in enclosed spaces, so issues that influence indoor aerosols enter strongly into this lecture.

William Nazaroff is a professor of environmental engineering and chair of the energy and resources group at UC Berkeley. His research group studies indoor air pollutant chemistry and physics. They also develop and apply methods for assessing human exposure to air pollutants from major exposure sources, such as motor vehicles, power plants, and cigarettes. Dr. Nazaroff earned a doctorate in environmental engineering science at Caltech (1989).

8. Basics of Light Absorbing Carbon
Dr. Tami C. Bond, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, IL

Although carbon particles contain thousands of compounds, one type of carbon is routinely separated in modeling and analysis: the kind that appears black because it absorbs light strongly. What makes this compound so special? This tutorial will briefly discuss flame formation and important sources of light-absorbing carbon. Carbon that absorbs light weakly will also be covered. I will review factors that affect absorption and scattering by these particles, including changes that occur during the time between emission and removal. This discussion leads to an overview of the role of black particles in the Earth's radiative balance. Finally, I will review common measurement methods, with particular emphasis on how light absorption can aid in or confound interpretation.

Tami Bond earned bachelor's and master's degrees in the combustion side of mechanical engineering before her interdisciplinary doctorate from the University of Washington (atmospheric sciences, mechanical engineering and civil engineering). She was a NOAA Climate and Global Change Post-doctoral Fellow and is now an assistant professor at the University of Illinois. Most of her research involves measuring and estimating emissions for climate applications.

Session Three: 1:00 pm – 2:40 pm

9. Aerosol Sampling and Transport
Dr. John E. Brockmann, Principal Member, Technical Staff, Sandia National Laboratories, Albuquerque, NM

It is desirable that the sampled aerosol be representative of the aerosol in its original environment. Sampling and transport can alter the ambient aerosol distribution. This tutorial will provide the tools to evaluate aerosol sampling and transport systems. The mechanisms that enrich or deplete particle concentration will be identified and discussed, and correlations from the literature will be given.

Dr. Brockmann received his doctorate in mechanical engineering from the University of Minnesota in 1981 and works at Sandia National Laboratories. His areas of research include nuclear aerosols, microcontamination, particle sampling and transport, and instrumentation.

10. Measurements of Aerosol Radiative Properties
Dr. John A. Ogren, Physical Scientist, NOAA Earth System Research Laboratory, Boulder, CO

This tutorial will cover the methods used for measurement of aerosol radiative properties, with an emphasis on in-situ measurements of aerosol light scattering, absorption, and extinction coefficients. Approaches for determining the dependence of these properties on particle size, wavelength, and relative humidity will be described, along with an overview of the results from their application in NOAA's long-term aerosol monitoring program.

Dr. Ogren received his doctorate in 1983 from the University of Washington. He leads NOAA's long-term aerosol monitoring program, which emphasizes the radiative properties of aerosols.

11. Biokinetics and Toxicology of Nanoparticles
Dr. Günter Oberdörster, University of Rochester, Rochester, NY

The rapidly developing field of nanotechnology holds many promises and benefits for developments in structural engineering, electronics, optics, consumer products, alternative energies, soil and water remediation, and nanomedicine. However, engi-

neered nanoparticles (NP, <100 nm) are also likely to result in human exposure through inhalation, ingestion, skin uptake, and injection of engineered nanomaterials. Information about safety and potential hazards is urgently needed. The new field of nanotoxicology, which can be defined as safety evaluation of engineered nanostructures and nanodevices, addresses this need by identifying NP-cell interactions through specific in vivo and in vitro tests. When inhaled, certain sizes of NP are efficiently deposited by diffusional mechanisms in all regions of the respiratory tract. The small particle size facilitates uptake into cells, transcytosis across epithelial and endothelial cells into the blood and lymph circulation to reach potentially sensitive target sites such as bone marrow, lymph nodes, the spleen, and the heart. Access to the central nervous system and ganglia via translocation along axons and dendrites of neurons has also been observed. NP penetrating the skin distribute via uptake into lymphatic channels. Endocytosis, and biokinetics are largely dependent on NP surface chemistry (coating) and in vivo surface modifications. The greater surface area per mass compared to larger-sized particles of the same chemical structure renders NP more active biologically. This activity includes a potential for inflammatory and pro-oxidant, but also anti-oxidant, activity. Evidence of mitochondrial distribution and oxidative stress response following NP endocytosis points to a need for basic research about their interactions with subcellular structures. Considerations for assessing safety of engineered NP include careful selections of appropriate and relevant doses/concentrations, the likelihood of increased effects in a compromised organism, and the development of new specific tests. This should be balanced with the benefits of possible desirable effects in medical and other applications. An interdisciplinary team approach (e.g., toxicology, materials science, medicine, molecular biology, and bioinformatics, to name a few) is mandatory for nanotoxicology research to arrive at an appropriate risk assessment.

Dr. Günter Oberdörster is a professor of toxicology at the University of Rochester, Department of Environmental Medicine. He received a DVM in veterinary medicine and doctorate in pharmacology from the University of Giessen, Germany.

12. Secondary Aerosol Formation

Dr. Paul J. Ziemann, Air Pollution Research Center and Department of Environmental Sciences, University of California, Riverside, CA

Secondary aerosol is an important component of atmospheric fine particles that generally consists of organics, sulfates, and nitrates. The processes that lead to the formation of this material are often complex, and can involve gas- and particle-phase chemistry, nucleation, and gas-particle partitioning. In this course, I will discuss the major chemical reactions and partitioning processes involved in the formation of secondary organ-

ic and inorganic aerosol (with a strong emphasis on organic aerosol) using examples from laboratory and field studies. Paul Ziemann is an associate professor of atmospheric chemistry at the University of California, Riverside. He received a doctorate in chemistry from Penn State University and was a postdoctoral researcher in the Particle Technology Laboratory at the University of Minnesota.

Session Four: 3:00 pm – 4:40 pm

13. Preparation of Nanoparticles and Nanostructured Powders by Spray Method for Their Applications in Nanotechnology
Dr. Kikuo Okuyama, Department of Chemical Engineering, Graduate School of Engineering, Hiroshima University, Higashi-Hiroshima, Japan

Recently, nanoparticles and nanostructured powders are attracting great interest in science and engineering as functional materials for use in electronics, biotechnology, etc. Spray methods are promising routes to produce single and multicomponent nanoparticles and nanostructured powders. In this tutorial, I would like to talk about: 1) General scope of particle preparation by spray pyrolysis and spray drying methods; 2) Preparation of nanoparticles using physical and chemical methods (electrospray pyrolysis, low-pressure expansion method, etc.); 3) Dispersing technology for agglomerated nanoparticles; 4) Preparation of ordered porous powders as well as particles composite by spray drying method; and 5) The application of nanoparticles and nanostructured powders in nanotechnology.

Professor Kikuo Okuyama is a professor in the Department of Chemical Engineering, Graduate School of Engineering at Hiroshima University. He received his bachelor's (1971) and master's (1973) degrees in chemical engineering from Kanazawa University, and he received his doctor of engineering (1978) in chemical engineering at the University of Osaka Prefecture. He is the president of the Japan Association of Aerosol Science and Technology (JAAST), and serves as editor of the Journal of the Society of Powder Technology Japan, Journal of Nanoparticle Research, and Aerosol Science and Technology.

14. Aerosol Technology for Drug Delivery
Dr. Warren Finlay, University of Alberta, Department of Mechanical Engineering, Edmonton, Alberta, Canada

The number of technologies under development for delivering therapeutic aerosols to the respiratory tract has increased dramatically in recent years, yielding a surprisingly large array of aerosol delivery devices and formulations. However, the fundamental principles governing these systems are relatively few, and understanding these principles allows the scientist or engi-

neer to much more easily understand the many competing pharmaceutical aerosol delivery systems. The focus of this tutorial is thus on the underlying mechanics of inhaled pharmaceutical aerosol delivery devices, including existing aqueous systems, dry powder inhalers, propellant driven metered dose inhalers, as well as new systems under development.

Warren Finlay is a professor of mechanical engineering at the University of Alberta where he holds the distinguished title of Killam Annual Professor. He received bachelor's and master's degrees in electrical engineering from the University of Alberta, and a doctorate degree in mechanical engineering from Stanford University. He is the author of the book Mechanics of Inhaled Pharmaceutical Aerosols, Academic Press, 2001.

15. Instrumentation and Theory of Cloud Condensation Nuclei Measurements

Dr. Athanasios Nenes, Georgia Institute of Technology, Schools of Earth and Atmospheric Sciences and Chemical and Biomolecular Engineering, Atlanta, GA

The past few years have seen a significant and growing interest in measuring the potential of aerosols to act as cloud condensation nuclei (CCN). Numerous techniques during the years have been developed for this purpose; they all involve exposing of an aerosol sample to a controlled water vapor supersaturation and optically detect the size and concentration of droplets that form. We will review the diverse set of designs and detection approaches, as well as theoretically analyze the methodology embodied by each CCN instrument. Results from laboratory and field experiments will be presented to demonstrate the capabilities of these instruments and highlight their importance for quantitative understanding of aerosol-cloud interactions.

Athanasios Nenes is an assistant professor in the Schools of Earth and Atmospheric Sciences and Chemical and Biomolecular Engineering at the Georgia Institute of Technology. He received a diploma in chemical engineering from the National Technical University of Athens, a master's degree in atmospheric chemistry from the University of Miami, and a doctorate in chemical engineering from the California Institute of Technology.

16. Making Use of Satellite-Derived Aerosol Amounts, Distributions, and Properties

Dr. Ralph Kahn, Jet Propulsion Laboratory, Caltech, Pasadena, CA

Space-borne instruments are providing increasing amounts of data relating to global aerosol spectral optical depth, horizontal and vertical distribution, and micro-physical properties. The data sets, and many of the underlying techniques, are new. They represent a vast amount of information, potentially useful to the AAAR community. However, there are also issues, some quite

subtle, that scientific users must take into consideration. This tutorial will provide one view of the answers to the following four questions: 1.) What satellite-derived aerosol products are available?; 2.) What are their strengths and limitations?; 3.) How are they being used now?; and 4.) How might they be used in conjunction with each other, with sub-orbital measurements, and with models to address cutting-edge aerosol questions?

Ralph Kahn is a principal scientist in the Earth and Space Sciences Division at JPL. He is the aerosol scientist for the Multi-angle Imaging SpectroRadiometer (MISR) instrument, which flies aboard the NASA Earth Observing System's Terra satellite. Kahn received his doctorate in applied physics from Harvard University.

PLENARY LECTURES

Monday, September 11, 2006

Assembling Materials and Devices from Nanoscale Building Blocks
Richard W. Siegel

The past decade has seen an explosive growth worldwide in the physical, chemical, and biological synthesis and study of a wide range of nanoscale building blocks with unique properties. The aerosol research community has made significant contributions to this growth. Great strides are now being made worldwide in our ability to assemble these nanoscale building blocks to create advanced materials and devices with novel properties and functionalities. The novel properties of nanostructures are derived from their confined sizes and their very large surface-to-volume ratios. The former give rise to unique size-dependent properties in the nanoscale (1-100 nm) regime, while the latter gives rise to the ability of nanoscale additions to conventional material matrices to dramatically change the host material's properties. A perspective of this important research area will be presented based upon specific examples from our work in the Center for Directed Assembly of Nanostructures supported by the Nanoscale Science and Engineering Initiative of the National Science Foundation. Examples will be given of directed assembly of nanoparticles, nanotubes, and hybrid structures containing these and biomolecules, to make new materials and devices that possess enhanced mechanical, electrical, optical, and bioactive properties, and multifunctional combinations thereof. The opportunities and challenges facing the worldwide research community in moving forward in this area will be considered.

Biography: Richard W. Siegel is the Robert W. Hunt Professor of Materials Science and Engineering and founding director of the Nanotechnology Center at Rensselaer Polytechnic Institute. He is also founding director of the National Science Foundation

Nanoscale Science and Engineering Center for Directed Assembly of Nanostructures. He graduated from Williams College in 1958 with an bachelor's degree in physics and received a master's degree in physics in 1960 and a doctorate in metallurgy in 1965 from the University of Illinois in Urbana. Dr. Siegel has been a visiting professor in Germany, Israel, India, Switzerland, and Japan and has been active in local, national, and international professional organizations. He is currently a member of the Nanotechnology Technical Advisory Group of the U.S. President's Council of Advisors on Science and Technology. Dr. Siegel chaired the World Technology Evaluation Center worldwide study on nanostructure science and technology during 1996-98 that led to the U.S. National Nanotechnology Initiative in 2001. He was also past chairman (1992-96) of the International Committee on Nanostructured Materials. Dr. Siegel has authored more than 240 publications and several patents (10 issued, 8 pending) in the areas of defects in metals, diffusion, and nanostructured metal, ceramic, composite, and biomaterials. He has presented more than 450 invited lectures around the world and has also edited 10 books on these subjects. He is an Honorary Member of the Materials Research Societies of India and Japan, and a 1994 recipient of an Alexander von Humboldt Foundation Senior Research Award in Germany. In 2001, he was named a RIKEN Eminent Scientist in Japan. Dr. Siegel also received a 2003 Deutsche Bank Prize "Pioneer of Nanotechnology – Nanomaterials" in Germany.

Tuesday, September 12, 2006

8:00 am – 9:15 am
Indoor Aerosols: Do We Need More Data or More Science?
Lidia Morawska

To state that indoor aerosol is different from outdoor aerosol is not a discovery. With the many sources specific to indoor environment and the myriad of factors, as well as physical and chemical processes affecting this environment, the differences are unavoidable. Yet, at times there is very little difference between the characteristics of indoor and outdoor particles: for example for naturally ventilated buildings penetration of particles of all sizes with significance to human health is almost 100 percent. To develop a complete quantitative understanding of particles in indoor environment, consideration needs to be given to the emissions from indoor sources and penetration of particles from outdoor; the type and operation of the ventilation and filtration system; building characteristics and its operation; and last but not least complex particle dynamic and physico chemistry of the processes occurring indoors.

While outdoor aerosols have been studied for decades, scientific interest in indoor aerosols followed much later and in consequence, there is still less data, knowledge and quantitative tools available for various types of indoor environments. In general,

the assessment and comparison of results from different studies is complicated by large differences in their design, including duration, number of houses investigated, instrumentation used, and thus the measured parameters including particle size ranges. Among other gaps in knowledge, there have been relatively few studies reporting particle number concentration and the scatter of the reported results for size-classified particles is substantial. There is a need to explain and quantify the role of different mechanisms contributing to particle concentration levels and size distribution characteristics in mechanically ventilated large buildings. While there is some data available on indoor source emission factors, the data is still very limited and the variation in emission factors between the same types of sources is substantial; thus predictions through modeling of the level of increase in individual indoor environments is not very reliable. There are a number of existing mathematical models, however, discussion continues about improvements in terms of better model validation, accuracy, input requirements, and also a need for the development of new simulation tools capable of progressing with the new advances in the multi-disciplinary and complex field of indoor environments.

Nevertheless, despite these deficiencies a clearer picture of indoor particles, their concentration levels, trends in the concentrations and the factors affecting them, is emerging. In particular, there is a good understanding of the effect of the outdoor particle characteristics on those encountered indoors for naturally ventilated buildings, and on the relative contributions from the most significant indoor sources to the indoor particle concentrations. There is an understanding that the short term impact of indoor sources, particularly combustion sources is even stronger on particle number, than on particle mass, and the resulting concentrations can increase by a few orders of magnitude. There is also an increasing understanding on the production of particles through chemical reactions involving vapors and gases, through processes such as reactions between ozone and various terpenes in indoor environments, which have been shown to result in a significant increase in the number and mass concentrations of submicrometer particles.

The presentation reviews the state of knowledge regarding the abovementioned and other key aspects of indoor aerosols and outlines the needs and likely future directions of research and applications in this field.

Biography: Lidia Morawska is a professor at the School of Physical and Chemical Sciences, Queensland University of Technology (QUT) in Brisbane, Australia, and the director of the International Laboratory for Air Quality and Health (ILAQH) at QUT, which is a Collaborating Centre of the World Health Organization. She conducts fundamental and applied research in the interdisciplinary field of air quality and its impact on human health and the environment, with a specific focus on sci-

ence of airborne particulate matter. Professor Morawska is a physicist and received her doctorate at the Jagiellonian University, Krakow, Poland for research on radon and its progeny. Prior to joining QUT she spent several years in Canada conducting research first at McMaster University in Hamilton as a Fellow of the International Atomic Energy Agency, and later at the University of Toronto. Dr Morawska is an author of more than 150 journal papers, book chapters and conference papers. She has also been involved at the executive level with a number of relevant national and international professional bodies and has been acting as an advisor to the World Health Organization. She is the immediate past president of the International Society of Indoor Air Quality and Climate.

Wednesday, September 13, 2006

8:00 am – 9:15 am
Reinventing the Wheel: New Vistas for Aerosol Measurement
Richard C. Flagan

The core aerosol measurement methods, inertial separation, condensational particle detection, and electrical mobility measurements all have their roots in the 19th century, but only entered common usage in the mid to late 20th century. Electronic detection of light scattering enabled further advances: instruments that provided real-time assessments of aerosol concentrations and particle size distributions. The resulting flood of data from these instruments revolutionized aerosol science. Where early investigators examined so-called large ions and Aitken particles in broad classes, the electrical mobility analyzer revealed the multimodal nature of the atmospheric aerosol. Refined cascade impactors displayed the size dependence of the aerosol composition, and with that advance, provided insights into the physical and chemical mechanisms of aerosol particle formation and growth.

Manufacturers of aerosol instruments made the improved measurement methods available to the aerosol community at large; no longer were advanced measurement methods limited to those researchers who possessed the resources and skills to build their own.

Standardization reduced differences between measurements, and enabled the atmospheric aerosol to be characterized with rigor that had not previously been possible. Just as the nature of the atmospheric aerosol was revealed, the ideal aerosol measurement was defined, but remained unattainable even while aerosol theory advanced to the limits of available aerosol measurements and beyond.

The dawn of the 21st century brought a new era of invention in aerosol measurement. New generations of instruments expand-

ed routine aerosol measurements into the nanometer size regime, improved resolution of particle size and of the transient nature of the atmospheric aerosol. Near-real-time aerosol chemistry measurements, including determination of the chemical composition of individual aerosol particles, provide new insights into the nature of atmospheric particles; advances in laboratory-based analytical chemistry enhanced specificity in chemical species identification.

Combined with advances in statistical data analysis, trajectory modeling, and related simulation methods, these have enhanced the links between sources and the atmospheric aerosol. Long duration measurements of ultra fine atmospheric particle size distributions that have been enabled by computer-controlled instrumentation have shown that homogeneous nucleation in the atmosphere is not a rare event that can occur only in remote, and very clean environments; instead it has been seen virtually everywhere people have looked for it.

Still, major challenges remain. Aerosol measurements remain the purvue of specialists. Instruments are expensive and required detailed knowledge to operate. While research-level instrumentation has undergone successive revolutionary developments, routine monitoring of the atmospheric aerosol has remained constrained by legal mandates. First PM10, and, more recently, PM2.5 measurements have become the norm. Sampling networks have provided datasets that facilitated epidemiological studies of the health consequences of atmospheric aerosols, especially fine particles. Observations of aggravated respiratory problems in children who live near freeways where diesel trucks emit large numbers of particles in the low nanometer size range suggest that better data are needed. While legal definitions of air pollution problems are required by regulators, rigorous understanding of the health consequences requires much more. At the same time, epidemiological investigations demand measurements that can be widely deployed and continuously operated without fail; gaps in datasets due to instrument malfunction can seriously jeopardize efforts to unravel health consequences. To meet these needs, aerosol instrumentation must not only be made much more reliable than present laboratory tools, it must also be much less expensive to purchase and operate.

Occupational exposure measurements within the emerging nanotechnology industries face similar challenges. Mass measurements do not adequately assess potential threats of particles can translocate across cell membranes in the lungs to enter the circulatory system and other tissues, or into olfactory neurons through which they may migrate to the olfactory cortex. Differential mobility analyzers can characterize the aerosol, but cannot follow a worker to assess integral exposures.

New approaches that will enable these advances are on the horizon.

Radical approaches to aerosol measurement are being developed in laboratories around the world. A number of developments push the limits on resolution of aerosol particle size and chemical composition; aerosol mass spectrometry and condensation-enhanced particle sampling schemes are rapidly expanding our chemical understanding of the atmospheric aerosol. Others are addressing the challenges I have identified above. For example, new particle size analyzers may enable measurements of aerosol nanoparticles to be deployed into the extended networks required by epidemiologists. New sampling methods should facilitate improved chemical and biological characterization of atmospheric particles. By replacing operationally defined metrics, direct measurements promise to reduce the ambiguity in key atmospheric and exposure parameters. This presentation seeks to highlight a number of ongoing developments in aerosol measurement technology, to place those in context with the historical methods that have fostered the development of aerosol science to its present state, and to explore the evolving challenges to the aerosol measurement community.

Biography: Richard C. Flagan is the Irma and Ross McCollum-William H. Corcoran Professor of Chemical Engineering and professor of environmental science and engineering, in the Division of Chemistry and Chemical Engineering California Institute of Technology Pasadena. He received his bachelor's degree in mechanical engineering at the University of Michigan in 1969; master's degree and doctorate from the Massachusetts Institute of Technology, in 1971 and 1973, respectively. His research interests are in control of air pollutants, combustion, and aerosol processes. He is a recipient of numerous awards such as an Honorary Doctorate from Lund University, Sweden; and various awards from aerosol societies such as the David Sinclair Award of the American Association for Aerosol Research (1993); Japan Society for the Promotion of Science Fellow (1992); Marion Smoluchowski Award for Aerosol Research presented by the Gesellschaft für Aerosolforschung (1990). He has published extensively and has more than 200 refereed journal publications.

Thursday, September 14, 2006
8:00 am – 9:15 am
Health Effects of Ambient Particulate Matter
Bert Brunekreef

The health effects of ambient particulate matter (PM) have been subjected to intense research in the last decades. Epidemiological studies have suggested that adverse effects on health occur both after short-term and long-term exposures. The lecture will provide an overview of epidemiologic research methods and findings.

Effects of short-term exposure have been investigated in time series studies, which take advantage of day-to-day or hour-to-hour variations in ambient PM concentrations caused by meteorological phenomena and/or temporal variations in sources e.g. rush hour traffic. The PM 'input' data in such studies are usually derived from routine monitoring stations. As a result, they are constrained to what is monitored (usually regulated metrics such as PM10 or PM2.5, particles smaller than 10 or 2.5 mm), and to where it is monitored (often urban background sites). The health 'output' data are also often derived from routinely collecting registries such as death registries or hospital admissions registries. Sometimes, studies are performed among specially selected subjects such as panels of asthma patients, or patients suffering from cardiovascular disease. As the use of data that have been collected already requires relatively few resources, hundreds of time series studies have been published. The collective evidence suggests that effects on mortality and hospital admissions occur at low levels of exposure, i.e. below current air quality guidelines and standards. Much attention has been paid to potential biases such as confounding by weather variables, gaseous air pollution components, and preferential publication of positive findings. Another issue that has been scrutinized is the extent of 'mortality displacement', i.e. assessment of by how many days or months death is being advanced by exposure to short-term increases in PM pollution. Other biases such as those related to measurement error and to the use of single days to characterize exposure have received less attention.

Effects of long-term exposure have been investigated in a small number of cohort studies. In cohort studies, carefully characterized groups of subjects living in areas with differences in PM exposure are being followed for periods of years to decades. The PM 'input' data again are usually routinely collected data, although there are a few examples of studies with dedicated PM monitoring. The health 'output' data consist of survival of cohort members or development of clinical or sub clinical disease. Because cohort members are carefully characterized with respect to potential confounding variables such as smoking, diet, occupation etc., cohort studies offer unique opportunities to single out PM effects. To date, only two or three cohort studies exist in the world that have been specifically designed to study long term effects of air pollution including PM. Other studies were started for different reasons, but have been taken advantage of by adding exposure assessment to ambient PM to it. The main cohort studies published to date suggest that effects on mortality and disease development occur at PM levels below current guidelines and standards, and that the loss of life expectancy associated with PM exposure may be substantial. In view of this, the data from two major U.S. cohort studies (the Harvard Six Cities Study and the American Cancer Society II study) have been extensively re-analyzed by a team of inde-

pendent researchers. This reanalysis has generally supported the original findings, but has also found that effects seem to occur primarily in subjects with only high school education or less. Also, the reanalysis suggested that PM effects were not easily distinguishable from effects of some of the gaseous components in ambient air. European cohort studies have focused on within-city contrasts in traffic-related air pollution mixtures, and have shown associations between these mixtures (characterized by nitrogen oxides or soot measurements) and survival.

Epidemiology is a largely observational science, for the obvious reason that experiments on humans can only be performed to a very limited extent. The causality of associations observed in epidemiological studies therefore needs to be addressed carefully. Elements contributing to a causal interpretation include repetition of findings under various circumstances, explanation of differences in findings by plausible differences in exposure to 'effect modifiers', plausible exclusion of alternative explanations by confounding variables or selection, and support from experimental studies in animals. In view of the complexity of ambient300

PM it has been difficult to recreate ambient PM exposures in the laboratory. The use of particle concentrators has provided researchers with a unique tool to study PM effects in the laboratory without artifacts generated by PM collection and re-suspension. Evidence is now emerging from long term PM concentrator studies that support findings from epidemiology.

The results from the PM cohort studies have now been used in worldwide and European health impact assessment exercises, which in turn have been subjected to cost benefit analyses in support of PM policy development. Both in the U.S. and Europe, PM regulations are being updated in 2006. Also, the World Health Organization is preparing Air Quality Guidelines for worldwide application for the first time. At the conference, a brief overview will be given of the most recent decisions and proposals.

Biography: Bert Brunekreef is a professor of environmental epidemiology and director, Institute for Risk Assessment Sciences at Utrecht University. Since 2000 he is heading the Environmental and Occupational Health Division of the newly formed Institute for Risk Assessment Sciences (IRAS) at the Utrecht University. Recently, the Institute for Risk Assessment Sciences has absorbed the Department of Food Safety and Veterinary Public Health, and professor Brunekreef became director of IRAS as of January 1, 2005. On several occasions, Bert Brunekreef served as advisor on national and internati-onal panels in the field of environmental health, including the Dutch National Health Council, of which he is a member, WHO, and the U.S. EPA. Bert Brunekreef is co-author of more than 200 peer reviewed journal articles in the field of environmental epidemiology and exposure assessment.

Friday, September 15, 2006
8:00 am – 9:15 am
Primary Versus Secondary and Biogenic Versus Anthropogenic Organic Aerosol: Grand Challenges in Atmospheric Aerosol Research
Urs Baltensperger

Organic aerosol is either emitted as primary aerosol or formed in the atmosphere as secondary aerosol from gaseous precursors. In both cases, biogenic as well as anthropogenic sources contribute to the overall aerosol loading. Recent developments have substantially improved our understanding in this respect. As an example, carbon-14 analysis is able to distinguish fossil from biogenic carbon. Combined with a discrimination of the water soluble and water insoluble fractions this method offers a great potential in tackling the above challenges. Concerning secondary organic aerosol, the polymerization (or rather oligomerization) processes recently found in simulation chamber experiments have triggered extensive research all over the world. As a result of this oligomerization, larger molecules with a lower vapor pressure are formed. This results in higher yields of secondary organic aerosol, with different chemical and physical features. This in turn may induce substantial changes in the health and climate impact of the atmospheric aerosol. New and innovative interdisciplinary research has a great potential in further improving our knowledge in this exciting field of research.

Biography: Urs Baltensperger is currently head of the Laboratory of Atmospheric Chemistry, Paul Scherrer Institut in Switzerland and a lecturer at ETH Zurich. He studied chemistry at the University of Zurich. Since his doctoral thesis, he has been interested in aerosol research, focusing on physical and chemical aerosol characterization, heterogeneous chemistry, and aerosol effects on climate. He is chairman of the Scientific Advisory Group for Aerosol of the Global Atmosphere Watch program of the World Meteorological Organization (WMO), and president of the Commission for Atmospheric Chemistry and Physics of the Swiss Academy of Natural Sciences. He received the Professor Dr. Vilho Vaisala Award of WMO in 2003. He is author or co-author of more than 130 peer-reviewed papers, and has supervised about 20 doctoral theses.

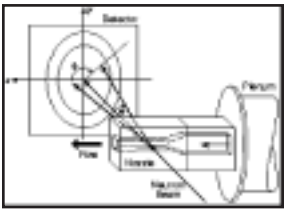
Specialty Symposia at the International Aerosol Conference

In addition to several high quality technical sessions, tutorials and plenary lectures, there will be a series of specialty symposia.

Nanoparticle Related Symposia

A series of four symposia will be held in addition to the various technical sessions discussing various aspects of nanoparticle science and technology.

- Noninvasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-Rays, and Light



Organizers: Barbara Wyslouzil and Chris Sorensen

Scattering of waves, be they electromagnetic, as light or x-rays, or neutrons, is the primary means by which science has determined the microscopic structure of matter. In aerosol science light scattering has been the primary scattering method used to detect and measure the morphology of the constituent particles. As science and technology delve into the nanometer regime, light scattering becomes insufficient for useful detection and measurement of nanometer sized particles. Thus new radiation sources and concomitant experimental technologies must be developed if wave scattering probes are to continue to be of great benefit to aerosol studies as they have been in the past. New sources and technologies appropriate for nanoscale aerosol scattering studies are currently being developed. These include synchrotron light sources in the x-ray and VUV wavelength ranges (0.2 to 200nm) and high flux neutron sources. These represent a new and growing technologies leading to ground breaking experimental methods. This symposium will bring together scientists who are either using these new devices or have interest to do so in order to: 1) exchange ideas and thus advance the field and 2) inform and educate other scientists, especially young scientists, of the opportunities, facilities and methods available in this burgeoning area.

- **Nanoparticle Dosimetry, Toxicology and Cellular Interactions** (Jointly with ISAM)

Organizers: Chong S. Kim, Wolfgang Kreyling and Marianne Geiser

The overall goal of this symposium is to address the importance of emerging nanoparticle technology, particularly related to effects on health. With hundreds of tons of nanomaterials already being made worldwide, potential impact of exposure to these tiny materials on health is enormous and yet is largely unknown. To highlight the impending issues the symposium will be organized with three sessions: 1) transport and deposition of nanoparticles in the respiratory tract (nanoparticle dosimetry), 2) cellular interactions with nanoparticles and 3) biological responses and toxicological effects. Both in vivo and in vitro experiments, mathematical models and computer simulation studies will be put together such that the symposium may serve as a forum for a broad aspect of nanoparticles in health. The symposium is sponsored jointly with International Society for Aerosols in Medicine and international experts in the featured topics will be invited as a lead speaker.

- **Nanomaterials and Occupational Health**

Organizers: Mark D. Hoover, Andrew Maynard, and Chuen-Jinn Tsai

The purpose of this symposium is to highlight research gaps, recent advances, and ongoing occupational health activities in aerosol science and technology related to the toxicity, health effects, exposure assessment, measurement, control, surveillance, risk assessment, risk management, and application of nanomaterials and nanotechnologies. Particular emphasis will be on accomplishments and opportunities for members of the International Aerosol Research Assembly to contribute to the methods validation, information sharing, and partnering aspects of aerosol science and technology for safe nanotechnologies. The format will include invited speakers and poster topics, submitted platform and poster presentations, and discussion sessions. Case studies describing workplace experiences and practices and measured particle characteristics are especially encouraged.

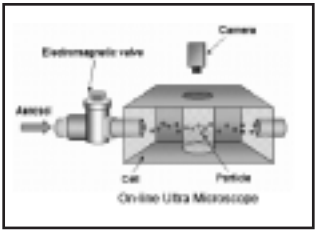
- **Industry Forum on Nanoparticle Science and Technology**

Organizers: Sheldon Davis and Pratim Biswas

The goal of this symposium is to have a forum to discuss industry needs in nanoparticle science and technology, and how aerosol scientists can contribute to the progress. The forum will be include presentations by representatives from various industrial sectors – such as catalysis, powder production, chemicals

production, microelectronics and others. Presentations will provide a holistic view of the field as seen by industrial researchers. It is planned to organize a panel discussion to promote discussion and encourage audience participation.

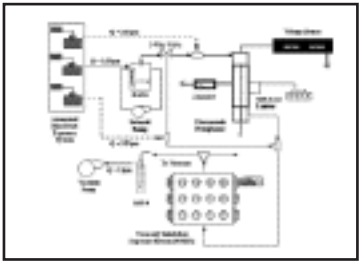
Computer Software for Aerosol Research and Education



Organizers: Chang-Yu Wu and Kikuo Okuyama

Computer software is an important tool that provides researchers unforeseen insights into the aerosol system and helps them understand the dynamic behavior of aerosols. It offers possibilities of being used as an educational tool that can help students visualize complex aerosol systems and/or learn how to operate instrument in a virtual environment. Advances in information technology in recent years have greatly diversified the use of computer software in aerosol research and education. The goal of this symposium is to provide a mechanism that catalyzes the development and dissemination of such efforts. The symposium will be run in three formats with presentations via platform sessions, poster sessions and actual demonstration via computer stations. Topics of interest include various types of software and assessment methodologies, such as (but not limited to): aerosol mechanics; virtual instruments; data inversion; aerosol dynamics; simulation methods; visualization; aerosol chemistry; lab preparation; health/environmental risk assessment, and others. In addition, the plan is to discuss funding opportunities and publication mechanisms in the symposium.

Aerosol and Bioterrorism Defense



Organizers: Sergey Grinshpun and Ed Steubing

The goal of this symposium is to include a series of presentations related to the issues of homeland security and bioterrorism defense. Aerosol science and engineering can make signifi-

cant contributions in the detection of bioagents, and develop technologies for remediation. A series of presentations will discuss novel, real-time methods for detection of bioagents, their characterization and devices for capture and inactivation.

Exhibitors

IAC gratefully acknowledges the following companies for their participation this year! Please stop by and visit each company in the exhibit area located in the Great River Ballroom.

Organization **Booth Number**
As of 8/1/06

EXHIBITOR LISTING

As of 8/1/06

Exhibitor **Booth Number**

Applikon Analyzers Inc. **20, 21**
1701 Northpark Dr.
Suite #20
Kingwood, TX 77339
USA
Tel: 281-354-2211
Fax: 281-354-0050

Online and Laboratory Instrumentation of Multi-Parameter Ions in Ambient Air using Ion Chromatography: MARGA: Monitoring of Inorganic Species in Aerosols and Gases. Technology utilizes a Wet Rotating Denuder and a Steam Jet Collector to dissolve and separate gases and aerosols. PILS: Particle in Liquid Sampler of atmospheric aerosol composition.

BGI Instruments **28**
58 Guinan St.
Waltham, MA 02451
USA
Tel: 781-891-9380
Fax: 781-891-8151

During the past 35 years, BGI Instruments has continued to provide solutions to aerosol and air quality scientists. Providing the highest quality particulate and calibration instruments, BGI is the only commercial manufacturer still able to provide special and custom designs. Visit BGI at www.BGIUSA.com

Brechtel Mfg. Inc. **11**
1789 Addison Way
Hayward, CA 94544
USA
Tel: 510-732-9723
Fax: 510-732-9153

BMI produces aerosol sizing, counting and composition measurement products, specializing in OPC, DMA and PILS technologies. We develop new instrumentation to satisfy each customer's unique sampling needs. BMI offers sampling inlets and testing services utilizing our wind tunnel facility. We also fabricate high vacuum chambers/components and offer vacuum brazing services.

Cambustion Ltd. **13**
J6 The Paddocks
347 Cherry Hinton Rd.
Cambridge, CB1 8DH
UNITED KINGDOM
Tel: +44 1223210250
Fax: 44-1223210190

Cambustion manufactures two fast particulate-size spectrometers that span a wide range of engine and environment aerosol applications. The new DMS50 offers unique turn-key mobile sampling with rapid time response, while the well-established DMS500 is fully specified for a range of demanding engine/DPF development techniques.

ChemImage **3**
7301 Penn Ave.
Pittsburgh, PA 15208
USA
Tel: 412-241-7335
Fax: 412-241-7311

ChemImage is a revolutionary imaging company bringing modern imaging technology to pharmaceutical, forensic, biomedical and bio-treat applications. Our focus is on solutions that enable our customers to gain competitive advantage, by speeding products to market and seamlessly enabling projects to flow from the lab through scale-up and into production.

Chimera Technologies **8**
15051 Zodiac St. NE
Forest Lake, MN 55025
USA
Tel: 651-464-7771

FPM: Fine Particle Model for FLUENT – Consulting with FPM for CFD-based aerosol-dynamics modeling of particle formation, growth, and transport in chemical reactors (www.CFD.com). DistFit: Particle Size Distribution Fitting – Development and use of DistFit for particle size distribution analysis and fitting multiple, overlapping distribution functions to particle size distribution data (www.DistFit.com).

Dekati Ltd. **17**
Osuusmyllynkatu 13
Tampere, 33700
FINLAND
Tel: +358 3 3578100
Fax: 358 3 3578140

Dekati Ltd. is a leading manufacture of real-time aerosol, measurement instruments and sampling devices. We provide solutions for automotive, combustion, pharmaceutical and material processing industries, and also for indoor and outdoor particle measurements. The company product line ranges from real-time instruments such as the Electrical Low Pressure Impactor (ELPI) to different types of gravimetric impactors and complete sampling systems. The broad range of instruments gives a definite edge to solve any and all of your fine particle measurement and sampling problems.

Droplet Measurement Technologies **1**
5710 Flatiron Pkwy.
Boulder, CO 80301
USA
Tel: 303-440-5576
Fax: 303-440-1865

Droplet Measurement Technologies will exhibit a new dual column CCN instrument with measurement capabilities at two super saturations. The single particle soot photometer will be on display providing individual particle information for black carbon. A high resolution aerosol instrument (UHSAS, 0.055-1.0µ) will be available from the recent acquisition of the PMI meteorological product line.

Grimm Aerosol Technik **24**
Dorfstr. 9
Ainring, 83404
GERMANY
Tel: +49 86545780
Fax: 49 865457835

The company GRIMM Aerosol Technik GmbH has been established more than 20 years ago by Hans-Juergen Grimm in Bavaria, Germany. Meanwhile, GRIMM Aerosol Technik is one of the worldwide leading companies in the field of particle measurement due to their innovative developments and manufacturing. The company offers a product range of complete solutions for emission and immission monitoring, IAQ/workplace safety, nano particle counter and sizer, filter testing and aerosol generators. The products and technologies are used in different applications, such as environmental monitoring, indoor air quality, engine emission testing, pharmaceutical, epidemiological studies and quality control.

Grimm Technologies Inc. **25**
PO Box 6358
Douglasville, GA 30154
USA
Tel: 770-577-0853
Fax: 770-577-0955

GRIMM Technologies Inc./Grimm Aerosol Technik Germany, manufactures real-time portable and stationary aerosol ultrafine particle counters, spectrometers, SMPS +C systems, as well as aerosol generators, for a wide range of environmental, laboratory, IAQ and field applications. Measurement capabilities are from .8nm to 32 microns.

In-Tox Products LLC **29**
PO Box 2070
101 Wilderness Ct. S
Moriarty, NM 87035
USA
Tel: 505-832-5107
Fax: 505-832-4147

In-Tox Products is the foremost developer and supplier of aerosol equipment for toxicology and environmental research. We manufacture equipment for aerosol generation, collection, sampling of particulate and aerosol delivery to test subjects. Our chambers feature the exclusive Positive Flow-Negative Pressure system. We also offer system control units and bio-safety hoods to use in conjunction with our systems. In-Tox Products is the only company to manufacture and market all of our own products, which puts us in the unique position to have very high manufacturing tolerances. The result is well built, precise and reliable instruments.

Kanomax USA Inc. **19**
219 Route 206
PO Box 372
Andover, NJ 07821
USA
Tel: 973-786-6386
Fax: 973-786-7586

Aerosol Particle Mass Analyzer model APM-10 classifies the mas of a single aerosol based on the balance between centrifugal power and electrostatic power. Hand-held Condensation Particle Counter Model 3800 has characteristics of 0.015 um sensitivity and a concentration range of 0 to 100,000 particles/cm3.

MSP Corp. **15, 16**
5910 Rice Creek Pkwy.
Suite 300
Shoreview, MN 55126
USA
Tel: 651-287-8100
Fax: 651-287-8140

MSP Corporation is an applied engineering company located in Shoreview, Minnesota, dedicated to the design, development, and manufacture of particle sampling and measurement instruments. Since 1985, MSP has developed numerous aerosol samplers and analytical instruments that serve clients in the air quality monitoring, pharmaceutical, and semiconductor industries, as well as those engaged in scientific research fields.

Magee Scientific Co. **12**
1829 Francisco St.
Berkeley, CA 94703
USA
Tel: 510-845-2801
Fax: 510-845-7137

Magee Scientific is the originator of the Aethalometer™, measuring aerosol optical absorption to determine 'Black' ("Elemental') Carbon concentration in real time. Multiple wavelength analysis provides information about aromatic Organic Carbon content and size distribution. Models for operation in remote regions, urban areas, and directly from stacks and tailpipes.

Met One Instruments Inc. **27**
1600 Washington Blvd.
Grants Pass, OR 97526
USA
Tel: 541-471-7111
Fax: 541-471-7116

MetOne Instruments Inc. manufacturer of weather and particulate monitoring instrumentation and systems, is an expanding, aggressive company providing solutions to environmental monitoring. By using modern technology and innovative design, combined with years of experience in a variety of situation, we are able to meet the needs of our customers.

Palas GMBH **2**
Greschbachstr 3B
Karlsruhe, 76229
GERMANY
Tel: +49 721962130
Fax: +49 7219621333

Palas® is an internationally recognized company in the field of aerosol technology. Palas® offers aerosol generators, soot generators, particle measuring devices, dilution systems, complete filter test rigs and special developments.

Particle Instruments LLC **18**
1044 Centerville Circle
Vadnais Heights, MN 55127
USA
Tel: 651-407-2888
Fax: 651-407-9050

We are the North American distributor of quality aerosol research products from Aerosol Dynamics, Dekati, Kanomax and Topas. Together these lines form a complete line of instruments for generating, conditioning, sampling and analyzing aerosol particulate matter.

Rion Co. Ltd. **30**
3-20-41 Higashimotomachi
Kokubunji, Tokyo 185-8533
JAPAN
Tel: +81 42 3597878
Fax: +81 42 3597458

RION, a worldwide leader in manufacturing of Laser Particle Counters, offers a full line of highest quality, highest accuracy Air-Borne and Liquid-Borne Particle Counters for any application. Through their vast worldwide network of factory representatives, RION offers locally: sales, full service, integration and application support. Visit us at booth #30.

Sceptor Industries **23**
8301 State Line Rd.
Suite 101
Kansas City, MO 64114
USA
Tel: 816-360-3895
Fax: 816-931-2451

Sceptor develops and markets industry-leading technologies for the collection of indoor/outdoor air contaminants. OMNI™ 3000, a high flow and concentration rate portable aerosol collector for first responders, environmental health/safety managers, and indoor air quality experts utilizes SpinCon® technology to aid in chemical, bioaerosol, and biological threat detection.

Sunset Laboratory Inc. **22**
10160 SW Nimbus Ave.
Tigard, OR 97234
USA
Tel: 503-624-1100
Fax: 503-620-3505

Sunset Laboratory is a major supplier of instruments for measuring Organic and Elemental Carbon Aerosol. There are currently two main types of instruments: A Laboratory-Based OCEC Instrument, meant for analyzing quartz filters containing previously collected aerosol samples; and a Field-Bases Semi-Continuous OCEC Instrument which operates automatically at field locations collecting and analyzing samples typically with one-hour cycle.

Taylor & Francis Group LLC **10**
325 Chestnut St.
Suite 800
Philadelphia, PA 19106
USA
Tel: 215-625-8900
Fax: 215-625-2940

For two centuries, Taylor & Francis has been committed to the publication of scholarly information. Taylor & Francis publishes a wide variety of products in the science and engineering fields. Visit our booth and pick up your free sample copy of *Aerosol Science and Technology*.

TSI Incorporated **5, 6, 7**
500 Cardigan Rd.
Shoreview, MN 55126
USA
Tel: 800-874-2811
Fax: 651-490-3824

TSI manufactures the highest quality, most comprehensive line of high performance instruments for counting, sizing, and generating aerosols. TSI equipment provides measurement solutions for a variety of applications including outdoor air monitoring, emissions analysis, nano-technology, chemical characterization and industrial hygiene. Come explore our entire suite of aerosol products.

Thermo Electron Corporation **4, 4a**
27 Forge Parkway
Franklin, MA 02038
USA
Tel: 508-553-6855
Fax: 508-520-1460

Thermo Electron Corporation, Environmental Instruments, manufactures air quality instruments for environmental compliance and water analysis products to radiation instrumentation systems for nuclear and homeland security markets.

Topas GmbH **26**
Wilischstrasse 1
Dresden, 01279
GERMANY
Tel: +49 3512166430
Fax: +49 35121664355

Topas GmbH is a specialist company in the field of particle technology. Our products are innovative, cutting-edge and tailor made to suit customer requirements. Our standard product range comprises: aerosol generators, particle size measuring instruments for aerosols and liquids, aerosol dilution systems, pore size measuring instruments, process aerosol monitors and electrostatic aerosol neutralizers.

Tsukasa Sokken Co., Ltd. **14**
1-19-4, Tamazutsumi
Setagaya-Ku, Tokyo 157-0087
JAPAN
Tel: +81 3 37034391
Fax: +81 3 37050756

"Sokken" Model SMAC Surface – discharge Aerosol Charger as a neutralizer and Model EMC Electrical Mobility Classifier for aerosol measurement. Tsukasa Sokken Co., Ltd. manufactures a variety of highly sophisticated instruments for RandD applications in automobile and national laboratories in particular more than 40 years.

URG Corporation **9**
116 S. Merritt Mill Rd.
Chapel Hill, NC 27516
USA
Tel: 919-942-2753
Fax: 919-942-3522

The Ambient Ion Monitor (AIM) for the continuous direct measurement of particulate nitrate, sulfate and ammonium contained in PM2.5 with optional measurement of nitric acid and ammonia gases is available from URG. Our outdoor/indoor monitors for simultaneous speciation of acid aerosols, particles, gases, organics, inorganics found in PM2.5, PM1, PM10 include the Annular Denuder System and Mercury Sampling System. Other sampling components include a selection of Teflon coated cyclones and stainless steel cyclones for diesel emissions.

2006 IAC TECHNICAL PROGRAM

Monday 8:00 AM – 9:20 AM
Plenary
Minnesota Ballroom
Pratim Biswas, Chair

8:00 **WELCOME.**
David Y. H. Pui and Gilmore Sem, Conference CoChairs
Prof. Chiu-sen Wang, President, International Aerosol Research Assembly

8:10 **PLENARY 1. ASSEMBLING MATERIALS AND DEVICES FROM NANOSCALE BUILDING BLOCKS.**
Richard W. Siegel, Robert W. Hunt Professor of Materials Science and Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA *(p.1)*

Monday 9:00 AM – 8:00 PM
Exhibits Open
Great River Ballroom

Monday 9:20 AM – 9:40 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Monday 9:40 AM – 11:00 AM
Session 1
1A PM-10 and PM-2.5 Characterization-I (Platform)
Minnesota Ballroom
Philip Silva, W. Rogge, Chairs
9:40
1A1 **THE SOLOMON METHOD OF ORGANIC ARTIFACT ESTIMATION: A QUANTITATIVE ASSESSMENT OF ASSUMPTIONS AND METHOD PERFORMANCE.**
FRANCESCO MAIMONE, Barbara Turpin, Environmental Sciences, Rutgers University, New Brunswick, NJ; Allen Robinson, Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA (p.1112)
10:00
1A2 **APPLYING TWO-DIMENSIONAL GAS CHROMATOGRAPHY TO HIGHLY TIME RESOLVED ORGANIC PM2.5 COLLECTED AT THE BALTIMORE SUPERSITE.** THOMAS GRÖGER, Martin Sklorz, Ralf Zimmermann, GSF – National Research Centre for Environment and Health, Neuherberg,

Germany, Wolfgang F. Rogge, Florida International University, Miami, FL , Jürgen Schnelle-Kreis, Bavarian Institute of Applied Environmental Research and Technology – BIfA GmbH, Augsburg, Germany, Leslie Vogt, University of Augsburg, Augsburg, Germany, John M. Ondov, University of Maryland, College Park, MD, (p.1114)

10:20

1A3 **DICARBOXYLIC ACID CONCENTRATION TRENDS AND SAMPLING ARTIFACTS.** STEPHEN R. MCDOW, Human Exposure and Atmospheric Sciences Division, US EPA, Research Triangle Park, NC; Joshua Ray, New Jersey Department of Environmental Quality, Trenton, NJ (p.1116)

10:40

1A4 **CONTRIBUTION OF SOA AND BIOMASS BURNING TO AMBIENT PM2.5 ORGANIC CARBON CONCENTRATIONS IN RESEARCH TRIANGLE PARK, NC.** Edward Edney, Michael Lewandowski, John Offenberg, TADEUSZ KLEINDIENST, National Exposure Research Laboratoy, U.S. EPA, Research Triangle Park, NC; Mohammed Jaoui, Alion Science and Technology, Research Triangle Park, NC (p.1117)

1B Organic Aerosol Speciation (Platform)

Capitol Ballroom

Jose Jimenez, M. Shrivastava, Chairs

9:40

1B1 **SPECIATED ORGANIC AEROSOL COMPOSITION AT RIVERSIDE, CA DURING SOAR 2005 USING THERMAL DESORPTION AEROSOL GC-MS-FID (TAG).** BRENT WILLIAMS, Allen Goldstein, University of California, Berkeley, CA; Nathan Kreisberg, Susanne Hering, Aerosol Dynamics Inc., Berkeley, CA (p.1473)

10:00

1B2 **CHARACTERIZATION OF THE WATER-SOLUBLE ORGANIC AEROSOL IN THE CONTINENTAL BOUNDARY LAYER AND IN THE FREE TROPOSPHERE BY NUCLEAR MAGNETIC RESONANCE (NMR) SPECTROSCOPIC TECHNIQUES.** STEFANO DECESARI, Maria Cristina Facchini, Sandro Fuzzi, Lorenza Emblico, Valeriana Mancinelli, Matteo Rinaldi, Mihaiela Mircea, Paolo Bonasoni, Paolo Cristofanelli, Italian National Council of Research, Bologna, Italy; Fabrizia Cavalli, Joint Research Centre, Ispra, Italy; Fabio Moretti,

Emilio Tagliavini, University of Bologna, Bologna, Italy; Ari Laaksonen, University of Kuopio, Kuopio, Finland (p.1474)

10:20

1B3 **ANALYSIS OF SOUTHERN CALIFORNIA ORGANIC AEROSOLS DURING THE 2005 STUDY OF ORGANIC AEROSOLS IN RIVERSIDE (SOAR) CAMPAIGN.** KENNETH S. DOCHERTY, Jose L. Jimenez, Joel R. Kimmel, Michael J. Cubison, Edward J. Dunlea, Qi Zhang, Peter DeCarlo, J. Alex Huffman, Allison C. Aiken, Ingrid Ulbrich, Cooperative Institute for Research in Environmental Sciences and Department of Chemistry and Biochemistry, University of Colorado, Boulder; David Snyder, James J. Schauer, Department of Civil and Environmental Engineering, University of Wisconsin, Madison; Richard E. Peltier, Rodney J. Weber, School of Earth and Atmospheric Sciences, Georgia Institute of Technology; Brett Grover, Delbert J. Eatough, Department of Chemistry and Biochemistry, Brigham Young University; Paul J. Ziemann, Air Pollution Research Center, Department of Environmental Sciences, and Department of Chemistry, University of California, Riverside (p.1475)

10:40

1B4 **EVALUATING EFFECTS OF PARTITIONING OF PRIMARY ORGANIC EMISSIONS ON THE ORGANIC AEROSOL BUDGET USING THE 3-D CHEMICAL TRANSPORT MODEL PMCAMX.** MANISH K. SHRIVASTAVA, Allen L. Robinson, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; Tim Lane, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, USA; Spyros N. Pandis, Department of Chemical Engineering, University of Patras, 26500, Patra, Greece (p.1477)

1C Spray Pyrolysis (Platform)

Governors 1 and 5

Junhong Chen, Mark Swihart, Chairs

9:40

1C1 **LIQUID FLAME SPRAY MADE SILVER, TITANIA AND TITANIA-SILVER NANOPARTICLE DEPOSITS.** HELMI KESKINEN, Jyrki M. Mäkelä, Mikko Aromaa, Jorma Keskinen, Aerosol Physics Laboratory, Tampere University of Technology, Tampere, Finland. Erkki Levänen and Tapio Mäntylä,

Institute of Material Sciences, Tampere University of Technology, Tampere, Finland. (p.2)

10:00

1C2 **SYNTHESIS OF TELLURIUM DIOXIDE NANOPARTICLES BY SPRAY PYROLYSIS.** Hongwang Zhang and MARK T. SWIHART, Department of Chemical and Biological Engineering, The University at Buffalo (SUNY), Buffalo, NY (p.3)

10:20

1C3 **SYNTHESIS OF NANOPARTICLES WITH TIGHT CONTROL ON SIZE AND OTHER PROPERTIES IN FLAME AEROSOL REACTORS (FAR) WITH A MULTI-STAGE DMA SYSTEM.** JINGKUN JIANG, Da-Ren Chen, Pratim Biswas, Washington University, Saint Louis, MO (p.5)

10:40

1C4 **CONTROLLED SYNTHESIS OF SILICA NANOPARTICLES USING TWO-FLUID NOZZLE SPRAY IN FLAME PYROLYSIS.** HANKWON CHANG, Hee Dong Jang, Korea Institute of Geoscience and Mineral Resources, Daejeon, Korea; Tae-Oh Kim, Kumoh National Institute of Technology, Gumi, Korea; Kikuo Okuyama, Hiroshima University, Higashi-Hiroshima, Japan (p.7)

1D Marine Boundary Layer Aerosols (Platform)

Govenors 2 – 4

Markku Kulmala, J. Allen, Chairs

9:40

1D1 **MODELLING IODINE PARTICLE FORMATION AND GROWTH FROM SEAWEED IN A CHAMBER.** LIISA PIRJOLA, University of Helsinki, Helsinki, FI and Helsinki Polytechnic, Helsinki, FI; Colin D. O'Dowd, National University of Ireland, Galway, IE;Young J. Yoon, Korea Polar Research Institute, Seoul, KR; Karine Sellegri, Univesité Blaise Pascal, FR (p.1262)

10:00

1D2 **MARINE SECONDARY ORGANIC CONTRIBUTION TO COASTAL NUCLEATION EVENTS.** PETRI VAATTOVAARA, Piia Huttunen, Jorma Joutsensaari, Ari Laaksonen, University of Kuopio, Finland ; Kari Lehtinen, University of Kuopio and Finnish Meteorological Institute, Finland; Young J. Yoon, Korea Polar Research Institute, Republic of Korea; Colin O'Dowd, Department of Experimental Physics and Environmental Change Institute, Ireland (p.1264)

10:20

1D3 **MARINE AEROSOL PRODUCED FROM RED TIDE AT THE GULF COAST.** YUNG SUNG CHENG, Yue Zhou, Lovelace Respiratory Research Institute, Albuquerque, NM; Richard Pierce, Mote Marine Laboratory, Sarasota, FL; Dan Baden, University of North Carolina at Wilmington, NC (p.1265)

10:40

1D4 **IONIC COMPOSITION OF SEA FOAM DROPLETS GENERATED FROM NATURAL AND ARTIFICIAL SEA-WATERS.** COREY A. TYREE, Jonathan O. Allen, Arizona State University, Tempe, AZ (p.1267)

1E Nucleation Theory (Platform)

Wabasha Suite

Ian Ford, R. Flagan, Chairs

9:40

1E1 **REFINING PREDICTIONS OF THE CLASSICAL NUCLEATION THEORY.** TOMAS NEMEC, Petr Krejci, Frantisek Marsik, Institute of Thermomechanics, Prague, Czech Republic (p.1599)

10:00

1E2 **BINARY NUCLEATION THEORY WITHOUT MAXWELL DEMONS.** RICHARD FLAGAN, California Institute of Technology, Pasadena, CA (p.1601)

10:20

1E3 **A KINETIC DESCRIPTION OF MOLECULAR CLUSTER EVAPORATION.** IAN FORD, Sukina Natarajan, Jayesh Bhatt, Hoi Yu Tang, University College London, London, U.K. (p.1602)

10:40

1E4 **TEMPERATURE CONTROL OF SMALL CLUSTERS IN MOLECULAR DYNAMIC SIMULATIONS.** MARTTA SALONEN, Ismo Napari, Hanna Vehkamäki, Department of Physical Science, University of Helsinki, Finland (p.1604)

1F Aerosols in the Workplace (Platform)
Kellogg Suite
Andrea Ferro, Warren Finlay, Chairs
9:40

1F1 **SIZE-FRACTIONATED CHEMICAL CHARACTERISTICS OF AEROSOLS IN PHOSPHATE FERTILIZER MANUFACTURING FACILITIES IN FLORIDA.** YU-MEI HSU, Chang-Yu Wu, Dale A. Lundgren, Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL; Brian K. Birky, Florida Institute of Phosphate Research, Bartow, FL (p.829)

10:00

1F2 **OCCUPATIONAL EXPOSURES TO AIR-BORNE PARTICULATE-METALS IN THE NYC SUBWAY: ASSESSING THE POTENTIAL FOR HEALTH IMPACTS.** DAVID S. GRASS, Steven N. Chillrud, James M. Ross, Farnosh Family, Jon Barbour, H. James Simpson, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY; Drissa Coulibaly, Vesna Slavkovich, Jennifer Hernandez, Yingdi Chen, Regina Santella, Paul Brandt-Rauf, Joseph A. Mailman School of Public Health at Columbia University, New York, NY (p.831)

10:20

1F3 **STUDY OF AIRBORNE PARTICLES GENERATED BY FREE FALLING POWDERS.** MARJORIE JACQUELIN, François Gensdarmes, Institut de Radioprotection et de Sûreté Nucléaire, Gif-sur-Yvette, France; Evelyne Géhin, Centre d'Etudes et de Recherches en Thermique, Environnement et Système, Université Paris XII, Créteil, France (p.832)

10:40

1F4 **STUDY OF AEROSOL PRODUCTION BY NORMAL IMPACTION OF MILLIMETRIC DROPLETS ONTO A LIQUID FILM.** CHARLES MOTZKUS, François Gensdarmes, Institut de Radioprotection et de Sûreté Nucléaire, Gif-sur-Yvette, France; Evelyne Gehin, Université Paris XII, Créteil, France. (p.834)

1G Aerosol Physics-I (Poster)
Garden Court East
Alexey Nadykto, S. Dunnett, Chairs
9:40

1G1 **A STUDY OF AEROSOL SAMPLERS OPERATING IN CALM AIR WHEN SAMPLING HORIZONTALLY.**

SARAH DUNNETT, Loughborough University, Loughborough, U.K., Xianyun Wen, Leeds University, Leeds, U.K. (p.580)

9:40

1G2 **TRANSMISSION EFFICIENCY OF AN AERODYNAMIC PARTICLE FOCUSING LENS SYSTEM: COMPARISON OF MODEL AND MEASUREMENTS.** Peter Liu, Meteorological Service of Canada, Toronto; Deng Rensheng, Kenneth A. Smith, MIT; JOHN T. JAYNE, Leah R. Williams, Manjula R. Canagaratna, Kori Moore and Douglas R. Worsnop, Aerodyne Research, Inc. (p.581)

9:40

1G3 **EFFECT OF SCREEN MESHES ON SETTLING PLATE SAMPLINGS OF AIRBORNE FUNGI.** NAOMICHI YAMAMOTO, Hideaki Matsuki, Tokai University School of Health Sciences, Yukio Yanagisawa, University of Tokyo, Minoru Fujii, National Institute of Environmental Studies, Ibaraki, Japan (p.582)

9:40

1G4 **A NUMERICAL STUDY OF THE THIN-WALLED AEROSOL SAMPLERS IN HIGH VELOCITY RATIOS.** Ahmad Falahatpisheh, Omid Abouali, Department of Mechanical Engineering, Shiraz University, Shiraz, Iran, GOODARZ AHMADI, Department of Mechanical Engineering, Clarkson University, Potsdam, NY, USA (p.583)

9:40

1G5 **DROPLET EVAPORATION/CONDENSATION WITH GAS ABSORPTION ACCOMPANIED BY AQUEOUS-PHASE EQUILIBRIUM DISSOCIATION REACTIONS.** Tov Elperin, Andrew Fominykh and Boris Krasovitov, Ben-Gurion University of the Negev, Israel (p.585)

9:40

1G6 **THERMOPHORESIS OF A SPHERICAL AGGREGATE INDUCED BY THERMAL SLIP AND TRANSPIRATION FLOWS.** ALVARO PEREA, Pedro L. Garcia-Ybarra, Jose L. Castillo, UNED, Spain (p.587)

9:40

1G7 **SIMULATIONS ON DIMER FORMATION IN MONODISPERSE AEROSOL POPULATION.** MILKO VESTERINEN, Ari Laaksonen, Kari E.J. Lehtinen, Department of Applied Physics, University of Kuopio, Finland; Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland (p.588)

9:40

1G8 **EFFECT OF AMMONIA ON STABILITY OF SULFURIC ACID-WATER COMPLEXES.** ALEXEY NADYKTO; Fangqun Yu, SUNY at Albany, ASRC, Albany, NY (p.590)

9:40

1G9 **CHARACTERIZATION OF NEW PARTICLE FORMATION EVENTS IN HIGHLY POLLUTED AREA.** AMAR HAMED,Jorma Joutsensaari,Ari Laaksonen,University of Kuopio,Kuopio,Finland; Fabrizia Cavalli, Maria C. Facchini, Sandro Fuzzi, Istituto di Scienze dell'Atmosfera e del Clima – CNR,Bologna,Italy (p.591)

9:40

1G10 **SENSITIVITY OF THE SULFATE SIZE DISTRIBUTION TO DYNAMICAL PROCESSES.** XIAOYAN MA, Knut von Salzen, Canadian Centre for CLimate Modelling and Analysis (CCCma), Environment Canada, University of Victoria, BC,Canada (p.593)

9:40

1G11 **HOMOGENEOUS AND HETEROGENEOUS NUCLEATION IN THE MARTIAN ATMOSPHERE.** Anni Määttänen, HANNA VEHKAMÄKI, Antti Lauri, Ismo Napari, Janne Kauhanen, Hannu Savijärvi, Markku Kulmala, Division of atmospheric sciences, University of Helsinki, Helsinki, Finland; Sini Merikallio, Space Research, Finnish Meteorological Institute, Helsinki, Finland (p.595)

9:40

1G12 **LABORATORY MEASUREMENT OF THE SCATTERING PROPERTIES OF ATMOSPHERIC MINERAL DUST COMPONENTS IN THE VISIBLE WAVELENGTH REGION.** DANIEL B. CURTIS, Murat Aycibin, Nathan L. Munsterman, Mark A. Young, Vicki H. Grassian, Paul Kleiber, University of Iowa, Iowa City, IA (p.597)

9:40

1G13 **EFFECTS OF ATMOSPHERIC AEROSOLS ON LOW-ALTITUDE INFRARED TRANSMISSION.** Tero Mielonen, Timo Kaurila, ANTTI AROLA, Heikki Lihavainen, Kari E. J. Lehtinen (p.599)

9:40

1G14 **MEASUREMENTS OF OPTICAL PROPERTIES OF ATMOSPHERIC AEROSOLS IN NORTHERN FINLAND.** VEIJO AALTONEN, Heikki Lihavainen, Veli-Matti Kerminen, Mika Komppula, Juha Hatakka, Yrjö Viisanen, Finnish Meteorological Institute,

Helsinki, Finland; Kristina Eneroth, Stockholm University, Stockholm, Sweden; Markku Kulmala, University of Helsinki, Helsinki, Finland (p.600)

9:40

1G15 **EXTINCTION MEASUREMENTS OF COMPONENTS OF MINERAL DUST AEROSOL: ENVIRONMENTAL AEROSOL CHAMBER STUDIES.** PRAVEEN K MOGILI, Department of Chemical and Biochemical Engineering, Vicki H Grassian, Mark A Young, Departmen of Chemistry; Paul D Kleiber, Department of Physics and Astronomy, University of Iowa, Iowa city, IA; , Kuo-Ho Yang, Department of Physics, St. Ambrose University, Davenport, IA. (p.602)

9:40

1G16 **DETERMINATION IN THE VISIBLE AND NEAR-INFRARED WAVELENGTHS OF THE MASS SPECIFIC EXTINCTION COEFFICIENT AND OPTICAL INDEX OF SOOT PARTICLES PRODUCED BY TURBULENT DIFFUSION FLAMES.** FRANCOIS-XAVIER OUF, Jacques Vendel, Institut de Radioprotection et de Sûreté Nucléaire, Laboratoire de Physique et Métrologie des Aérosols, Gif-sur-Yvette Cedex, France; Alexis Coppalle, Marc-Emmanuel Weill, Jérôme Yon, COmplexe de Recherche Interprofessionnelle en Aérothermochimie, UMR 6614, Saint-Etienne du Rouvray Cedex, France (p.604)

9:40

1G17 **AEROSOL CHARACTERISTICS AT A HIGH ALTITUDE STATION, NAINI TAL IN INDIA.** U.C.Dumka, Aryabhatta Research Institute of Observational Sciences, Naini Tal-263 129, Uttaranchal, India, K.Krishna Moorthy, Space Physics Laboratory, Vikram Sarabhai Space Centre, Trivandrum-695 022, Kerala, India, 3) Ram Sagar, Aryabhatta Research Institute of Observational Sciences, Naini Tal-263 129, Uttaranchal, India (p.606)

9:40

1G18 **STIMULATED THERMAL SCATTERING ON LEVITATED AEROSOL DROPLET.** MIKHAIL JOURAVLEV (p.608)

9:40

1G19 **CLOSURE STUDY OF IN-SITU AND REMOTE SENSING OBSERVATIONS OF AEROSOL OPTICAL PROPERTIES AT XINKEN IN PEARL RIVER DELTA OF CHINA.** Heike Eichler(1), Ya-Fang Cheng(2), Alfred Wiedensohler(1), Jost Heintzenberg(1),

Yuan-Hang Zhang(2), Min Hu(2), Hartmut Herrmann(1), Li-Min Zeng(2), Erika Brüggemann(1), Shang Liu(2), Thomas Gnauk(1), Ling-Yan He(2), (1) Leibniz-Institute for Tropospheric Research, 04318, Leipzig, Germany, (2) College of Environmental Sciences, Peking University, Beijing, China (p.609)

9:40

1G20 **THE MIXING STATE OF BLACK CARBON AND NON-ABSORBING AEROSOL COMPONENT DERIVED FROM IN-SITU PARTICLE OPTICAL PROPERTIES AT XINKEN IN PEARL RIVER DELTA OF CHINA.** Ya-Fang Cheng (1), Heike Eichler (2), Alfred Wiedensohler (2), Jost Heintzenberg (2), Yuan-Hang Zhang (1), Min Hu (1), Hartmut Herrmann (2), Li-Min Zeng (1), Shang Liu (1), Thomas Gnauk (2), Ling-Yan He (1), Erika Brüggemann (2), (1) College of Environmental Sciences, Peking University, Beijing, China, (2) Leibniz-Institute for Tropospheric Research, Leipzig, Germany (p.610)

9:40

1G21 **DESIGN OF AN OPTICAL ICE DETECTOR FOR THE ZURICH ICE NUCLEATION CHAMBER (ZINC).** MATHIEU NICOLET, Olaf Stetzer, Ulrike Lohmann, ETH Zurich, Switzerland (p.612)

9:40

1G22 **EXPERIMENTAL STUDY OF NANOPARTICLE PENETRATION EFFICIENCY THROUGH COILS OF CIRCULAR CROSS-SECTIONS.** SE-JIN YOOK, David Y. H. Pui, University of Minnesota, Minneapolis, MN (p.614)

9:40

1G23 **DEPOSITION OF COMPOSITE AEROSOL PARTICLES ON DIFFERENT SURFACES NEAR A BUSY ROAD.** DMITRI K. GRAMOTNEV, Thor E. Bostrom, Galina Gramotnev, Steven J. Goodman, Applied Optics Program, School of Physical and Chemical Science, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia (p.616)

9:40

1G24 **PARTICLE DEPOSITION IN A CRITICAL ORIFICE.** CHUEN-JINN TSAI, Sheng-Chieh Chen, Chen-Han Wu, Insitute of Environmental Engineering, National Chiao Tung University, Hsinchu, Taiwan. (p.618)

9:40

1G25 **TURBULENCE MODIFICATION BY PARTICLES IN A VERTICAL CHANNEL FLOW.** HOJAT NASR, Goodarz Ahmadi; Department of Mechanical and Aeronatical Engineering,Clarkson University, Potsdam, NY, USA (p.620)

9:40

1G26 **ON THE MOTION OF PARTICLES IN A LAMINAR FLOW BEND.** SANDY LAWSON, Mike Reeks, Ian Potts, University of Newcastle upon Tyne, UK, Yannis Drossinos, European Joint Research Centre, Italy (p.622)

9:40

1G27 **POWDER DISPERSION AND A SIMPLIFIED ENERGY RELATIONSHIP.** HEATHER M. GORENZ, John E. Brockmann, Daniel A. Lucero, Tracie L. Durbin; Plasma, Aerosol, and Noncontinuum Processes, Sandia National Laboratories, Albuquerque, NM (p.623)

9:40

1G28 **QUASI-GELATION OF SUBMICRON FRACTAL AGGLOMERATES BY SOUND WAVES.** Peter Vainshtein, Michael Shapiro, Faculty of Mechanical Engineering, Technion-Israel Institute of Technology (p.624)

9:40

1G29 **PARTICLE TRACKING IN A SYMMETRIC SHEAR FLOW.** YANNIS DROSSINOS, European Commission, Joint Research Centre, Ispra, Italy; Alberto Suarez, Universidad Autonoma de Madrid, Madrid, Spain (p.626)

1H Urban Aerosols-I (Poster)

Garden Court West

Wu Yee-Lin, S. McDow, Chairs

9:40

1H1 **ELEMENTAL ABUNDANCES IN ATMOSPHERIC AEROSOLS IN TRAFFIC AREAS OF SUVA, FIJI.** RAVIN NAVNEET DEO, Sitaram Garimella, School of Physics, Faculty of Science and Technology, University of the South Pacific. (p.1645)

9:40

1H2 **SCAVENGING AND COMPREHENSIVE CHARACTERIZATION OF AIRBORNE PARTICULATE MATTER IN AN INDUSTRIALIZED URBAN ATMOSPHERE AND ITS SURROUNDINGS.** Frédéric Ledoux, Dominique Courcot, Lucie Courcot, EMILE PUSKARIC , Université du Littoral Côte d'Opale, France (p.1646)

9:40

1H3 **INTRA-COMMUNITY SPATIAL VARIATION OF SIZE-FRACTIONATED PM MASS, OC, EC AND ELEMENTS IN LONG BEACH, CA.** MARGARET A. KRUDYSZ, John R. Froines, Department of Environmental Health Sciences, University of California – Los Angeles, Los Angeles, CA ; Philip M. Fine, Constantinos Sioutas, Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, CA (p.1647)

9:40

1H4 **MOBILE MEASUREMENTS OF STREET DUST IN HELSINKI, FINLAND.** KAARLE KUPIAINEN, Nordic Envicon Oy, Helsinki, Finland; Liisa Pirjola, Helsinki Polytechnic Stadia, Helsinki, Finland; Heikki Tervahattu, Nordic Envicon Oy, Helsinki, Finland (p.1649)

9:40

1H5 **AEROSOL COMPOSITION OF PM10 CONCENTRATIONS IN CHILLAN, CHILE, FROM 2001 TO 2002.** OMAR CARVACHO, Lowell L. Ashbaugh, Robert Flocchini, Crocker Nuclear Laboratory, University of California, Davis, CA, U.S.A; José Celis; Facultad de Medicina Veterinaria, Ciencias Ambientales, Universidad de Concepción, Campus Chillán, Chillán, Chile (p.1651)

9:40

1H6 **FLUXES AND TRANSFORMATION OF CARBON IN THE BLACKENING OF HISTORICAL BUILDINGS.** PETER BRIMBLECOMBE, Carlota M. Grossi, School of Environmental Sciences, University of East Anglia, Norwich, United Kingdom; Alessandra Bonazza, Cristina Sabbioni Institute of Atmospheric Sciences and Climate, CNR-ISAC, Bologna, Italy (p.1653)

9:40

1H8 **STUDY OF DIURNAL VARIABILITY OF AEROSOL OPTICAL DEPTH.** GAJANAN AHER, N. Shantikumar Singh, Sanjay More, V. V. Agashe, Department of Environmental Sciences, University of Pune. (p.1655)

9:40

1H9 **MEASUREMENT AND CHARACTERISATION OF PM10, PM2.5 AND PM1 FRACTIONS OF ATMOSPHERIC AEROSOL IN KRUNG THEP, THAILAND.** Tosapol Prasserttachato, Sirikalaya Suvachittanont, Department of Chemical Engineering, Kasetsart University, Thailand; Masami Furuuchi, Graduate School of Natural

Science and Technology, Kanazawa University, Japan; WLADYSLAW W. SZYMANSKI, Faculty of Physics, University of Vienna, Austria (p.1656)

9:40

1H10 **SOURCE IDENTIFICATIONS AND SPATIAL DISTRIBUTIONS OF PM2.5 COLLECTED AT MULTIPLE SITES IN SEATTLE, WA.** EUGENE KIM, Philip K. Hopke, Clarkson University, Potsdam, NY; Timothy V. Larson, University of Washington, Seattle, WA (p.1657)

9:40

1H11 **STATISTICAL ANALYSIS OF TOTAL SUSPENDED PARTICULATES (TSP), INHALABLE PARTICLES (PM10), FINE PARTICLES (PM2.5), OXIDES OF (NOX) AND BENZENE SOLUBLE ORGANIC FRACTION (BSOF) IN AN URBAN REGION OF KOLKATA, INDIA AND ESTIMATING HUMAN EXPOSURE.** SUBHANKAR NAG, A. K. Gupta, Department of Civil Engineering ,Indian Institute of Technology, Kharagpur, India; U. K. Mukhopadhyay, West Bengal Pollution Control Board, Kolkata, India (p.1659)

9:40

1H12 **ULTRAFINE PARTICLES MEASURED IN COMMERCIAL AIRCRAFT TAKE-OFF PLUMES.** YIFANG ZHU, Rong-Chun Yu and John R. Froines, Environmental Health Sciences Department, University of California Los Angeles, Los Angeles, CA (p.1660)

9:40

1H13 **ORGANIC MOLECULAR MARKER ANALYSIS OF LOW VOLUME RESIDENTIAL SAMPLES FOR SOURCE APPORTIONMENT IN THE DETROIT EXPOSURE AND AEROSOL RESEARCH STUDY.** STEPHEN R. MCDOW, US EPA RTP, NC; John Turlington, Alion Technologies, RTP, NC; David Olson, US EPA, RTP, NC; Leonard Stockburger, US EPA, RTP, NC; Ronald Williams, US EPA, RTP, NC; Alan Vette, US EPA, RTP, NC (p.1662)

9:40

1H14 **CHARACTERISTICS OF ATMOSPHERIC GASEOUS POLLUTANTS AND PARTICULATE WATER SOLUBLE IONS.** SHUI-JEN CHEN, Kuo-Lin Huang, Chih-Chung Lin, Ming-Tsan Hu, Department of Environmental Engineering and Science, National Pingtung University of Science and Technology, PingTung, Taiwan; Wen-Yinn Lin, Institute of Environmental Engineering and Management, National Taipei University of

Technology, Taipei, Taiwan (p.1663)

9:40

1H15 **MODEL FOR ESTIMATING IMPACT OF RECURRING AND NON-RECURRING CONGESTION ON AIR QUALITY ADJACENT TO FREEWAY.** SALIMOL THOMAS, Robert B. Jacko, Department of Civil Engineering, Purdue University, 550 Stadium Mall Drive, West Lafayette, IN (p.1665)

9:40

1H16 **ATMOSPHERIC FORMATION OF 9,10-PHENANTHROQUINONE IN THE LOS ANGELES BASIN: TRANSPORT EXPERIMENT.** ARANTZA EIGUREN-FERNANDEZ, Antonio H. Miguel, Nanochemistry Lab, UCLA, Los Angeles, CA; Rong Lu, Department of Atmospheric and Oceanic Sciences, UCLA, Los Angeles, CA; Kathie Purvis, Department of Chemistry, Claremont McKenna College, Claremont, CA; Bill Grant, Paul Mayo, Emma DiStefano, Arthur Cho, John Froines, Southern California Particle Center, UCLA, Los Angeles, CA (p.1666)

9:40

1H17 **EVALUATION OF THE EFFECTIVENESS OF STREET SWEEPING USING REAL TIME MEASUREMENT OF SILT LOADING.** SEHYUN HAN, Young Min Son, Yongwon Jung, Inha University, Incheon, Korea; Daigon Kim, National Institute of Environmental Research, Korea (p.1668)

9:40

1H18 **MOBILE MEASUREMENTS OF SPATIAL VARIABILITY OF TOXIC SPECIES AND AEROSOL IN URBAN AIR.** Yilin Ma, Nitin Goel, ANDREY KHLYSTOV, Department of Civil and Environmental Engineering, Duke University, Durham, NC (p.1669)

9:40

1H19 **AEROSOL MASS SPECTROMETRY OF ORGANIC AEROSOL IN HOUSTON, TEXAS.** MANJULA CANAGARATNA, Douglas Worsnop, Aerodyne Research, Inc., Billerica, MA; Qi Zhang, University of Albany, Albany, NY; Jose Jimenez, University of Colorado, Boulder, CO (p.1671)

9:40

1H21 **NUMBER CONCENTRATION MEASUREMENTS USING A WATER-BASED CPC IN HONG KONG UNDER HEAVY TRAFFIC CONDITIONS.** HAMILTON C. TSANG, Antonio H. Miguel Nanochemistry Laboratory, Institute of the Environment, University of California, Los Angeles, CA, USA;

Roger Ma, Department of Mathematics, Hong Kong University of Science and Technology, Clearwater Bay, Hong Kong, China (p.1672)

9:40
1H22 **BEHAVIOUR OF THE AEROSOLS WITH THE DIAMETER LARGER THAN 10 µM IN URBAN ATMOSPHERE.** KIYOSHI MATSUMOTO, Sae Tominaga, Manabu Igawa, Department of Applied Chemistry, Kanagawa University, Kanagawa-ku, 221-8686, Yokohama, Japan (p.1674)

9:40
1H23 **DETERMINATION OF MONOSACCHARIDE ANHYDRIDES AT SIX URBAN SITES IN EUROPE.** SANNA SAARIKOSKI, Markus Sillanpää, Anna Frey, Risto Hillamo, Finnish Meteorological Institute, Helsinki, Finland; Arto S. Pennanen, Raimo O. Salonen, National Public Health Institute, Kuopio, Finland (p.1675)

9:40
1H24 **DETERMINATION OF EFFECTIVE PARTICLE DENSITY FOR DIFFERENT ATMOSPHERIC AEROSOL MODES.** JYRKI RISTIMÄKI, Annele Virtanen, Jonna Kannosto, Jorma Keskinen, Tampere University of Technology (p.1677)

9:40
1H25 **SEASONAL VARIATION OF TRACE METALS AND CRUSTAL ELEMENTS IN PM10.** MARKUS HANDLER, Hannes Zbiral, Hans Puxbaum, Andreas Limbeck, Vienna Universiy of Technology, Department for Chemical Technologies and Analytics (p.1678)

9:40
1H26 **POLYCYCLIC AROMATIC HYDROCARBONS IN SIZE-FRACTIONATED PARTICULATE MATTER OF SIX URBAN SITES IN EUROPE.** Karri Saarnio, MARKUS SILLANPÄÄ, Risto Hillamo, Finnish Meteorological Institute, Helsinki, Finland; Erik Sandell, Nab Labs Laboratories, Espoo, Finland; Arto Pennanen, Raimo O. Salonen, National Public Health Institute, Kuopio, Finland (p.1679)

9:40
1H27 **SIZE-RESOLVED EMISSION FACTOR FOR PARTICLE GENERATION CAUSED BY STUDDED TIRES – EXPERIMENTAL RESULTS.** ANDREAS DAHL, Anders Gudmundsson, Erik Swietlicki, Mats Bohgard, Lund University, Lund, Sweden; Göran Blomqvist, Mats Gustafsson, Swedish National Road and Transport Research Institute, Linköping, Sweden (p.1681)

9:40

1H28 **NEW PARTICLE FORMATION IN THE URBAN ATMOSPHERE OF HELSINKI DURING 1997-2004.** Jyrki M. Martikainen, Tareq Hussein, Heikki Junninen, MIIKKA DAL MASO, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.1682)

9:40

1H30 **GASEOUS AND PARTICULATE MERCURY IN THE LOS ANGELES BASIN.** DAVID C. SNYDER, James J. Schauer, Department of Civil and Environmental Engineering, University of Wisconsin, Madison, WI; Xueying Qin, Kimberly A. Prather, Department of Chemistry and Biochemistry, University of California-San Diego, La Jolla, CA (p.1684)

9:40

1H31 **CHARACTERISTICS OF AIR MASS PATHWAY AND ITS IMPACT ON CULTURAL PROPERTIES IN GYEONGJU, KOREA.** KYUNG W. KIM, Gyeongju University, Gyeongju, Korea; Jong H. Jung, Sorabol College, Gyeongju, Korea (p.1686)

Monday 11:00 AM – 11:20 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Monday 11:20 AM – 12:40 PM
Session 2
2A PM-10 and PM-2.5 Characterization-II (Platform)
Minnesota Ballroom
Barbara Turpin, C. Anastasio, Chairs
11:20

2A1 **ANALYSIS OF THE GAS TO PARTICLE PARTITIONING OF REACTIVE MERCURY USING OFF-LINE THERMAL DESORPTION AND COLD VAPOR ATOMIC FLUORESCENCE SPECTROSCOPY (MTD-CVAFS).** ANDREW P. RUTTER, Katy L. Hanford, Jaime, T. Zwers, University of Wisconsin-Madison; James J. Schauer, University of Wisconsin-Madison and Wisconsin State Laboratory of Hygiene, Madison, WI. (p.1118)

11:40

2A2 **MEASURING THE TRACE ELEMENTAL COMPOSITION OF SIZE-RESOLVED AIRBORNE PARTICLES.** JORN DINH HERNER, Peter Green, Michael Kleeman, Department of Civil and Environmental Engineering, University of California at Davis, Davis CA (p.1120)

12:00

2A3 **ANALYSIS OF PYROTECHNIC SMOKE IN AMBIENT AEROSOLS WITH AEROSOL MASS SPECTROMETRY.** Eric Vawdrey, PHILIP J. SILVA, Utah State University, Logan, UT (p.1121)

12:20

2A4 **CHEMICAL SPECIATION OF CHROMIUM IN AMBIENT PM2.5 BY MICRO-FOCUSED XANES (X-RAY ABSORPTION NEAR EDGE SPECTROSCOPY).** CORT ANASTASIO, Michelle L. Werner, Department of Land, Air and Water Resources, University of California, Davis, CA; Peter S. Nico, Matthew A. Marcus, Earth Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA. (p.1122)

2B Marine Boundary Layer Processing (Platform)
Capitol Ballroom
Hannele Korhonen, D. Ceburnis, Chairs

11:20

2B1 **GRADIENT FLUXES OF AEROSOL MASS, SEA SALT AND NSS SO4 IN THE NORTHEAST ATLANTIC AIR.** Darius Ceburnis, Colin D. O'Dowd, Stephen G. Jennings, National University of Ireland, Galway, Ireland, Maria C. Facchini, Lorenza Emblico, Stefano Decesari, ISAC – CNR, Bologna, Italy, Darius Ceburnis, Jonas Sakalys, Institute of Physics, Vilnius, Lithuania (p.1269)

11:40

2B2 **PARTICLE EMISSIONS FROM SHIP ENGINES: EMISSION PROPERTIES AND TRANSFORMATION IN THE MARINE BOUNDARY LAYER.** ANDREAS PETZOLD, Bernadett Weinzierl, Markus Fiebig, Michael Lichtenstern, Deutsches Zentrum für Luft- und Raumfahrt, Wessling, Germany, Peter Lauer, MAN BandW Diesel AG, Augsburg, Germany, Christian Gurk, Max-Planck-Insitute for Chemistry, Mainz, Germany, Klaus Franke, University of Bremen, Bremen, Germany, Ernest Weingartner, Paul Scherrer Institute, Villigen PSI, Switzerland (p.1271)

12:00

2B3 **EVALUATING OUR UNDERSTANDING OF MBL AEROSOL USING OBSERVATIONS AND A GLOBAL MODEL OF AEROSOL MICROPHYSICS.** Dominick Spracklen, Kirsty Pringle, Kenneth Carslaw, Graham Mann, HANNELE KORHONEN, University of Leeds, Leeds, UK (p.1273)

12:20

2B4 **OBSERVATION OF PERSISTENT LAYER OF ENHANCED ORGANIC AEROSOL CONCENTRATIONS ABOVE CLOUDTOPS OFF THE NORTHERN CALIFORNIA COAST.** M. Alexander and J. Hubbe, Pacific Northwest National Laboratory, Richland, WA, Y. Lee, P. Daum, G. Senum, J. Wang, Brookhaven National Laboratory, Upton, NY, S. Murphy, R. Flagan, V. Varunbangkul, S. Murphy, T. Rissman, A. Sorooshian, J. Seinfeld California Institute of Technology – Dept. of Chemical Engineering, Pasadena, CA, J. Hudson, Desert Research Institute- University of Nevada, NV , J. Jayne, Research Inc., Billerica, MA (p.1274)

2C Aerosol and Plasma Synthesis (Platform)

Governors 1 and 5

Jyrki Mäkelä, Uwe Kortshagen, Chairs

11:20

2C1 **AEROSOL SYNTHESIS BY SIMULTANEOUS NUCLEATION, COAGULATION, SINTERING AND GROWTH: SIMULATION OF STRUCTURE AND PRODUCT PROPERTY FORMATION.** HANS-JOACHIM SCHMID, Univ. Erlangen-Nuremberg, Particle Technology Group, Erlangen, Germany. (p.9)

11:40

2C2 **AEROSOL PROCESSING AND CHARACTERIZATION OF THE FUNCTIONALITY OF NOBLE-METAL COATED NANOPARTICLES.** AXEL BINDER, Andre Heel, Gerhard Kasper, Institut für Mechanische Verfahrenstechnik und Mechanik, Universität Karlsruhe (TH), Germany (p.11)

12:00

2C3 **HIGH-YIELD PLASMA SYNTHESIS OF LUMINESCENT SILICON NANOCRYSTALS WITH QUANTUM YIELDS UP TO 67%.** Lorenzo Mangolini, UWE KORTSHAGEN, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN 55455, USA; David Jurbergs, Elena Rogjina, InnovaLight, Inc., 1246 University Ave. W, Ste. 468, St. Paul, MN 55104, USA (p.13)

12:20

2C4 **PLASMA SYNTHESIS OF SILICON NANOCUBES AND THEIR APPLICATION IN NANOPARTI-CLE-BASED TRANSISTORS.** AMEYA BAPAT, Uwe Kortshagen, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN 55455; Yongping Ding, Ying Dong, Stephen A.

Campbell, Department of Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN 55455 (p.15)

2D Impactors (Platform)
Govenors 2 – 4
Katharine Moore, Chair
11:20

2D1 **VARIABILITY IN STAGE RESPONSE OF THE MARPLE PERSONAL CASCADE IMPACTOR.** TRACIE L. DURBIN, John E. Brockmann, Daniel A. Lucero, David A. Barringer, Plasma, Aerosol, and Noncontinuum Processes, Sandia National Laboratories, Albuquerque, NM; Daniel J. Rader, Thermal, Fluid, and Aero Experimental Processes, Sandia National Laboratories, Albuquerque, NM (p.355)

11:40

2D2 **A 3-STAGE PERSONAL DUST SAMPLER FOR SAMPLING RESPIRABLE, THORACIC, AND INHALABLE PARTICULATE CONCENTRATIONS IN THE WORKPLACES.** Chen-Shen Chang, Chuen-Jinn Tsai, National Chiao Tung University, Hsinchu, Taiwan; Cheng-Hsiung Huang, Yuanpei Univesity of Sciene and Technology, Hsinchu, Taiwan; Tung-shen Shih, Da-Toung Tang, Institute of Occupational Safety and Health, Council of labor Affairs, Taipei, Taiwan (p.356)

12:00

2D3 **USE OF SHEATH FLOW TO REDUCE WALL LOSSES IN RECTANGULAR SLOT VIRTUAL IMPACTORS.** SATYANARAYANAN SESHADRI, Sridhar Hari, Andrew R. McFarland, Aerosol Technology Lab, Texas AandM University, College Station, TX (p.358)

12:20

2D4 **DESIGN AND DEVELOPMENT OF WIDE-RANGE IMPACTOR PARTICLE SAMPLER (WRIPS).** Sang-Rin Lee, Suresh Dhaniyala, Thomas M. Holsen, Clarkson University, Potsdam, NY (p.360)

2E Laboratory Study of Organic Reactions-I (Platform)
Wabasha Suite
John Offenberg, Kara Huff Hartz, Chairs
11:20

2E1 **A RELATIVE RATES APPROACH TO STUDYING RADICAL INITIATED HETEROGENEOUS REACTIONS.** JOHN HEARN and Geoffrey Smith, Department of Chemistry, University of Georgia, Athens, GA (p.1479)

11:40

2E2 **ATMOSPHERIC PROCESSING OF ORGANIC MONOLAYERS BY NO3 AND N2O5.** DANIEL A. KNOPF, Lori M. Anthony, Simone Gross, Jackson Mak, Allan K. Bertram, University of British Columbia, Vancouver, Canada (p.1481)

12:00

2E3 **LABORATORY EVIDENCE FOR AEROSOL FORMATION VIA CLOUD-EVAPORATION PROCESSING OF PRODUCTS FROM THE PHOTOOXIDATION OF INDIVIDUAL PRECURSOR HYDROCARBONS.** JOHN H.OFFENBERG, Edward O. Edney, Tadeusz E. Kleindienst, Michael Lewandowski, National Exposure Research Laboratory, U.S. Environmental Protection Agency, RTP, NC 27711 USA; Mohammed Jaoui, Alion Science and Technology, RTP, NC 27709 USA (p.1483)

12:20

2E4 **CORRELATION OF AEROSOL CCN ACTIVITY TO CHEMICAL COMPOSITION DURING THE INTENSE OZONOLYSIS OF OLEIC ACID.** JOHN E. SHILLING, Stephanie M. King, Michihiro Mochida, Scot T. Martin, Harvard University, Cambridge, MA; Douglas R. Worsnop, Aerodyne Research Inc., Billerica, MA (p.1484)

2F Nucleation in the Environment-I (Platform)
Kellogg Suite
Kaarle Hameri, K. Nagato/T. Kawabuchi, Chairs
11:20

2F1 **EFFECT OF NH3 ON NANO-PARTICLE FORMATION FROM SO2 IN HUMID AIR.** KENKICHI NAGATO, Tohru Kawabuchi, Kochi National College of Technology, Nankoku, Japan (p.1592)

11:40

2F2 **FORMATION OF INDOOR AIR PARTICLES AS A RESULT OF D-LIMONENE OXIDATION.** EIJA VARTIAINEN, Kaarle Hämeri, University of Helsinki, Helsinki, Finnish Institute of Occupational Health, Helsinki, Markku Kulmala, Taina

Ruuskanen, Risto Taipale, Hanna Vehkamäki, University of Helsinki, Helsinki (p.1594)

12:00

2F3 **ROLE OF METAL OXIDE IN THE FORMATION OF NUCLEATION MODE PARTICLES IN ENGINE EXHAUST.** HUA DU and Fangqun Yu, Atmospheric Science Research Center, SUNY at albany, Albany, NY (p.1595)

12:20

2F4 **SOLUBLE FRACTIONS OF NEWLY FORMED PARTICLES IN SOUTHERN FINLAND STUDIED WITH AN HTDMA.** MIKAEL EHN, Tuukka Petäjä, Kaarle Hämeri, Pasi P. Aalto, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.1597)

2G Combustion (Poster)

Garden Court West

U. Koylu, A. Fillipov, Chairs

11:20

2G1 **AN EXPERIMENTAL AND THEORETICAL APPROACH TO SOOT PARTICLE INCEPTION IN LAMINAR DIFFUSION FLAMES.** SCOTT SKEEN, Ben Kumfer, Richard L. Axelbaum, Washington University in St. Louis, St. Louis, MO (p.172)

11:20

2G2 **NUMERICAL INVESTIGATION OF SUB-GRID SCALE EFFECTS ON NANOPARTICLE GROWTH BY COAGULATION IN TURBULENT FLOWS.** Nelson Settumba and Sean C. Garrick, Department of Mechanical Engineering, University of Minnesota – Twin Cities, 111 Church Street SE, Minneapolis, MN 55455-0111, USA (p.174)

11:20

2G3 **PARTICLE GROWTH IN PULSED CORONA DISCHARGE PROCESS FOR DENOX AND DESOX.** DONG-JOO KIM, Jeong-Hoon Park, Jin-Hee Kang, Anna Nasonova and Kyo-Seon Kim, Department of Chemical Engineering, Kangwon National University, Chuncheon, Kangwon-Do, Korea (p.176)

11:20

2G4 **MULTI-CHANNEL STATISTICAL ANALYSIS OF COMBUSTION AEROSOLS: CANONICAL CORRELATIONS AND SOURCES OF PARTICLE MODES.** GALINA GRAMOTNEV, Dmitri K. Gramotnev , Applied Optics Program, School of Physical and Chemical Science, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia (p.177)

11:20

2G5 **EVALUATION OF DIESEL NANOPARTICLE FORMATION IN THE PRESENCE OF ULTRA-CLEAN DILUTION AIR.** JACOB SWANSON, David Kittelson, Winthrop Watts, University of Minnesota, Minneapolis, MN; Eivind Stenersen, Donaldson Company, Inc, Minneapolis, MN (p.179)

11:20

2G6 **COMPUTATIONAL ANALYSIS OF NUCLEATION EXPERIMENTS IN A PERFORATED TUBE DILUTER.** JOUNI PYYKÖNEN, Jorma Jokiniemi, VTT Technical Research Centre of Finland, Fine particles, Espoo, Finland; Mirella Miettinen, Ari Leskinen, Jorma Jokiniemi, University of Kuopio, Fine Particle and Aerosol Technology Laboratory, Kuopio, Finland (p.181)

11:20

2G7 **MODELING ON PARTICLE FORMATION AND GROWTH IN AUTOMOBILE EXHAUST: COMPARISON WITH THE EXPERIMENTS OF GASEOUS SULFURIC ACID AND NANOPARTICLE SIZE DISTRIBUTION.** LIISA PIRJOLA, Helsinki Polytechnic, Helsinki, FI and University of Helsinki, Helsinki, FI; Frank Arnold, Max Planck Institute for Nuclear Physics, Heidelberg, DE; Kaarle Hämeri, Finnish Institute of Occupational Health, Helsinki, FI and University of Helsinki, Helsinki, FI; Mikko Lemmetty, Topi Rönkkö and Jorma Keskinen, Tampere University of Technology, Tampere, Finland (p.182)

11:20

2G8 **FIRST GASEOUS SULFURIC ACID DETECTION IN AUTOMOBILE EXHAUST: IMPLICATIONS FOR VOLATILE NANOPARTICLE FORMATION AND HEALTH RISK.** FRANK ARNOLD, Heinfried Aufmhoff, Tanja Schuck, Max Planck Institute for Nuclear Physics, Heidelberg, DE; Liisa Pirjola, Helsinki Polytechnic, Helsinki, FI and University of Helsinki, Helsinki, FI; Tero Lähde, Finnish Institute of Occupational Health, Helsinki, FI; Kaarle Hämeri, Finnish Institute of Occupational Health, Helsinki, FI and University of Helsinki, Helsinki, FI; (p.184)

11:20

2G9 **ULTRAFINE PARTICLES PASSING THROUGH THE EXHAUST PIPE FOR SIMULATING AUTOMOTIVE EMISSION.** BYUNG UK LEE, Department of Mechanical Engineering, Konkuk University,

Seoul, Korea; Gwi-Nam Bae, Du Sub Byun, Korea Institute of Science and Technology (KIST), Seoul, Korea; Jin Ha Lee, Gwon-Koo Yeo, Corporate Research and Development Division, Hyundai and Kia Motors, Yongin-Si, Gyunggi-Do, Korea (p.186)

11:20

2G10 **THE INFLUENCE OF FUEL ETHANOL CONTENT ON SPARK IGNITION NANO-PARTICULATE ENGINE EMISSIONS.** MARCUS DRAYTON, David Kittelson, University of Minnesota, Minneapolis, MN (p.188)

11:20

2G11 **THE EFFECTS OF ETHANOL AS AN OXYGENATE ADDITIVE ON NANO-PARTICULATE MATTER OXIDATION KINETICS.** HENRY AJO, Marcus Drayton, David Kittelson, Jeffrey Roberts, University of Minnesota, Minneapolis, MN (p.190)

11:20

2G12 **NANOPARTICLE EMISSIONS FROM A FORMULA SAE RACE CAR ENGINE.** ADAM C. RAGATZ, Marcus K. Drayton, David B. Kittelson, Winthrop F. Watts, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN (p.192)

11:20

2G13 **THE ROLE OF LUBRICATION OIL IN PARTICULATE MATTER EMISSIONS FROM A HYDROGEN ENGINE.** ARTHUR MILLER, Matthew Habjan, National Institute of Occupational Health, Spokane, WA; Christopher Stipe, Seattle University, WA; Gilbert Ahlstrand, University of Minnesota, MN (p.194)

11:20

2G14 **INVESTIGATION OF PARTICULATE EMISSIONS FROM TWO IC ENGINES AND A UTILITY POWER PLANT.** Matthew F. Chandler, UMIT O. KOYLU, James A. Drallmeier, F. Scott Miller, University of Missouri-Rolla, Rolla, MO (p.196)

11:20

2G15 **EFFECTS OF FUEL COMPOSITION ON THE PARTICLES EXHAUSTED FROM A 4-STROKE MOTORCYCLE ENGINE.** Hsiang-Hsi Hsu, Kai-Ming Huang, Mu-Rong Chang, WEN-YINN LIN, NATIONAL TAIPEI UNIVERSITY of TECHNOLOGY, TAIPEI, TAIWAN; Jiun-Horng Tsai, National Cheng-Kung University, Tainan, Taiwan; Fu-Tien Jeng, National Taiwan University, Taipei, Taiwan (p.197)

11:20

2G16 **EFFECT OF ALTERNATIVE FUEL OXYGENATES ON PAH EMISSION CHARACTERISTICS FROM SINGLE SPARK IGNITION ENGINES.** HSIAO-HSUAN MI, Chun-Horn Shih, Chia-Nan University of Pharmacy and Science, Tainan, Taiwan; Ya-Feng Wang, Yu-Hsin Yu, Chung-Yuan Christian University, Chung-Li, Taiwan; Chung-Ban Chen, Refinery Institute of Chinese Petroleum Cooperation, Chia-Yi, Taiwan (p.199)

11:20

2G17 **EFFECTS OF REAL-WORLD DRIVING CONDITIONS ON GASEOUS AND PARTICULATE EMISSIONS FROM IN-USE HEAVY DUTY DIESEL TRUCKS.** AJAY KUMAR CHAUDHARY, Abhilash Nigam, Harshit Agrawal, George Scora, and David Cocker III, Bourns College of Engineering, Center for Environmental Research and Technology (CE-CERT), Department of Chemical and Environmental Engineering, University of California, Riverside, 92521, CA; Wayne Miller, Bourns College of Engineering, CE-CERT, University of California, Riverside, 92521, CA; Matthew Barth, Bourns College of Engineering, CE-CERT, Department of Electrical Engineering, University of California, Riverside, 92521, CA (p.200)

11:20

2G18 **CHARACTERIZATION OF PAH COMPOSISITON PATTERNS IN DIESEL EMISSIONS.** TAEKO MINEGISHI, Bernard Crimmins, Joel Baker, Chesapeake Biological Laboratory, Solomons, MD (p.202)

11:20

2G19 **CHARACTERIZATION DIESEL ENGINE EXHAUST PARTICLES DURING CONVENTIONAL AND HIGH-EFFICIENCY CLEAN COMBUSTION MODES.** JOHN STOREY, Scott Sluder, Samuel Lewis, and Robert Wagner, Oak Ridge National Laboratory, Oak Ridge, TN (p.203)

11:20

2G20 **PHYSICOCHEMICAL AND TOXICOLOGICAL CHARACTERISTICS OF PARTICULATE MATTER (PM) EMITTED FROM LIGHT DUTY GASOLINE AND DIESEL PASSENGER VEHICLES.** MICHAEL D. GELLER and Constantinos Sioutas, University of Southern California, Los Angeles, CA; Leonidas Ntziachristos, Athanasios Mamakos, Zissis Samaras, Aristotle University, Thessaloniki, Greece; John R. Froines, University of California, Los Angeles, CA (p.205)

11:20

2G22 **PM EMISSIONS MEASUREMENTS FROM BACK UP GENERATORS: METHOD 5 VS. ISO 8178.** Abhilash Nigam, William Welch, J. Wayne Miller, Kathalena Cocker, DAVID R. COCKER III, Department of Chemical and Environmental Engineering and College of Engineering, Center for Environmental Research and Technology, UC Riverside, Riverside, CA (p.207)

11:20

2G23 **CHARACTERIZATION OF PARTICULATE MATTERS EXHAUSTED FROM A RAILROAD DIESEL LOCOMOTIVE ENGINE.** DUCKSHIN PARK, Youngmin Cho, Korea Railroad Research Institute, Uiwang, Kyonggi, Korea; Dongsool Kim, Kyunghee University, Yongin, Kyonggi, Korea (p.209)

11:20

2G24 **ANATASE NANOPARTICLE SYNTHESIS IN AN AEROSOL REACTOR.** Calvin Coffey, ANDREY FILIPPOV, Carlton Truesdale, Damon Osterhout, Martin Sala, Sullivan Park Research Center, Corning Inc., Corning, NY. (p.211)

11:20

2G25 **ON CONTROLLING THE COMPOSITION OF GASBORNE AU/IN ALLOY NANOPARTICLES.** Zsolt Geretovszky, University of Szeged, Hungary; Jan-Olle Malm, KNUT DEPPERT, Lund University, Sweden (p.212)

11:20

2G26 **A STUDY OF SUSPENDED PARTICULATE MATTER AND HEAVY METALS DUE TO COMBUSTION OF COOKING FUELS.** Sandeep Gupta, ARUN SRIVASTAVA and V. K. Jain, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India (p.214)

2H Instrumentation-I (Poster)
Garden Court East
Anshuman Amit Lall, Arjan Wuijckhuijse, Chairs
11:20

2H1 **LABORATORY AND IN-FIELD CHARACTERIZATION OF THE TIME-OF-FLIGHT AEROSOL MASS SPECTROMETER (TOF-AMS).** SILKE S. HINGS, Frank Drewnick, Max Planck Institute for Chemistry, Mainz, Germany; Stephan Borrmann, Institute for Physics of the Atmosphere, University of Mainz, Germany; Peter F. DeCarlo, Jose-Luis Jimenez, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO; Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA (p.361)

11:20

2H2 **SINGLE AEROSOL PARTICLE MEASUREMENTS WITH THE SPASS IN KRAKOW, POLAND, DURING A WINTER CAMPAIGN.** DANIEL MIRA-SALAMA, Carsten Gruening, Niels R. Jensen, Paolo Cavalli, Frank Raes, Joint Research Centre, Institute for Environment and Sustainability, Ispra (VA), Italy (p.363)

11:20

2H3 **APPLICATION OF A LASER-DESORPTION RESONANCE ENHANCED MULTI-PHOTON IONISATION (REMPI)-SINGLE PHOTON IONISATION (SPI) TIME-OF-FLIGHT MASS SPECTROMETER (TOFMS) ON URBAN AEROSOLS.** JOCHEN WEH, Thomas Ferge, Ralf Zimmermann, GSF – National Research Center for Environment and Health, Neuherberg, Germany (p.365)

11:20

2H4 **IMPACT OF VAPORIZER TEMPERATURE ON THE THERMAL DESORPTION AND MASS SPECTRA OF THE THERMAL DESORPTION AND MASS SPECTRA OF AMBIENT AND CHANBER GEBNERATED SECONDARY ORGANIC AEROSOLS.** Kenneth S. Docherty, Jose L. Jimenez, Cooperative Institute for Research in Environmental Sciences and Department of Chemistry and Biochemistry, University of Colorado, Boulder; Paul J. Ziemann, Air Pollution Research Center, Department of Environmental Sciences, and Department of Chemistry, University of California, Riverside (p.366)

11:20

2H5 **EXTERNAL-TO-THE-TRAP VAPORIZATION AND IONIZATION FOR REAL-TIME PARTICLE ANALYSIS WITH AN ION TRAP MASS SPECTROMETER.** WILLIAM A. HARRIS, Peter T.A. Reilly, William B. Whitten, Oak Ridge National Lab, Oak Ridge, TN (p.367)

11:20

2H6 **ESTIMATION OF COMPOSITION OF GROWING AEROSOL PARTICLES USING A CONDENSATION PARTICLE COUNTER BATTERY.** Markku Kulmala, Genrik Mordas, Tuukka Petäjä, Tiia Grönholm, Pasi P. Aalto, Hanna Vehkamäki, Anca Gaman, Erik Herrmann, Mikko Sipilä, Ilona Riipinen, Kaarle Hämeri, Department of Physical Sciences, University of Helsinki, P.O.Box 64, FI-00014 Helsinki, Finland; Wolfram Birmili,University of Helsinki and Institute for Tropospheric Research, Permoserstr. 15, GER-04318 Leipzig, Germany; Paul E. Wagner3, Institut für Experimentalphysik, Universität Wien, Boltzmanngasse 5, A-1090 Wien, Austria (p.369)

11:20

2H7 **PERFORMANCE CHARACTERIZATION OF A COMPACT WATER-BASED CONDENSATION PARTICLE COUNTER.** Wei Liu, BRIAN L. OSMONDSON,TSI Incorporated, Shoreview, MN; Frederick R. Quant, Derek R. Oberreit, Quant Technologies LLC, Blaine, MN (p.371)

11:20

2H8 **FIELD EVALUATION OF A WATER-BASED ULTRAFINE CONDENSATION PARTICLE COUNTER.** Mark R. Stolzenburg, Kenjiro Iida, Peter H. McMurry, University of Minnesota, Minneapolis, MN, James N. Smith, National Center for Atmospheric Research, Boulder, CO, Patricia B. Keady, Quant Technologies, Blaine, MN and Susanne V. Hering, Aerosol Dynamics Inc., Berkeley, CA (p.372)

11:20

2H9 **CHARACTERIZATION OF NEW GENERATION CONDENSATION PARTICLE COUNTERS (CPCS).** MARKUS HERMANN, Birgit Wehner, Alfred Wiedensohler, Leibniz Institute for Tropospheric Research, Leipzig, Germany, Hee-Siew Han, Wei Liu, TSI Incorporated, Shoreview, MN, U.S.A., Oliver Bischof, Thomas Krinke, Axel Zerrath, TSI GmbH, Aachen, Germany (p.374)

11:20

2H10 **CALIBRATION OF THE ULTRA-FINE WATER-BASED CONDENSATION PARTICLE COUNTER TSI3786.** Genrik Mordas, Markku Kulmala, Tuukka Petäjä, KAARLE HÄMERI, Universitu of Helsinki, Finland (p.375)

11:20

2H11 **SIZING AND COUNTING PERFORMANCE OF A BUTANOL CONDENSATION PARTICLE COUNTER.** MIHAI CHIRUTA, William D. Dick, Francisco J. Romay, K.-S. Woo, Benjamin Y. H. Liu, MSP Corporation, Shoreview, MN (p.377)

11:20

2H12 **CHARACTERIZATION OF A NEW AEROSOL ELECTROMETER FOR PRIMARY AND ABSOLUTE CALIBRATION OF CONDENSATION PARTICLE COUNTERS.** HEE-SIEW HAN, Manpreet S. Phull, Wei Liu, James O. Evenstad, Robert Caldow and Stanley L. Kaufman, TSI Incorporated, Shoreview, MN (p.379)

11:20

2H13 **PARTICLE NUMBER CONCENTRATION AND SIZE DISTRIBUTION MEASUREMENTS OF AMBIENT AEROSOL IN MINNESOTA WITH TSI NEW CONDENSATION PARTICLE COUNTERS.** QIAN SHI, Hee-Siew Han, Steve W. Kerrigan, Melissa Fink, Rob Caldow, Wei Liu, TSI Incorporated, Shoreview, Minnesota 55126, USA (p.380)

11:20

2H14 **DEVELOPMENT OF A MINI-DISK EAA FOR PERSONAL EXPOSURE MONITORING.** CHAOLONG QI, Da-Ren Chen, Washington University in St.Louis, St.Louis, MO; Paul Greenberg, NASA-Glenn Research Center, Cleveland, OH (p.381)

11:20

2H15 **THE NUMERICAL AND EXPERIMENTAL TEST OF 1ST ORDER DIFFERENTIAL MOBILITY ANALYZER.** K.H. Ahn, Department of Mechanical Engineering, Hanyang University; J.H. Ahn, K.S. Jeon, Y.T. Kwon, RandD Center in Hyundai Calibration and Certification Technologies, Co. Ltd. (p.383)

11:20

2H16 **MEASUREMENTS OF POLY(AMIDOAMINE) (PAMAM) DENDRIMERS BY DIFFERENTIAL MOBILITY.** MASASHI IMANAKA, Kazuo Takeuchi, RIKEN (The Institute of Chemical and Physical Research), Saitama, Japan; Yoshiki Okada, Kansai University, Osaka, Japan (p.385)

11:20

2H17 **OBTAINING DISPERSION OF AN INTENSIVE PARTICLE PROPERTY FROM A TANDEM-SIZING EXPERIMENT.** MARK R. STOLZENBURG, Peter H. McMurry, Mark S. Emery, University of Minnesota, Minneapolis, MN; Bon Ki Ku, National Institute for Occupational Safety and Health, Cincinnati, OH; Andrew D. Maynard, Woodrow Wilson International Center for Scholars, Washington DC (p.387)

11:20

2H18 **AN APPARATUS FOR STUDYING VAPOR ADSORPTION ON NANOPARTICLES.** LAURA J. HILTUNEN, Petri Vaattovaara, Jorma Joutsensaari, Ari Laaksonen, University of Kuopio, Kuopio, Finland (p.389)

11:20

2H19 **USE OF UNIPOLAR CORONA CHARGERS TO ESTIMATE THE SIZE DISTRIBUTION OF SUBMICRON PARTICLES.** DONGHO PARK, Sung B. Kim, Minha An, Jungho Hwang, Yonsei University (p.391)

11:20

2H20 **AMBIENT PRESSURE IMPACT ON PARTICLE SIZING WITH SMPS.** JUERG SCHLATTER; Swiss Federal Office of Metrology (METAS), Bern-Wabern, Switzerland (p.392)

11:20

2H21 **POSSIBLE SAMPLING ARTIFACT FOR ON-ROAD NANO-PARTICLE MEASUREMENTS.** Xiaohong Yao, N.T., Lau, P.S., Lauand Ming Fang, Institute for the Environment, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, Chak K. Chan Department of Chemical Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong (p.394)

11:20

2H22 **ACCURATE PARTICLE SIZE MEASUREMENTS FOR DEVELOPMENT OF PARTICLE SIZE STANDARDS IN THE RANGE OF 30 TO 100 NM.** KEIJI TAKAHATA, Kensei Ehara, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan (p.395)

11:20

2H23 **NANOPARTICLE MANUFACTURE AMBIENT AIR CHEMICAL AND PHYSICAL SURVEY AS A TOOL FOR ACCIDENTAL AND CHRONIC RISK ASSESSMENT.** TANGUY AMODEO, Emeric Frejafon, Olivier Le Bihan, French institute for industrial and ambi-

ent risk assessment (INERIS),FR. ; Matthieu Baudelet, Jin Yu , Univerity of Lyon 1, LASIM, FR.; Michel Attoui, University of Paris 12, FR. (p.396)

11:20

2H24 **DEVELOPMENT AND PERFORMANCE TEST OF IN-SITU PARTICLE MONITORING SYSTEM IN HIGH VACUUM ENVIRONMENTS.** K.H. Ahn, Department of Mechanical Engineering in Hanyang University; Y.M. Kim, J.U. Yoon, Y.T. Kwon, RandD Center in Hyundai Calibration and Certification Technologies, Co. Ltd. (p.398)

11:20

2H25 **EXPERIMENTAL EVALUATION OF THE OPPOSED MIGRATION AEROSOL CLASSIFIER (OMAC) FOR MEASUREMENTS OF AEROSOL PARTICLE SIZE DISTRIBUTIONS.** ERIK O. NILSSON, Erik Swietlicki, Division of Nuclear Physics, Lund University, Lund, Sweden, Andreas Dahl, Anders Gudmundsson, Division of Ergonomics and Aerosol Technology, Lund University, Lund, Sweden, Richard Flagan, Division of Chemistry and Chemical Engineering, Caltech, Pasadena, CA (p.400)

11:20

2H26 **3D MEASUREMENT OF NANOPARTICLES ON WAFER SURFACE USING PHASE SHIFTED LASER INTERFEROMETRY.** D. Oszetzky, Á. Kiss, A. CZITROVSZKY, A. Nagy, P. Gál, Research Institute for Solid State Physics and Optics, Department of Laser Application, Budapest, Hungary (p.401)

Monday 12:40 PM – 2:00 PM
Lunch (on your own)

Monday 2:00 PM – 3:40 PM
Session 3
3A Urban Aerosol and Combustion (Platform)
Minnesota Ballroom
Thorsten Streibel, T. Takada, Chairs
2:00

3A1 **ROADSIDE MEASUREMENTS OF ORGANIC TRACERS NEAR A GASOLINE FREEWAY AND A DIESEL DOMINATED FREEWAY IN LOS ANGELES, CA.** HARISH C. PHULERIA, Philip M. Fine, Constantinos Sioutas, University of Southern California, Los Angeles, CA; James J. Schauer, University of Wisconsin-Madison, Madison, WI (p.1687)

2:20

3A2 **CHARACTERISTICS OF PARTICLE-BOUND POLYCYCLIC AROMATIC HYDROCARBONS COLLECTED NEAR A HEAVILY-TRAFFICKED ROAD.** CHIH-CHUNG LIN, Shui-Jen Chen, Kuo-Lin Huang, National Pingtung University of Science and Technology; Wen-Jhy, Lee, National Cheng Kung University; Wen-Yinn Lin, National Taipei University of Technology (p.1689)

2:40

3A3 **A CHARACTERISTIC OF NANO/ULTRAFINE PARTICLE OF VEHICLE EXHAUST AND OF AMBIENT ON BUSY ROADWAY MEASURED BY USING ON-BOARD RAPID PM SIZER.** HIROAKI MINOURA, Hideto Takekawa, Toyota Central RandD Labs., Inc., Nagakute, Aichi, Japan; Tomonori Takada, Japan Energy Co., Toda, Saitama, Japan (p.1691)

3:00

3A4 **INVERSE MODELING OF NON-EXHAUST PARTICLES PRODUCTION IN STREET CANYON WITH INTENSIVE TRAFFIC AND GRASSY STRIPES.** JIRI POSPISIL and Miroslav Jicha, Brno University of Technology, Faculty of Mechanical Engineering, Technicka 2, Brno, Czech Republic jicha@fme.vutbr.cz, pospisil.j@fme.vutbr.cz (p.1693)

3:20

3A5 **SIZE DISTRIBUTION AND CHEMICAL COMPOSITION OF NANOPARTICLES IN ROADSIDE ATMOSPHERE.** SHUICHI HASEGAWA, Akihiro Fushimi, Shinji Kobayashi, Kiyoshi Tanabe, Yuji Fujitani, National Institute for Environmental Studies, Tsukuba, Japan (p.1695)

3B Radiative and Optical Effects (Platform)
Capitol Ballroom
Markus Fiebig, H. Horvath, Chairs

2:00

3B1 **OBSERVED AND PREDICTED AEROSOL RADIATIVE FORCING DOWNWIND OF MEXICO CITY DURING THE 2006 MAX-MEX EXPERIMENT.** JEROME FAST, Christopher Doran, James Barnard, Rahul Zaveri, William Gustafson, Pacific Northwest National Laboratory, Richland, WA (p.1275)

2:20

3B2 **THE RADIATIVE IMPACT OF LONG RANGE TRANSPORTED DESERT PARTICLES.** H. HORVATH, Institute for Experimental Physics of the University of Vienna, Vienna, Austria, M.

Kasahara, S. Tohno, Graduate School of Energy Science, Kyoto University, Kyoto, Japan, M. Kocifaj, Astronomical Institute of the Slovak Academy of Sciences, Bratislava, Slovak Republic (p.1276)

2:40

3B3 **INVERSE METHODS: A POWERFUL TOOL FOR EVALUATING AEROSOL DATA, EXEMPLIFIED ON CASES WITH RELEVANCE FOR THE ATMOSPHERE AND THE AEROSOL CLIMATE EFFECT.** MARKUS FIEBIG, Andreas Petzold, Institut für Physik der Atmosphäre, Deutsches Zentrum für Luft und Raumfahrt Oberpfaffenhofen, Germany; John A. Ogren, National Oceanic and Atmospheric Administration, Earth System Research Laboratory, Global Monitoring Division, Boulder, CO, USA (p.1277)

3:00

3B4 **AEROSOL INDIRECT FORCING FROM THE NASA GLOBAL MODELING INITIATIVE: SENSITIVITY TO METEOROLOGY, EMISSION SCENARIOS AND AEROSOL MICROPHYSICS.** NICHOLAS MESKHIDZE, Athanasios Nenes,Georgia Institute of Technology, Atlanta, GA; Bryan N. Duncan, Jose M. Rodriguez, NASA Goddard Space Flight Center, Greenbelt, MD (p.1279)

3:20

3B5 **GCM ASSESSMENT OF AEROSOL-CLOUD INERACTIONS: THE ROLE OF SULFATE, SEASALT AND CARBONACEOUS AEROSOL.** ATHANASIOS NENES, Georgia Institute of Technology, GA; Peter J. Adams, Carnegie Mellon University, PA; John H. Seinfeld, California Institute of Technolog, CA (p.1281)

3C Symposium: Nanoparticle Industry Forum (Platform)
Governors 1 and 5
Sheldon Davis, Pratim Biswas; David Pui, Chairs

2:00

3C1 **NEW PROCESS ROUTES FOR NANOMATERIAL PRODUCTION BASED ON AEROSOL TECHNOLOGY.** Prof. Dr. Bernd Sachweh, BASF Aktiengesellschaft

2:20

3C2 **AEROSOL MATERIALS PRODUCTION AT CABOT: PAST, PRESENT, AND FUTURE.** Toivo Kodas, Cabot Corporation

2:40

3C3 **PARTICLE TECHNOLOGIES IN CORNING.** ANDREY FILIPPOV (p.17)

3:00

3C4 **NANOPARTICLE TECHNOLOGY IN INDUSTRY, PANEL DISCUSION.** Panelists: Bernd Sacweh, BASF; Toivo Kodas, Cabot Corp.; Andrey Fillipov, Corning; Michele L. Ostraat, DuPont; R. Vijayakumar, TSI Inc.; Ming Ouyang, Donaldson Co.

3D Optical Aerosol Instrumentation (Platform)
Govenors 2 – 4
Arthur J. Sedlacek, III, Royal Kopperud, Chairs
2:00

3D1 **TIME-RESOLVED PARTICLE NUMBER DETERMINATION STARTING BELOW 10 NM AND HIGH-RESOLVED PARTICLE SIZE DETERMINATION STARTING FROM 0.3 µM IN ONLY ONE DEVICE.** SVEN SCHÜTZ, Martin Schmidt, Leander Mölter, Palas GmbH, Karlsruhe, Germany (p.403)

2:20

3D2 **DETERMINATION OF THE SIZE AND COMPLEX REFRACTIVE INDEX OF SINGLE AEROSOL PARTICLES USING DUAL WAVELENGTH OPTICAL PARTICLE SPECTROMETER (DWOPS).** Artur Golczewski, WLADYSLAW W. VLADEK SZYMANSKI, Institute of Experimental Physics, University of Vienna, Vienna, Austria; Attila Nagy, Peter Gal, Aladar Czitrovszky, Research Institute for Solid State Physics and Optics, Hungarian Academy of Science, Budapest, Hungary (p.404)

2:40

3D3 **ENVIRONMENTAL DATA OBTAINED WITH A WIDE RANGE SPECTROMETER.** Thomas Rettenmoser, CHRISTIAN GERHART, Hans Grimm, Grimm Aerosol Technik GmbH, Ainring, Germany, Mathias Richter, GIP GmbH, Pouch, Germany (p.405)

3:00

3D4 **AIRBORNE MULTI-ANGLE LIGHT SCATTERING SPECTROMETER.** WILLIAM D. DICK, Francisco J. Romay, Mihai Chiruta, Mark Battista, Aaron Collins, James J. Marti, MSP Corporation, Shoreview, MN (p.406)

3:20

3D5 **LIDAR METHOD TO MEASURE SOOT EMISSION RATES FROM AIRCRAFT JET ENGINES.** WYNN L. EBERHARD, W. Alan Brewer, NOAA Earth System Research Laboratory, Boulder, CO; Roger L. Wayson, University of Central Florida, Orlando, FL; Richard D. Marchbanks, Brandi J. McCarty,

Ann M. Weickmann, Cooperative Institute for Research in Environmental Science, Boulder, CO; Gregg G. Fleming, DOT Volpe National Transportation Systems Center, Cambridge, MA (p.407)

3E Chemistry of Inorganic Atmospheric Particles-I (Platform)

Wabasha Suite

James Schauer, Theo Kurten, Chairs

2:00

3E1 **NEW INSIGHTS INTO MINERAL DUST AGING FROM ONLINE SINGLE-PARTICLE ANALYSIS.** RYAN SULLIVAN, Sergio Guazzotti, Kimberly Prather, University of California, San Diego, La Jolla, CA (p.997)

2:20

3E2 **REACTION PROBABILITIES OF SULFATE AND NITRATE PRECURSORS ONTO EAST ASIAN DUST PARTICLES.** C. H. SONG, C. M. Kim, Y. J. Lee, Department of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea; R. J. Weber, School of the Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta; B. K. Lee, D. S. Lee, Department of Chemistry, Yonsei University, Seoul, Korea (p.998)

2:40

3E3 **ANALYSIS OF FIELD COLLECTED INDIVIDUAL ATMOSPHERIC PARTICLE USING MULTI-ANALYTICAL MICROPROBE METHODS.** REBECCA J. HOPKINS, Alexei V. Tivanski, Mary K. Gilles, Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA; Yury Desyaterik, Daniel J. Gaspar, Alexander Laskin, William R. Wiley Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA (p.1000)

3:00

3E4 **SPECIATION OF MANGANESE IN ATMOSPHERIC AEROSOLS USING SPECTROPHOTOMETRIC TECHNIQUES.** James J. Schauer, BRIAN J. MAJESTIC, Martin M. Shafer, Environmental Chemistry and Technology, University of Wisconsin – Madison, Madison, WI (p.1002)

3:20

3E5 **LABORATORY INFRARED EXTINCTION MEASUREMENTS OF THE CARBONATE, SULFATE, OXIDE AND CLAY COMPONENTS OF MINERAL DUST AEROSOL.**

PAULA HUDSON, Elizabeth Gibson, Mark Young, Paul Kleiber, Vicki Grassian, The University of Iowa, Iowa City, IA (p.1004)

3F Mass Spectrometry as a Tool for Characterizing Atmospheric Chemistry (Platform)
Kellogg Suite
Michael Tolocka, Kimberly Prather, Chairs
2:00

3F1 **TANDEM MASS SPECTROMETRY AND ACCURATE MASS MEASUREMENT AS A TOOL FOR OLIGOMER CHARACTERIZATION IN SECONDARY ORGANIC AEROSOLS.** ALAIN REINHARDT,Renato Zenobi, Markus Kalberer, Department of Chemistry and Applied Biosciences, ETH Zürich, Zürich, Switzerland, Bertran Gerrits, Functional Genomics Center, Zürich, Switzerland, Jonathan Duplissy, Axel Metzger, Josef Dommen, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institut, Villigen, Switzerland (p.346)

2:20

3F2 **AEROSOL MASS SPECTROMETRY: MORPHOLOGY AND CHEMISTRY OF PARTICLES IN THE LAB AND THE ATMOSPHERE.** DOUGLAS WORSNOP, John Jayne, Manjula Canagaratna, Timothy Onasch, Leah Williams, Aerodyne Research, Inc., Billerica, MA; Jay Slowik, Paul Davidovits, Boston College, Chestnut Hill, MA; Qi Zhang, University of Albany, Albany, NY; Peter DeCarlo, Jose Jimenez, University of Colorado, Boulder, CO (p.348)

2:40

3F3 **A MINIMAL FRAGMENTATION APPROACH TO REAL TIME AEROSOL MASS SPECTROMETRY: A NEW TOOL FOR DETAILED LABORATORY STUDIES OF ORGANIC AEROSOL AGING.** PEDRO CAMPUZANO-JOST, Sarah Hanna, Emily Simpson, Damon Robb, Mike.W. Blades, John W. Hepburn and Allan K. Bertram, University of British Columbia, Vancouver, BC, Canada (p.349)

3:00

3F4 **MEASURING THE DENSITY AND CHEMICAL COMPOSITION OF ELECTRICAL MOBILITY SIZE SELECTED PARTICLES.** MATT SPENCER, Laura Shields, Xueying Qin, Kimberly Prather, University of California San Diego, La Jolla, CA (p.351)

3:20

3F5 **ELEMENTAL ANALYSIS OF ORGANIC AEROSOLS WITH A HIGH RESOLUTION TIME-OF-FLIGHT AEROSOL MASS SPECTROMETER.** ALLISON C. AIKEN, Peter F. DeCarlo, Jose L. Jimenez, University of Colorado at Boulder, Boulder, CO (p.353)

3G Aerosol Physics-II (Poster)

Garden Court East

Manuel Alonso, J. Marijnissen, Chairs

2:00

3G1 **EFFECT OF VARIATION IN ELECTRODE DIAMETER AND FLOW RATE ON FORMATION OF PATTERN BY ELECTROHYDRODYNAMIC SPRAYING.** JAE-HUN YU, D.Y. Lee, J. Hwang, Yonsei University (p.627)

2:00

3G2 **PLAIN-JET AIRBLAST ATOMIZING OF NON-CONDUCTING LIQUID WITH ELECTROSTATIC CHARGE INJECTION METHOD.** Sangsoo Kim, KAIST, deajeon, Korea, Mingyu Park, KAIST, deajeon, Korea, Youngjoo Choi, KAIST, deajeon, Korea, Jungbum Choo, KAIST, deajeon, Korea, Jaehee Jung, KAIST, deajeon, Korea, Kyoungtae Kim, KAIST, deajeon, Korea (p.629)

2:00

3G3 **CHARGING OF AEROSOL IN ENGINE EXHAUST PARTICLE SIZER (EEPS).** SANDER MIRME, Janek Uin, Eduard Tamm, Aadu Mirme, Institute of Environmental Physics, University of Tartu, Tartu, Estonia (p.630)

2:00

3G4 **ELECTROSTATIC WIND ENERGY CONVERTER – EWICON.** A.N. Hubacz, D. Djairam, P.H.F. Morshuis, J.C.M. Marijnissen, J.J. Smit, P.J. Sonneveld (p.632)

2:00

3G5 **NANO AEROSOL PARTICLE CHARGE NEUTRALIZATION BY A NOVEL BIPOLAR DIFFUSION CHARGER.** Jeong Hoon Byeon, Jae Hong Park, Ki Young Yoon, Jungho Hwang, Yonsei University (School of mechanical engineering) (p.634)

2:00

3G6 **CONTROL OF NANOPARTICLE CHARGE VIA CONDENSATION, CORONA CHARGING AND DRYING.** D. S. Kim, D. S. Lee, C. Woo, M. CHOI, National CRI Center for Nano Particle Control, Seoul National University, Seoul, Korea (p.635)

2:00

3G7 **COMPARISON OF THE SMAC WITH RADIATION-SOURCE NEUTRALIZERS IN AEROSOL CHARGE NEUTRALIZATION.** SOON-BARK KWON, Hiromu Sakurai, Takafumi Seto, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota, Minneapolis, MN (p.636)

2:00

3G8 **SINGLE EVENT ELECTROSPRAYING FOR MAKING MICRO AND NANO SIZED BIOSTRUCTURES.** URSZULA STACHEWICZ, Frits Dijksman, Philips Research Laboratories, Eindhoven, The Netherlands; URSZULA STACHEWICZ, Jan C.M, Marijnissen, Andre Bossche, Delft University of Technology, Delft, The Netherlands; (p.638)

2:00

3G9 **DISCHARGE REGIMES AND CHARGING CONDITIONS IN THREE AEROSOL PLASMA CHARGERS.** NICOLAS JIDENKO, JP Borra Laboratoire de Physique des gaz et des plasmas France (p.640)

2:00

3G10 **ELECTROSTATIC CHARGE EFFECTS IN THE AGGREGATION BEHAVIOR OF LASER ABLATION AEROSOLS.** MARCUS K. JACKSON, Mevlut Bulut, Renato P. Camata, University of Alabama at Birmingham, Birmingham, AL (p.642)

2:00

3G11 **POLYTETRAFLUOROETHYLENE NANOAEROSOLS.** Anatoli Baklanov, Michael Anisimov, Olesya Krumkacheva, Institute of Chemical Kinetics and Combustion SB RAS, 630090, Novosibirsk, Russia; Vyacheslav Bouznik, Institute of Catalysis SB RAS, 630090, Novosibirsk, Russia, anisimovmp@mail.ru (p.643)

2:00

3G12 **GENERATION OF MODEL DIESEL PARTICLES BY SPARK DISCHARGE AND CONDENSATION WITH DIESEL HYDROCARBONS: OZONE EFFECT ON MODEL DIESEL PARTICLES.** HAKJOON KIM, Yongjin Kim, Korea Institute of Machinery and Materials, Daejeon, Republic of Korea, Jinho Kim, Youngjoo Choi, Hyuncheol Oh, Jung bum Choo, Sangsoo Kim, Korea Advaced Institute of Science and Technology, Daejeon, Republic of Korea (p.645)

2:00

3G13 **NEW SOOT GENERATOR VSG-3000 FOR REAL COMBUSTION SOOT AEROSOL IN THE NANOMETER RANGE.** MARTIN SCHMIDT, Palas GmbH, Karlsruhe, Germany (p.646)

2:00

3G15 **INFLUENCE OF CONTACT QUALITY BETWEEN PLATINUM AND CARBON NANOPARTICLES ON CATALYTIC ACTIVITY OF PLATINUM BASED ON CARBON OXIDATION.** PARISA DAVOODI, Gerhard Kasper, University of Karlsruhe, Germany; Alfred Weber, University of Clausthal-Zellerfeld, Germany (p.647)

2:00

3G16 **GENERATION OF SUB-100 NM OIL PARTICLES BY ELECTROSPRAY.** HIROMU SAKURAI, Akira Yabe, Kensei Ehara, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan (p.649)

2:00

3G17 **SIZE CONTROL OF NANOPARTICLES IN PULSED LASER DEPOSITION.** SHINICHI KAIHARA, Shigeki Tsukui, Takashi Oka, Motoaki Adachi, Osaka Prefecture University, Sakai, Osaka, Japan (p.650)

2:00

3G18 **EFFECT OF AIR FLOW RATE ON THE SILVER NANOPARTICLE GENERATION OF AN AEROSOL GENERATOR USING FLAT PLATE TYPE HEATER.** HYUNG SOO NOH, Jun Ho Ji, Samsung Electronics, Suwon, Korea; Jae Hee Jung, Hyun Cheol Oh, Sang Soo Kim, Korea Advanced Institute of Science and Technology, Daejeon, Korea (p.651)

2:00

3G19 **POWDER DISPERSION SYSTEM FOR AEROSOL TRACER TESTING.** HEATHER M. GORENZ, John E. Brockmann, Daniel A. Lucero; Plasma, Aerosol, and Noncontinuum Processes, Sandia National Laboratories, Albuquerque, NM (p.652)

2:00

3G20 **GENERATION OF NANOPARTICLES FROM MICRON SIZED PARTICLES BY SPARK DISCHARGE.** Nooshin Salman Tabrizi, UGO LAFONT, Loic Simonin, Erik Kelder, Andreas Schmidt-Ott, Nanostructure Materials, DelftChemTech, TUDelft, The Netherlands (p.653)

2:00

3G21 **TRANSPORT OF RUTHENIUM IN DIVERSE OXIDISING CONDITIONS.** TEEMU KÄRKELÄ, Ulrika Backman, Ari Auvinen, Unto Tapper, Jorma Jokiniemi, VTT Technical Research Centre of Finland, Fine Particles, Espoo, Finland; Riitta Zilliacus, Maija Lipponen, Tommi Kekki, VTT Technical Research Centre of Finland, Accident Management, Espoo, Finland; Jorma Jokiniemi, University of Kuopio, Department of Environmental Sciences, Kuopio, Finland (p.654)

2:00

3G22 **MOMENT METHOD FOR ESTIMATING MICRO-GRAVITY SMOKE PARTICLE SIZE PARAMETERS.** THOMAS CLEARY, National Institute of Standards and Technology, Gaithersburg, MD; Claudia Rexfort, Universitat, Duisburg-Essen, Duisburg, Germany; George Mulholland, University of Maryland, College Park, MD; David Urban, NASA Glenn Research Center, Cleveland, OH; Jiann Yang, National Institute of Standards and Technology, Gaithersburg, MD; Zen-guang Yuan, NASA Glenn Research Center, Cleveland, OH (p.656)

2:00

3G23 **CHANGES IN AEROSOL PROPERTIES DURING SPRING-SUMMER PERIOD IN THE ARCTIC TROPOSPHERE.** ANN-CHRISTINE ENGVALL, Radovan Krejci, Department of Meteorology University of Stockholm , Sweden; Renate Treffeisen, Alfred-Wegener-Institut für Polar- und Meeresforschung, Potsdam, Germany; Johan Ström, Department of Applied Environmental Science – Air pollution Laboratory, University of Stockholm, Stockholm, Sweden; Andreas Minikin, Deutsches Zentrum für Luft- und Raumfahrt, Institut für Physik der Atmosphäre, Wessling, Germany; Andreas Herber, Alfred-Wegener-Institut für Polar- und Meeresforschung, Bremerhaven, Germany (p.657)

2:00

3G24 **SIMULATION OF THE AGGLOMERATION AND BREAKUP OF AGGLOMERATES IN A RANDOM SYMMETRIC SHEAR FLOW.** YASMINE AMMAR (1,2), Mike Reeks (1), David Swailes (1), Abdel Dehbi (2), (1) School of Mechanical and Systems Engineering, University of Newcastle upon Tyne,

UK, (2)Paul Scherrer Institute, Department of Nuclear Energy and Safety Research Department, Laboratory for Thermohydraulics, Villigen, Switzerland (p.659)

2:00

3G25 **THE EFFECTS OF PRIMARY PARTICLE SIZE, INITIAL GEOMETRIC STANDARD DEVIATION, AND MORPHOLOGICAL SHAPES OF AGGLOMERATES ON BROWNIAN COAGULATION OF FRACTAL-LIKE AGGLOMERATES IN THE FREE MOLECULAR REGIME.** KI-JOON JEON and Chang-Yu Wu, University of Florida, Gainesville, FL (p.661)

2:00

3G26 **COAGULATION BEHAVIOR OF ZINC OXIDE AEROSOLS GENERATED BY LASER ABLATION.** MASASHI MATSUMURA, Mevlut Bulut, Renato P. Camata, University of Alabama at Birmingham, Birmingham, AL (p.663)

2:00

3G27 **AGGREGATION OF AEROSOLS IN A RARIFIED GAS MEDIUM.** FLINT PIERCE, Amit Chakrabarti, Chris Sorensen, Kansas State University, Manhattan, KS (p.665)

2:00

3G28 **BACKWARD-IN-TIME INTEGRATION OF THE COAGULATION EQUATION.** MANUEL ALONSO, Francisco Jose Alguacil, National Center for Metallurgical Research (CSIC), Madrid, Spain; Patricio Navarro, University of Santiago, Santiago, Chile; Yoshiyuki Endo, Sumitomo Chemical Co., Ltd., Osaka, Japan (p.667)

2:00

3G29 **ON ACOUSTIC ORTHOKINETIC COAGULATION OF MICRON-SIZED PARTICLES.** Peter Vainshtein, SAMUEL LEKHTMAKHER, Michael Shapiro, Technion-Israel Institute of Technology, Haifa, Israel (p.669)

2:00

3G30 **AEROSOL RADIATIVE FORCING STUDIES AT DIFFERENT TYPES OF SITES.** T. ZIELINSKI, Institute of Oceanology, PAS, Poland, K. Markowicz, University of Warsaw, Poland, G. Chourdakis, Raymetrics S. A., Greece, N. Mihalopoulos, University of Crete, Greece, B. Pflug, DLR – German Aerospace Center, Germany, A. Rozwadowska, Institute of Oceanology, PAS, Poland (p.671)

3H Indoor Aerosols-I (Poster)
Garden Court West
Jana Kesavan, Jacky Rosati, Chairs
2:00

3H1 **PASSING AIRBORNE SILVER NANOPARTICLES GENERATED FROM THE ELECTRIC FURNACE THROUGH THE FILTER SYSTEM AS AN ANTIMICROBIAL METHOD AGAINST S. EPIDERMIS BIOAEROSOLS.** BYUNG UK LEE, Department of Mechanical Engineering, Konkuk University, Seoul, Korea; Gwi-Nam Bae, Sun Hwa Yun, Korea Institute of Science and Technology (KIST), Seoul, Korea; Jun Ho Ji, Digital Appliance RandD Center, Samsung Electronics, Suwon, Korea (p.772)

2:00

3H2 **SIMULTANEOUS REMOVAL OF BIOAEROSOLS AND MVOCS BY METAL PLATED ACTIVATED CARBON FIBER FILTER.** Ki Young Yoon, Jeong Hoon Byeon, Jae Hong Park, Byung Ju Ko, Chul Woo Park, Jungho Hwang, Yonsei University (School of Mechanical Engineering) ; Hee Seung Yoon, Seung Kon Ryu, Chungnam National University (School of Chemical Engineering) (p.773)

2:00

3H3 **ANTIMICROBIAL EFFECT OF AIRBORNE SILVER NANOPARTICLES GENERATED BY THE ATOMIZER AGAINST B. SUBTILIS BIOAEROSOLS.** Ki Young Yoon, Jeong Hoon Byeon, Jae Hong Park, Jungho Hwang, Yonsei University (School of Mechanical Engineering); Gwi Nam Bae, Korea Institute of Science and Technology (Hazardous Substances Research Center); Byung Uk Lee, Konkuk University (Department of Mechanical Engineering); Jun Ho Ji, Samsung Electronics (Digital Appliance RandD Center) (p.774)

2:00

3H4 **CFD APPLICATION IN BIOAEROSOL SAMPLING CYCLONE DESIGN.** SHISHAN HU and Andrew R. McFarland, Aerosol Technology Lab, Department of Mechanical Engineering, Texas AandM University, College Station, TX; John S. Haglund, Applied Research Laboratories, University of Texas, Austin, TX (p.775)

2:00

3H5 **ULTRAFINE PARTICLE PENETRATION INTO 8 RESIDENCES NEAR A MAJOR DIESEL EMISSION SOURCE.** Xiaodong Zhou, Timothy R. McAuley, Peter A. Jaques, ANDREA R. FERRO, Clarkson University, Potsdam, NY (p.777)

2:00

3H6 **INDOOR AND OUTDOOR PARTICULATE MATTER AT AN ELEMENTARY SCHOOL: IMPLICATIONS FOR RECESS AND ASTHMA.** JOHN VERANTH, Karen Buchi, Nicole Frei, Encoch Eskelson, Rod Larsen, Daniel Nye, John Parker, Kevin Perry, Eric Wood, University of Utah, Salt Lake City, UT. Gregg Smith, Salt Lake School District, Salt Lake City, UT. Libby Chuy, Steve Packham, State of Utah, Salt Lake City, UT. (p.778)

2:00

3H7 **PERSONAL, RESIDENTIAL AND CENTRAL SITE PM MASS CONCENTRATIONS ASSOCIATED WITH THE DETROIT EXPOSURE AND AEROSOL RESEARCH STUDY (DEARS).** RONALD WILLIAMS, Alan Vette, Carry Croghan, Carvin Stevens, Paul Jones, US Environmental Protection Agency, Research Triangle Park, NC; Jonathan Thornburg, Charles Rodes, RTI International, Research Triangle Park, NC (p.780)

2:00

3H8 **INDOOR AND OUTDOOR MEASUREMENTS OF THE SURFACE AREA OF PARTICLES DEPOSITED IN THE HUMAN LUNGS USING THE TSI MODEL 3550 NANOPARTICLE SURFACE AREA MONITOR.** Andrea Polidori, Mohammad Arhami, Constantinos Sioutas, University of Southern California, CA; Manisha Singh, TSI Incorporated, MN. (p.781)

2:00

3H9 **THE EFFECTS OF RETROFITTING INSULATION ON DOMESTIC INDOOR AIR QUALITY IN NEW ZEALAND.** Guy Penny, GUY COULSON, National Institute of Water and Atmospheric Research, Auckland, New Zealand; Ian Colbeck, Zaheer Al Nasar, University of Essex, Colchester, UK (p.783)

2:00

3H11 **PM2.5 EXPOSURES CHEMICALLY CHARACTERIZED BY FUNCTIONAL GROUP: RIOPA STUDY RESULTS.** ADAM REFF, Barbara Turpin, Department of Environmental Sciences, Rutgers University, New Brunswick, NJ; Clifford P. Weisel, Junfeng (Jim) Zhang, Environmental and Occupational Health Sciences Institute, Piscataway, NJ; Maria Morandi, Thomas Stock, School of Public Health, University of Texas, Houston, TX; Steven Colome, Integrated Environmental Sciences, Irvine, CA; Arthur Winer, Environmental Science Engineering, University of California, Los Angeles, CA; (p.784)

2:00

3H12 **USE OF AN EXPANDED RECEPTOR MODEL FOR PERSONAL EXPOSURE ANALYSIS IN URBAN SCHOOLCHILDREN WITH ASTHMA.** WEIXIANG ZHAO, Philip K. Hopke, Department of Chemical Engineering and Center for Air Resources Engineering and Science, Clarkson University, PO Box 5708, Potsdam, NY 1369, USA, Erwin W. Gelfand, Nathan Rabinovitch, National Jewish Medical and Research Center, Denver, CO 80206, USA (p.786)

2:00

3H13 **STUDY OF PERSONAL-INDOOR-AMBIENT FINE PARTICULATE RELATIONSHIPS AMONG SCHOOL COMMUNITY IN MIXED URBAN-INDUSTRIAL ENVIRONMENT IN INDIA.** Shamsh Pervez, School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, India, YASMEEN PERVEZ, Department of ENgineering Chemistry, Chhatrapati Shivaji Institute of Technology, Durg, Chhattisgarh, India, Nilima Gadkari, Government V.Y.T. Autonomous College, Durg, Chhattisgarh, India (p.788)

2:00

3H14 **SECONDARY AEROSOL FORMATION INITIATED BY CHEMICAL REACTIONS IN INDOOR AIR – CHAMBER STUDIES WITH MIXTURES OF OZONE AND EMISSIONS FROM INDOOR TERPENE SOURCES.** ERIK NILSSON, Joakim Pagels, Lund University, Lund, Sweden; Linda Pommer, Umeå University, Umeå, Sweden (p.789)

2:00

3H15 **A COMPARISON OF THE OXIDATION PRODUCTS AND SECONDARY ORGANIC AEROSOL FORMATION POTENTIAL OF D-LIMONENE AND AN OFF-THE-**

SHELF CLEANING PRODUCT CONTAINING D-LIMONENE. SETH EBERSVILLER, Kenneth Sexton, Elizabeth Naess; University of North Carolina at Chapel Hill, Chapel Hill, NC, USA (p.791)

2:00

3H16 **INFLUENCE OF HUMAN ACTIVITIES ON FINE PARTICLES SUSPENDED IN INDOOR AIR.** ELZBIETA JANKOWSKA, Department of Chemical and Aerosol Hazards, Central Institute for Labour Protection – National Research Institute, Warsaw, Poland (p.792)

2:00

3H17 **EFFECT OF METAL CONTENT ON EMISSIONS CHARACTERISTICS FROM BURNING INCENSE.** Chi-Ru Yang, Ta-Chang Lin, Department of Environmental Engineering National Cheng Kung University, Taiwan, Feng-Hsiang Chang Department of Information Management, Tzu Hui Institute of Technology, Taiwan (p.794)

2:00

3H18 **DEVELOPMENT OF A POWER-FREE SMOKELESS ASHTRAY.** FENG-YU CHIANG AND Chih-Chieh Chen, National Taiwan University, Taipei, Taiwan; Sheng-Hsiu Huang, Institute of Occupational Safety and Health, Taipei, Taiwan; Yu-Mei Kuo, Chung Hwa College of Medical Technology, Tainan, Taiwan; Wen-Yinn Lin, National Taipei University of Technology, Taipei, Taiwan; Tzu-Ting Yang, Yuanpei Institute of Science and Technology, Hsin-Chu, Taiwan. (p.796)

2:00

3H19 **CHARACTERIZATION OF ULTRAFINE PARTICLE EMISSIONS FROM HOT AIR BLOWERS.** Michel B. ATTOUI (p.798)

2:00

3H20 **REAL-TIME NUMBER SIZE DISTRIBUTION MEASUREMENT, AND DENSITY ESTIMATION OF INDOOR AIR PARTICLES USING AN ELPI AND A CPC.** HENNA TUOMENOJA, Erkki Lamminen, Elina Nieminen, Ari Ukkonen, Dekati Ltd., Tampere, Finland (p.800)

2:00

3H21 **A TWO-STAGE CYCLONE USING MICROCENTRIFUGE TUBES FOR BIOAEROSOL SAMPLING.** WILLIAM LINDSLEY, Detlef Schmechel, Bean Chen, National Institute for Occupational Safety and Health, Morgantown, WV, USA (p.801)

2:00

3H22 **PARTICLE DEPOSITION VELOCITY ALONG AN ISOTHERMAL HORIZONTAL PLATE.** C.B. Huang, C.S. Lin, S.C. WANG, C.H. Huang, Yuan Ze University, Taiwan, ROC. (p.803)

2:00

3H23 **ESTIMATING INDOOR CONCENTRATIONS OF OUTDOOR PARTICULATE MATTER USING REGIONAL AIR QUALITY AND BUILDING LEAKAGE INFORMATION.** Susanne Hering, Aerosol Dynamics Inc., Berkeley, CA, USA, Melissa Lunden, Marc Fischer, Tom Kirchstetter, Tracy Thatcher, Nancy Brown, Lawrence Berkeley Laboratories, Berkeley, CA, USA (p.805)

2:00

3H24 **A MODEL FOR PARTICLE RESUSPENSION DUE TO HUMAN WALKING.** XINYU ZHANG, Jing Qian, Goodarz Ahmadi, Andrea Ferro, Clarkson University, Potsdam, NY (p.807)

2:00

3H25 **GENERATION AND CHARACTERIZATION OF ALLERGEN-LOADED MICROSPHERES.** Heather M. Martin, Patricia M. Fritz, Lupita D. Montoya, Civil and Environmental Engineering Department, Rensselaer Polytechnic Institute, Troy, NY, Daniel L. Hershey, Division of Air Resources, New York State Dept. of Environmental Conservation, Rensselaer NY, USA.

Monday 3:40 PM – 4:00 PM
Coffee Break
Great River Ballroom, Garden Courts East and West

Monday 4:00 PM – 5:20 PM
Session 4
4A PM-10 and PM-2.5 Characterization-III (Platform)
Minnesota Ballroom
Sergey Napelenok, P. Prati, Chairs
4:00

4A1 **SOURCE PROFILES BY X-RAY FLUORESCENCE ANALYSIS AND POSITIVE MATRIX FACTORIZATION.** PAOLO PRATI, Federico Mazzei, University of Genova and INFN, Dept. of Physics, IT Silvia Nava, University of Firenze and INFN, Dept. of Physics, IT; Alessandra D'Alessandro, Gianluigi Valli, Roberta Vecchi, University of Milan and INFN, General and Applied Physics Institute, (p.1124)

4:20

4A2 **MORPHOLOGICAL CHARACTERIZATION OF PM10 FOR SOURCE APPORTIONMENT.** CARLO GRASSI, Leonardo Tognotti, Department of Chemical Engineering, University of Pisa, Pisa, Italy (p.1126)

4:40

4A3 **CAN CONTINUOUS TECHNIQUES CORRECT FOR FRM FILTER ERRORS AND PROVIDE HOURLY RECONSTRUCTED FINE MASS?** ROGER L. TANNER, Solomon T. Bairai, Myra L. Valente, Environmental Technologies, Tennessee Valley Authority, Muscle Shoals, AL (p.1128)

5:00

4A4 **CHARACTERIZATION OF CARBONACEOUS AEROSOL IN PM2.5 IN THE EASTERN UNITED STATES.** MEI ZHENG, Meiyu Dong, Armistead G. Russell, Georgia Insitute of Technology, Atlanta, GA; James J. Schauer, University of Wisconsin-Madison, Madison, WI; Eric S. Edgerton, Atmospheric Research and Analysis, Inc., Cary, NC (p.1129)

4B Nucleation Field Studies (Platform)

Capitol Ballroom

Kari Lehtenin, Chair

4:00

4B1 **AEROSOL PARTICLE GROWTH EVENTS DURING ICARTT 2004 AT APPLEDORE ISLAND.** LYNN RUSSELL, Amewu Mensah, Scripps Institution of Oceanography, La Jolla, CA; Roland von Glasow, Susanne Pechtl, University of Heidelberg, Heidelberg, Germany; Jochen Stutz, University of California, Los Angeles, Los Angeles, CA; William Keene, University of Virginia, Charlottesville, VA; Ruth Varner, Barkley Sive, Alex Pszenny, University of New Hampshire, Durham, NH (p.1605)

4:20

4B2 **THE ROLE OF SULPHURIC ACID IN NEW PARTICLE FORMATION AND GROWTH FROM 1 TO 3 NM: ANALYSIS OF CORRELATIONS AND POSSIBLE NUCLEATION MECHANISMS.** Sanna-Liisa Sihto, Markku Kulmala, University of Helsinki, Department of Physical Sciences, Helsinki, Finland; Veli-Matti Kerminen, Finnish Meteorological Institute, Climate and Global Change, Helsinki, Finland; Frank Arnold,

Atmospheric Physics Division, Max-Planck Institute for Nuclear Physics (MPIK), Heidelberg, Germany; Ari Laaksonen, University of Kuopio, Department of Applied Physics, Kuopio, Finland; KARI E. J. LEHTINEN, University of Kuopio and Finnish Meteorological Institute, Kuopio Unit, Finland (p.1607)

4:40

4B3 **FORMATION AND GROWTH OF ULTRAFINE PARTICLES IN BEIJING, CHINA.** BIRGIT WEHNER, Stefan Bauer, Wolfram Birmili, Alfred Wiedensohler, Leibniz-Institute for Tropospheric Research, Leipzig, Germany; Zhijun Wu2, Min Hu2, 2Department State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences, Peking University, Beijing, P. R. China; Miikka Dal Maso, Tuukka Petäjä, Markku Kulmala, Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Finland (p.1609)

5:00

4B4 **FORMATION AND GROWTH OF ATMOSPHERIC AEROSOL PARTICLES.** Markku Kulmala, Hanna Vehkamäki1, Genrik Mordas, Tuukka Petäjä, Tiia Grönholm, Lauri Laakso1, Anne Hirsikko, Pasi P. Aalto, Anca Gaman, Ilona Riipinen, Kaarle Hämer, Department of Physical Sciences, University of Helsinki, Helsinki, Finland, Wolfram Birmili, Institute for Tropospheric Research, Leipzig, Germany, Veli-Matti Kerminen, Finnish Meteorological Institute, Helsinki, Finland, Kari E.J. Lehtinen, Finnish Meteorological Institute and University of Kuopio, Kuopio, Finland, Ari Laaksonen, University of Kuopio, Paul Winkler, and Paul E. Wagner, Institut für Experimentalphysik, Universität Wien, Wien, Austria (p.1611)

4C Complex Material Synthesis (Platform)

Governors 1 and 5

Sheldon Davis, Mansoo Choi, Chairs

4:00

4C1 **SYNTHESIS OF COATED IRON OXIDE NANOPARTICLES USING FLAME METHOD AND PROTEIN ATTACHMENT.** KIMIN JUN, Sangsun Yang, Mansoo Choi, Seoul National University, Seoul, Korea (p.18)

4:20

4C2 **PREMIXED FLAME DEPOSITION OF NANOSTRUCTURED ANATASE-TIO2 FILMS FOR PHOTOACTIVATED PROCESSES.** ELIJAH THIMSEN and Pratim Biswas, Washington University, Saint Louis, MO (p.19)

4:40

4C3 **TARGETED DEPOSITION OF AU AEROSOL NANOPARTICLES ON VERTICAL NANOWIRES FOR CREATION OF NANOTREES.** Kora Bayer, Kimberly A. Dick, KNUT DEPPERT, Solid State Physics, Lund University, Lund, Sweden; Thomas J. Krinke, TSI GmbH, Aachen, Germany (p.21)

5:00

4C4 **NANOPARTICLE GENERATION AND DEPOSITION SYSTEM FOR A LARGE SUBSTRATE AND ITS APPLICATION TO CANBON NANOTUBE GROWTH FOR FUTURE ELECTRONIC DEVICES.** SHINTARO SATO, Mizuhisa Nihei, Atsushi Mimura, Akio Kawabata, Daiyu Kondo, Yuji Awano, Fujitsu Limited, Atsugi, Japan (p.23)

4D Indoor Aerosols-II (Platform)

Govenors 2 – 4

Mark Sippola, Jana Kesavan, Chairs

4:00

4D1 **AIRBORNE OZONE FOR INACTIVATION OF VIRUS-CONTAINING AEROSOLS.** CHUN-CHIEH Tseng, Chih-Shan Li, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, R.O.C. (p.809)

4:20

4D2 **DESIGN AND DEVELOPMENT OF SMALL-SIZED NANOPARTICLE GENERATOR AS AN ANTIMICROBIAL DEVICE.** Jun-Ho Ji, Hyung-Su Noh,Digital Appliance RandD Center, Samsung Electronics,Suwon,Korea, Jae-Hee Jung, Hyun-Cheol Oh, Sang-Su Kim, Dept. of Mechanical Engineering, Korea Academy Institute of Science and Technology, Deajeon, Korea, Byung-Uk Lee, Gwi-Nam Bae, Research Center, Korea Institute of Science and Technology, Seoul, Kora, (p.810)

4:40

4D3 **REDUCTION OF AEROSOL EXPOSURE IN INDOOR ENVIRONMENTS: ROLE OF DIFFERENT MECHANISMS.** SERGEY A. GRINSHPUN, Atin Adhikari, Takeshi Honda, Taekhee Lee, Kiyoun Kim and Tiina Reponen, Center for Health-Related

Aerosol Studies, University of Cincinnati, Cincinnati, Ohio, USA (p.811)

5:00

4D4 **THE BIOAEROSOLS ASSOCIATED WITH AIR-CONDITIONED BEDROOMS DURING SUMMER NIGHTS.** JESSICA Y. W. CHENG, Environmental Engineering Program, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, Frances K. M. Kwan and Arthur P. S. Lau, Institute for the Environment, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong (p.812)

4E Laboratory Study of Organic Reactions-II (Platform)
Wabasha Suite
Sergey Nizkorodov, Eladio Knipping, Chairs
4:00

4E1 **LABORATORY STUDIES OF PHOTOCHEMICAL PROCESSING OF SECONDARY ORGANIC AEROSOL PARTICLES.** SERGEY A. NIZKORODOV, Jiho Park, Maggie L. Walser, Anthony L. Gomez, Joelle S. Underwood, Xiang Pan, Robert Benningsdorf, and Ashley R. Russell, University of California at Irvine, Irvine, CA (p.1485)

4:20

4E2 **THE REACTIONS OF UNSATURATED FATTY ACIDS AEROSOL WITH OZONE: PRODUCTS FORMATION AND HYGROSCOPIC PROPERTIES OF THE PROCESSED AEROSOL.** OLGA VESNA, Staffan. Sjogren, Ernest Weingartner, Konrad Stemmler, Heinz W. Gäggeler, Markus Ammann, Paul Scherrer Institut, Switzerland; Markus Kalberer, Swiss Federal Institute of Technology Zurich, Switzerland (p.1486)

4:40

4E3 **OZONOLYSIS OF UNSATURATED FATTY ACIDS: PRODUCT FORMATION AND CHANGES IN HYGROSCOPICITY.** ALEX KING YIN LEE, Chak K. Chan, Hong Kong University of Science and Technology, Hong Kong (p.1488)

5:00

4E4 **AEROSOL FLOW TUBE/FT-IR (AFT-FT): A NEW METHOD TO STUDY THE HETEROGENEOUS CHEMISTRY OF AEROSOLS.** CINDY DEFOREST HAUSER, Shari Barnett, Jamie Ferguson, Catherine Williams and G. Steve Tolson, Davidson College, Davidson, NC (p.1490)

4F Nucleation Experiments-I (Platform)
Kellogg Suite
Barbara Wyslouzi, M. Adachi, Chairs
4:00

4F1 **TUNABLE DIODE LASER ABSORPTION SPECTROSCOPY STUDY OF CH3CH2OD/D2O BINARY NUCLEATION IN A SUPERSONIC LAVAL NOZZLE.** SHINOBU TANIMURA, Barbara E. Wyslouzil, The Ohio State University, Columbus, OH; Mark Zahniser, Joanne Shorter, David Nelson, Barry McManus, Aerodyne Research Inc., Billerica, MA (p.1613)

4:20

4F2 **OBSERVATION OF NUCLEATION OF ORGANIC VAPOURS BY NANOPARTICLES ALREADY AT PARTICLE SIZES WELL BELOW THE KELVIN PREDICTION.** PAUL M. WINKLER, Gerhard Steiner, Georg P. Reischl, Aron Vrtala, Paul E. Wagner, University of Vienna, Vienna, Austria; Anca I. Gaman, Hanna Vehkamäki, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.1615)

4:40

4F3 **ION MOBILITY CHANGES IN DIFFERENTIAL MOBILITY ANALYZER AT VARIOUS HUMIDITY.** Natsuko Yokoyama, Motoaki Adachi, Osaka Prefectrure University, Osaka, JAPAN (p.1617)

5:00

4F4 **WATER DROPLET NUCLEATION AND GROWTH IN SUPERSONIC FLOWS.** BARBARA WYSLOUZIL, The Ohio State University, Columbus, OH; Gerald Wilemski University of Missouri – Rolla, Rolla MO; Reinhard Strey, Universität zu Köln, Köln, Germany (p.1618)

4G Elemental and Organic Carbon Atmospheric Aerosols-I (Poster)
Garden Court East
Konrad Maeller, L. Hussain, Chairs
4:00

4G1 **INVESTIGATION OF CARBONACEOUS AEROSOL BEHAVIOR AT TWO LOCATIONS IN NEW YORK STATE.** RAMYA SUNDER RAMAN and Philip K. Hopke, Department of Chemical Engineering and Center for Air Resources Engineering and Science, Clarkson Univeristy, Potsdam, NY (p.1492)

4:00

4G2 **APPLICABILITY OF AN ELECTROSTATIC CARBON AEROSOL PARTICLE GENERATOR TO VOCS**

REMOVAL. Jeong Hoon Byeon, Jae Hong Park, Ki Young Yoon, Byung Ju Ko, Jungho Hwang, Yonsei University (School of Mechanical Engineering); Jun Ho Ji, Samsung Electronics Co., Ltd. (Division of digital appliance network) (p.1494)

4:00

4G3 **COMPARISON OF ELEMENTAL CARBON (EC) AND BLACK CARBON (BC) MEASUREMENTS DERIVED BY THERMO-OPTICAL AND FILTER-BASED LIGHT TRANSMISSION TECHNIQUES AT NORTH ATLANTIC.** FILIPE BARATA, Paulo Fialho, Departamento de Ciências Agrárias, Universidade dos Acores, Portugal; Casimiro Pio, Departamento de Ambiente e Ordenamento, Universidade de Aveiro, Portugal. (p.1496)

4:00

4G4 **TEMPORAL-SPATIAL DISTRIBUTION OF PARTICULATE MATTER AND CARBONACEOUS MATERIAL IN A MEGACITY.** PASQUALE AVINO, Maurizio Manigrasso, ISPESL, Rome, Italy (p.1497)

4:00

4G5 **SEASONAL AND DIURNAL VARIATION OF BLACK CARBON AEROSOLS AT A TROPICAL URBAN STATION, PUNE.** SHAILENDRA KEWAT, Pramod Safai, Puppala ShivaPraveen, Prakash Rao, Gaffur Momin and P.C. S. Devara, Indian Institute of Tropical Meteorology, Pune, MS, India. (p.1498)

4:00

4G6 **CHEMICAL CHARACTERIZATION OF AMBIENT AEROSOL ORGANICS WITH HIGH TIME RESOLUTION USING THE PHOTOIONIZATION AEROSOL MASS SPECTROMETER (PIAMS).** Matthew Dreyfus, Murray V. Johnston, University of Delaware, Newark, DE (p.1500)

4:00

4G7 **QUANTITATIVE UNCERTAINTY IN THERMAL-OPTICAL ANALYSIS OF CARBONACEOUS PARTICLES.** POONAM BOPARAI, Tami Bond, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, IL (p.1502)

4:00

4G8 **BLACK CARBON CONCENTRATIONS IN A PASSENGER CAR ON ROADS.** Seung-Bok Lee, GWI-NAM BAE, Korea Institute of Science and Technology, Seoul, Korea (p.1504)

4:00

4G9 **FIELD AND SMOG CHAMBER MEASUREMENTS OF ORGANIC AEROSOLS IN SWITZERLAND.** M. RAMI ALFARRA, Andre S.H. Prevot, Jisca Sandradewi, Jonathan Duplissy, Axel Metzger, Josef Dommen, Ernest Weingartner, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institut, Villigen, Switzerland (p.1505)

4:00

4G10 **APPLICATION OF THE VOLATILITY-TDMA TECHNIQUE TO DETERMINE THE NUMBER SIZE DISTRIBUTION OF EXTERNALLY MIXED SOOT PARTICLES.** ANNA FREY, Finnish Meteorological Institute, Helsinki, Finland; Birgit Wehner, Diana Rose, Thomas Müller, Alfred Wiedensohler, Leibniz-Institute for Tropospheric Research, Leipzig, Germany (p.1507)

4:00

4G11 **REFLECTANCE OF PM10 AND PM2.5 FILTERS AS AN INDICATOR OF COMBUSTION-RELATED PARTICLE EMISSIONS, IN CENTRAL ATHENS, GREECE.** M. Constantopoulou, G. Grivas, V. Kanouta, A. Chaloulakou, School of Chemical Engineering, National Technical University of Athens,Greece; P. Kassomenos, Department of Astrogeophysics, Faculty of Physics, University of Ioannina, Greece. (p.1508)

4:00

4G12 **COMPARISON BETWEEN TOT AND TGA/FT-IR CARBON MEASUREMENTS.** Paola Fermo, Andrea Piazzalunga, Fabiola Martino, Department of Inorganic, Metallorganic and Analytical Chemistry, University of Milan; ROBERTA VECCHI, Gianluigi Valli, Alessandra D'Alessandro, Institute of Applied General Physics, University of Milan, (p.1510)

4:00

4G13 **SECONDARY ORGANIC AEROSOL FORMATION IN METROPOLITAN ATLANTA GEORGIA.** RODNEY WEBER, Amy Sullivan, Rick Peltier, Chris Hennigan, A. (Ted) Russell, Bo Yan, Mei Zheng, Georgia Institute of Technology, Atlanta, GA; Joost de Gouw, Carsten Warneke, John Holloway, NOAA Earth System Research Laboratory, Boulder, CO; Elliot Atlas, University of Miami, Miami, FL; Eric Edgerton, Atmospheric Research and Analysis, Inc., Cary, NC (p.1512)

4:00

4G14 **DISTRIBUTION OF DIFFERENT POLARITY SPECIES IN PARTICULATE MATTER FROM DIFFERENT SOURCES.** JOSEF BERANEK, Ty Lahren, Irina Smoliakova, Alena Kubatova, Department of Chemistry, University of North Dakota, Grand Forks, ND (p.1513)

4:00

4G15 **TOWARDS THE DEVELOPMENT OF A BLACK CARBON STANDARD FOR EVALUATING THERMAL-OPTICAL ANALYSIS METHODS AND OTHER INSTRUMENTS THAT MEASURE BLACK CARBON AND LIGHT ABSORPTION.** THOMAS W. KIRCHSTETTER, Lawrence Berkeley National Laboratory, Berkeley, CA (p.1515)

4:00

4G16 **THE IMPACT OF METEOROLOGICAL FACTORS ON THE COMPOSITION OF PM2.5 AEROSOLS IN LAHORE,PAKISTAN DURING WINTER.** LIAQUAT HUSAIN, Vincent A. Dutkiewicz, Abdul Khan, Adil Khan, Abdul Bari, Wadsworth Center, NYS Health Department, Albany, NY, Badar Ghauri. SUPARCO, Division of Space and Environment, Karachi, Pakistan (p.1517)

4:00

4G18 **TD-GCMS ANALYSIS OF ONE YEAR OF DAILY PM2.5 SAMPLES FROM THE ST. LOUIS – MIDWEST SUPERSITE.** REBECCA J. SHEESLEY, James J. Schauer, MinSuk Bae, Environmental Chemistry and Technology Program, University of Wisconsin, Madison, WI; Jeff DeMinter, Mark Mieritz, Wisconsin State Laboratory of Hygiene, University of Wisconsin, Madison, WI; Jay R. Turner, Department of Chemical Engineering, Washington University, St. Louis, MO (p.1519)

4:00

4G19 **CHEMICAL CHARACTERISTICS OF ORGANIC AEROSOLS DURING AN ACUTE WINTER INVERSION.** MARK ERUPE, Philip Silva, Utah State University, Logan, UT (p.1520)

4:00

4G20 **SIZE-RESOLVED EMISSIONS OF ORGANIC TRACERS FROM LIGHT- AND HEAVY-DUTY VEHICLES MEASURED IN A CALIFORNIA ROADWAY TUNNEL.** HARISH C. PHULERIA, Michael D. Geller, Philip M. Fine, Constantinos Sioutas, University of Southern California, Los Angeles, CA (p.1521)

4:00

4G21 **AEROSOL OPTICAL PROPERTIES MEASUREMENTS USING CAVITY RING DOWN TECHNIQUE.** ANNA GANNET HALLAR, Anthony Strawa, NASA Ames Research Center, Moffett Field, CA; Thomas Kirchstetter, Lawrence Berkeley Laboratory (p.1523)

4:00

4G22 **THE SIZE DISTRIBUTION OF PM EMISSION FROM POWER PLANTS IN BEIJING.** Yiyun Bo, Beijing Municipal Institute of Labor Protection (p.1524)

4:00

4G23 **ENVIRONMENTAL IMPACTS OF PARTICULATES EMITTED FROM RUBBER-WOOD BURNING IN RUBBER SMOKED SHEET PRODUCTION IN THAILAND.** PERAPONG TEKASAKUL, Surajit Tekasakul, Thitiworn Choosong, Prince of Songkla University, Hat Yai, Songkhla, Thailand; Masami Furuuchi, Yoshio Otani, Shinji Tsukawaki, Tsuyoshi Jinno, Takahiro Murase, Kanazawa University, Kanazawa, Japan (p.1526)

4:00

4G24 **SIZE-RESOLVED QUANTIFICATION OF POLYCYCLIC AROMATIC HYDROCARBONS AND LUBRICATING OIL TRACERS FORM LIGHT-DUTY GASOLINE AND HEAVY-DUTY DIESEL VEHICLES.** SARAH RIDDLE, Michael Robert, Chris Jakober, and Michael Kleeman, University of California at Davis. Davis CA (p.1528)

4:00

4G25 **DIESEL VEHICLE EMISSIONS IN THAILAND: PM2.5 MASS, COMPOSITION, AND LIGHT ABSORPTION.** R SUBRAMANIAN, Tami C Bond, University of Illinois at Urbana-Champaign, USA; Worrarat Thiansathit, Nguyen Thi Kim Oanh, Asian Institute of Technology, Thailand; KG Duleep, EEA, Inc.; Ittipol Paw-armart, Pollution Control Department, Thailand; Ekbordin Winijkul, PADCO, Inc. (p.1529)

4:00

4G26 **EFFECT OF FUEL SULPHUR CONTENT AND CONTROL TECHNOLOGY ON PM EMISSIONS FROM SHIP'S AUXILIARY ENGINE.** ABHILASH NIGAM, William Welch, J.Wayne Miller, David R. Cocker III, Department of Chemical and Environmental Engineering and College of Engineering, Center for Environmental Research and Technology, UC Riverside, Riverside, CA (p.1531)

4:00

4G27 **DELIQUESCENCE AND CRYSTALLIZATION OF AQUEOUS ORGANIC-INORGANIC PARTICLES AND AQUEOUS INORGANIC PARTICLES CONTAINING SOOT INCLUSIONS.** Matthew Parsons, Atul Pant, Daniel Knopf and ALLAN BERTRAM, Department of Chemistry, University of British Columbia, Vancouver, BC (p.1532)

4:00

4G28 **PAHS CONCENTRATIONS ON THE ROADSIDE IN SEOUL.** Su-Mi Park, Hyun-Chul Jin, GWI-NAM BAE, Korea Institute of Science and Technology, Seoul, Korea (p.1533)

4:00

4G29 **IDENTIFICATION AND ESTIMATION OF ATMOSPHERIC AEROSOL MAIN COMPONENTS: HIT THE TARGET BY MEANS OF A SINGLE ANALYTICAL METHOD.** Paola Fermo, Andrea Piazzalunga, Fabiola Martino, Department of Inorganic, Metallorganic and Analytical Chemistry, University of Milan; ROBERTA VECCHI, Gianluigi Valli, Alessandra D'Alessandro, Institute of Applied General Physic, University of Milan (p.1534)

4:00

4G30 **REDUCTION OF PCDDF EMISSION BY THE ACTIVATED CARBON INJECTION IN ZINC OXIDE PLANT.** HSING-WANG LI, Wen-Jhy Lee, Department of Environmental Engineering, Sustainable Environment Research Center, National Cheng Kung University,Tainan, Taiwan; Guo-Ping Chang-Chien, Department of Chemical Engineering, Cheng-Shiu University,Kaohsiung, Taiwan; Kuen-Thyr Yang, Taiwan Steel Union CO LTD, Chang-Hua, Taiwan (p.1536)

4:00

4G31 **COMPOSITION EFFECTS ON SECONDARY ORGANIC AEROSOL (SOA) PARTITIONING: CMAQ MODULE DEVELOPMENT AND INITIAL EVALUATION.** Xinlian Chang, Vanderbilt University, Nashville, TN; FRANK M. BOWMAN, University of North Dakota, Grand Forks, ND (p.1538)

4:00

4G32 **VOC PRECURSORS AND SECONDARY AEROSOLS IN THE SOUTHEASTERN UNITED STATES.** G. M. HIDY, Envair/Aerochem., Placitas, NM; C. L. Blanchard, Envair, Albany, CA; E. Edgerton, ARA,Inc., Raleigh, NC; R. A. Rassmussen, Oregon Health and Science University, Beaverton, OR; A.

Russell, Georgia Institute of Technology, Atlanta, GA (p.1539)

4:00

4G33 **A NEW AEROSOL MODEL FOR INVESTIGATING INTERACTIONS BETWEEN AEROSOL MIXING STATE, SEMIVOLATILE ORGANIC PARTITIONING, AND COAGULATION.** Jin Lu, Vanderbilt University, Nashville, TN; FRANK M. BOWMAN, University of North Dakota, Grand Forks, ND (p.1540)

4:00

4G34 **SECONDARY ORGANIC AEROSOL FORMATION FROM THE REACTION OF AMMONIA AND GAS-PHASE ORGANIC ACIDS PRODUCED FROM OZONOLYSIS.** KWANGSAM NA, Chen Song, Cameron Switzer, David R. Cocker III, Bourns College of Engineering – Center for Environmental Research and Technology (CE-CERT), University of California, Riverside, CA (p.1541)

4:00

4G36 **MEASUREMENTS OF GAS-PARTICLE PARTITIONING OF REAL AND MODEL COMBUSTION AEROSOLS AT NEAR-AMBIENT CONCENTRATIONS.** ANDREW GRIESHOP, Allen Robinson, Carnegie Mellon University, Pittsburgh, PA (p.1543)

4H Urban and Regional Air Quality (Poster)

Garden Court West

James Schauer, M. Furuuchi, Chairs

4:00

4H1 **SIZE DISTRIBUTION AND NUMBER CONCENTRATION OF AMBIENT NANOPARTICLE IN DIFFERENT AREA OF HSINCHU, TAIWAN.** TZU-MING CHEN, HungMin Chein, Hsin-Chen Yeh, Chun-Chao Huang, Jau-Yo Huang, Li-Yeh Hsu, Environmental Health Technology Division, Energy and Environment Research Laboratories, Industrial Technology Research Institute, TAIWAN (p.1697)

4:00

4H2 **EFFECTS OF PILE CONFIGURATIONS AND WIND CONDITIONS ON AEROSOL EMISSIONS FROM COAL STOCKPILES.** BADR THERESE, Jean-Luc Harion, Ecole des Mines de Douai, France (p.1699)

4:00

4H3 **TRANSFER OF POLYCHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS FROM AMBIENT AIR TO BANYAN LEAVES.** LONG-FULL LIN, Wen-Jhy Lee, Chia-Yang Hung, Department of Environmental Engineering, National Cheng Kung University, Tainan, Taiwan; Guo-Ping Chang-Chien, Department of Chemical Engineering, Cheng-Shiu University, Kaohsiung, Taiwan (p.1701)

4:00

4H4 **USE OF STATISTICAL TOOLS TO DESCRIBE THE INFLUENCE OF ANTHROPOGENIC SOURCES AND METEOROLOGICAL PARAMETERS ON THE TEMPORAL VARIATIONS OF PM10 IN A MULTI-INFLUENCED COASTAL SITE.** Juliette Rimetz, Esperanza Perdrix, Sophie SOBANSKA, Claude Brémard (p.1703)

4:00

4H5 **THE ROLE OF ISOPRENE IN SECONDARY ORGANIC AEROSOL FORMATION: A 1-YEAR 3-D REGIONAL MODEL SIMULATION AND EXAMINATION.** YANG ZHANG, Jian-Ping Huang, North Carolina State University, Raleigh, NC; Daven K. Henze and John H. Seinfeld, California Institute of Technology, Pasadena, CA (p.1705)

4:00

4H6 **CHEMICAL AND BIOLOGICAL POLLUTION OF FRESH SNOW.** ALEXANDER S. SAFATOV, Galina A. Buryak, Irina S. Andreeva, Sergey E. Olkin, Irina K. Reznikova, Federal State Research Institution «State Research Center of Virology and Biotechnology «Vector», Koltsovo, Novosibirsk region, Russia; Marina P. Shinkorenko, Olga V. Shuvaeva and Boris S. Smolyakov, Institute of Inorganic Chemistry, SB RAS, Novosibirsk, Russia (p.1707)

4:00

4H7 **INTERNAL MIXING OF POLLUTANTS WITH ASIAN MINERAL DUST PARTICLES OBSERVED IN JAPAN.** JUN MATSUMOTO, Masahiro Narukawa, Kenshi Takahashi, Yutaka Matsumi, STEL, Nagoya University, Toyokawa, Japan; Akihiro Yabushita, Horiba Ltd., Kyoto, Japan; Atsushi Shimizu, Ichiro Matsui, Nobuo Sugimoto, NIES, Tsukuba, Japan (p.1709)

4:00

4H8 **REGIONAL AEROSOL OPTICAL DEPTH DISTRIBUTION DERIVED BY CMAQ MODEL SIMULATION UNDER SIBERIAN FOREST FIRE EMISSION.** HEE-JIN IN, Yong Pyo Kim, Ewha Womans Univerisy, Seoul, Korea (p.1710)

4:00

4H9 **DAYTIME RESOLVED ANALYSIS OF POLYCYCLIC AROMATIC HYDROCARBONS IN URBAN AEROSOL SAMPLES – IMPACT OF SOURCES AND METEOROLOGICAL CONDITIONS.** MARTIN SKLORZ, Jürgen Schnelle-Kreis, Yongbo Liu, Jürgen Orasche,Ralf Zimmermann, GSF – National Research Centre for Environment and Health, and BIfA GmbH – Bavarian Institute of Applied Environmental Research and Technology, and University of Augsburg, Germany (p.1712)

4:00

4H10 **SIZE DISTRIBUTIONS AND SIZE-RESOLVED CHEMICAL COMPOSITION OF PARTICLES OBSERVED DURING SUMMER AND WINTER IN A SMALL URBAN SETTING AND IN SUMMER AT A MOUNTAINTOP SITE.** DEREK MONTAGUE, Mariya Petrenko, Wiesje Mooiweer, Mark Weitz, Terry Deshler, University of Wyoming, Laramie, WY (p.1714)

4:00

4H11 **CAMX SIMULATIONS OF WET AND DRY DEPOSITION OF PARTICULATE NITRATE, NITRIC ACID AND AMMONIA ALONG COLORADO'S FRONT RANGE.** MICHAEL BARNA, Kristi Gebhart, Bret Schichtel, National Park Service; Marco Rodriguez, Colorado State UniversitY (p.1716)

4:00

4H12 **LONG-TERM SEMI-CONTINUOUS MEASUREMENT OF PM2.5 MASS, SULFATE AND CARBON AT RURAL AND URBAN SITES IN NEW YORK STATE.** JAMES SCHWAB, Min-Suk Bae, Kenneth Demerjian, Atmospheric Sciences Research Center, University at Albany, State University of New York, Albany, NY; Oliver Rattigan, Henry D. Felton, New York State Department of Environmental Conservation, Albany, NY (p.1717)

4:00

4H13 **PM10 SPATIAL DISTRIBUTION ASSESSMENT AND MAPS RECONSTRUCTION OVER TUSCANY, ITALY.** CARLO GRASSI, Beatrice Barlettani, Leonardo Tognotti, Department of Chemical Engineering, University of Pisa, Pisa, IT (p.1719)

4:00

4H14 **PMF ANALYSIS OF A LARGE DATASET OF ORGANIC MOLECULAR MARKERS IN PITTSBURGH, PA.** MANISH SHRIVASTAVA, Allen L. Robinson, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, 15217, PA, USA; Wolfgang F. Rogge, Department of Civil and Environmental Engineering, Florida International University, Miami, FL, USA (p.1721)

4:00

4H15 **CHARACTERISTICS OF AIR POLLUTANTS IN ANGKOR MONUMENTS AREA, CAMBODIA.** M. Furuuchi, T. Murase and M. Hata, Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa 920-1192, Japan; S. Tsukawaki, Institute of Nature and Environmental Technology, Kanazawa University, Kanazawa 920-1192, Japan; P. Hang, Department of Water and Forestry, APSARA, Siem Reap, Cambodia; S. Sieng, Department of Geology, Ministry of Industry, Mines and Energy, Phnom Penh, Cambodia (p.1723)

4:00

4H16 **ANALYSIS OF A STRONG SAHARAN DUST EVENT IN THE CARIBBEAN FROM SUN AERONET PHOTOMETER, PM10 AND BACK-TRAJECTORIES DATA.** JACK MOLINIE, Sandra Jacoby-Koaly, Rose-Helen Petit, Tony Feuillard, Laboratoire de Physique de l'Atmosphere Tropicale, University Antilles - Guyane, Guadeloupe (p.1725)

4:00

4H17 **MODEL FOR SIMULATING AEROSOL INTERACTIONS AND CHEMISTRY (MOSAIC).** RAHUL ZAVERI, Richard Easter, Jerome Fast, William Gustafson, Leonard Peters, Pacific Northwest National Laboratory, Richland, WA (p.1727)

4:00

4H18 **MEASUREMENT OF PM2.5 AND ULTRAFINE PARTICLES AROUND ROADSIDE IN SUBURBAN AREA.** Kazuhiko Sekiguchi, Masahiro Yasuhara, Nobuyuki Ishikawa, Kazuhiko Sakamoto, Saitama University, Saitama, Japan; Norikazu Namiki, Yoshio Otani, Kanazawa University, Ishikawa, Japan (p.1728)

4:00

4H19 **SIZE SEGREGATED CHEMICAL COMPOSITION OF PARTICLES EMITTED FROM COAL-FIRED POWER PLANT.** JANJA TUR_I_, Irena Grgi_, Bo_tjan Podkraj_ek,Miroslav Kova_evi_, Laboratory for Analytical Chemistry, National Institute of Chemistry, Hajdrihova 19, SI-1000 Ljubljana, Slovenia; Axel Berner, Institute for Experimental Physics University of Vienna, Boltzmanngasse 5, A-1090, Vienna, Austria; Igor _uhalev, Janez Jam_ek, Electroinstitute Milan Vidmar, Hajdrihova 2, SI-1000 Ljubljana, Slovenia (p.1730)

4:00

4H20 **CHARACTERIZATION OF AEROSOL IN THE PO VALLEY, ITALY, DURING THE ADRIEX CAMPAIGN.** JONATHAN CROSIER, James D. Allan, Keith Bower, Hugh Coe, Paul I. Williams, School of Earth, Atmospheric and Environmental Science, University of Manchester, UK; Eleanor J. Highwood, Jolene Cook, Department of Meteorology, University of Reading, UK; James M. Haywood, Simon R. Osborne, Met Office, Exeter, UK; Douglas R. Worsnop, John T. Jayne, Aerodyne Research Inc, Billerica, MA; Jose L. Jimenez, University of Colorado, Boulder, CO (p.1732)

4:00

4H21 **DEVELOPMENT OF METHODOLOGY FOR PM10 EMISSION FACTORS ON FIELD MEASUREMENTS AND PREDICTIONS FOR ALMOND INDUSTRY.** Teresa Cassel, KRYSTYNA TRZEPLA-NABAGLO, Paul Wakabayashi and Robert Flocchini, Crocker Nuclear Laboratory, University of California, Davis, CA (p.1733)

4:00

4H22 **HIGH-RESOLUTION MODELLING OF ATMOSPHERIC POLLUTION BY AEROSOLS IN THE IBERIAN PENINSULA: ANNUAL CYCLE SIMULATIONS.** Pedro Jiménez, Oriol Jorba, Barcelona Supercomputing Center – Centro Nacional de

Supercomputación (BSC-CNS) Earth Sciences Division, Barcelona, Spain, María Gonçalves and José M. Baldasano, Environmental Modelling Laboratory, Technical University of Catalonia (LMA-UPC), Barcelona,Spain (p.1735)

Monday 5:30 PM – 7:00 PM
AAAR General Business Meeting
Minnesota Ballroom

Monday 6:00 PM – 8:00 PM
Exhibitor Reception
Great River Ballroom, Garden Courts East and West

Tuesday 8:00 AM – 9:20 AM
Plenary
Minnesota Ballroom
Gilmore Sem, Chair

8:00 **PLENARY 2. INDOOR AEROSOLS: DO WE NEED MORE DATA OR MORE SCIENCE?** Lidia Morawska,Professor, School of Physical and Chemical Sciences, Queensland University of Technology, Brisbane, Australia (p.771)

9:00 **MARIAN SMOLUCHOWSKI AWARD** presented by Reinhard Niessner

KENNETH T. WHITBY AWARD presented by David Leith

Tuesday 9:00 AM – 3:30 PM
Exhibits Open
Great River Ballroom

Tuesday 9:20 AM – 11:00 AM
Poster Viewing with Continental Breakfast for Sessions 1 – 6
Great River Ballroom, Garden Courts East and West

Tuesday 11:00 AM – 12:40 PM
Session 5
5A Urban Aerosol Sources (Platform)
Minnesota Ballroom
Paolo Prati, P. Hopke, Chairs
11:00
5A1 **AREA OF INFLUENCE ANALYSIS FOR PM2.5 COMPONENTS.** SERGEY L. NAPELENOK, Yongtao Hu, Armistead G. Russell, Department of Civil and

Environmental Engineering, Georgia Institute of Technology, Altanta, GA, USA, Florian Habermacher, L'Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, Farhan H. Akhtar, Department of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, USA (p.1737)

11:20

5A2 **MODELING SOURCE CONTRIBUTIONS TO ULTRAFINE PARTICLE NUMBER CONCENTRATIONS MEASURED IN ROCHESTER, NY.** DAVID OGULEI, Philip Hopke, Clarkson University, Potsdam, NY; David Chalupa, Mark Utell, University of Rochester Medical Center, Rochester, NY. (p.1739)

11:40

5A3 **EFFECTS OF SOURCE PROXIMITY ON RESIDENTIAL OUTDOOR CONCENTRATIONS OF PM2.5 AND ITS CARBONACEOUS COMPONENTS.** ANDREA POLIDORI, Barbara Turpin, Yelena Naumova, Steven Eisenreich, Qing Yu Meng, William Cui, Robert Giovanetti, Rutgers University, NJ; Jaymin Kwon, Clifford Weisel, Environmental and Occupational Health Sciences Institute, NJ (p.1741)

12:00

5A4 **POSITIVE MATRIX FACTORIZATION (PMF) ANALYSIS OF MOLECULAR MARKER MEASUREMENTS TO QUANTIFY THE SOURCES OF ORGANIC AEROSOLS.** JEFFREY JAECKELS, Min-Suk Bae, James Schauer, Environmental Chemistry and Technology, University of Wisconsin-Madison (p.1743)

5B Organic Aerosol Characterization (Platform)
Capitol Ballroom
Mohammed Jaoui, R. Pathak, Chairs

11:00

5B1 **TRAFFIC CONTRIBUTION TO PARTICULATE MATTER (PM) IN A STREET CANYON IN COMPARISON TO URBAN AND RURAL BACKGROUND SITES.** KONRAD MÜLLER, Thomas Gnauk, Erika Brüggemann, Dominik van Pinxteren, Hartmut Herrmann, Leibniz-Institut für Troposphärenforschung, Leipzig, Germany (p.1545)

11:20

5B2 **SEASONAL ESTIMATION OF ORGANIC MASS TO ORGANIC CARBON FROM PM2.5 FILTER SAMPLES AT RURAL AND URBAN LOCATIONS IN NEW YORK STATE.** MIN-SUK BAE, Kenneth L. Demerjian,

and James J. Schwab; Atmospheric Sciences Research Center, University at Albany, State University of New York, Albany, New York, USA (p.1547)

11:40

5B3 **EVAPORATIVE LIGHT SCATTERING: A NOVEL QUANTIFICATION METHOD FOR HUMIC-LIKE SUBSTANCES (HULIS) IN ORGANIC AEROSOLS.** Christian Emmenegger, Alain Reinhardt, Renato Zenobi, MARKUS KALBERER, ETH Zurich, Zurich, Switzerland (p.1549)

12:00

5B4 **FORMATION OF SECONDARY ORGANIC AEROSOL FROM IRRADIATED MIXTURES OF ISOPRENE, A-PINENE, AND TOLUENE WITH NOX AND SO2.** MOHAMMED JAOUI, Alion Science and Technology, Research Triangle Park, NC; Tadeusz E. Kleindienst, Michael Lewandowski, John H. Offenberg, Edward O. Edney, National Exposure Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC; Jason D. Surratt, John H. Seinfeld, California Institute of Technology, Pasadena, CA (p.1551)

5C Methods of Aerosol Synthesis (Platform)

Governors 1 and 5

Michael Zachariah, T. Ward, Chairs

11:00

5C1 **FOCUSED PARALLEL PATTERNING OF CHARGED AEROSOLS.** H. Kim, J. Kim , H. Yang , J. Suh, T. Kim, B. Han, S. Kim, D. S. Kim, P.V. Pikhitsa and M. Choi, Seoul National University, Seoul, Korea (p.25)

11:20

5C2 **OPTIMIZATION OF MULTIPLEXED MICROFABRICATED ELECTROSPRAY SOURCES TO INCREASE THE FLOW RATE OF MONODISPERSE DROPLETS.** Weiwei Deng (1), Christopher M. Waits (2), Nicholas R. Jankowski (2), Bruce R. Geil (2) and Alessandro Gomez (1) (1) Department of Mechanical Engineering, Yale University,9 Hillhouse Ave., New Haven, CT 06520, USA (2) Army Research Laboratory, 2800 Powder Mill Rd., Adelphi, MD 20783, USA (p.26)

11:40

5C3 **SIZE DISTRIBUTIONS OF IRON OXIDE NANOPARTICLES IN THE MICROWAVE PLASMA DISCHARGE PROCESS BY PARTICLE MASS SPECTROMETRY**

AND BY TRANSMISSION ELECTRON MICROSCOPY. HANNS-R. PAUR, W. Baumann, B. Thekedar, H. Seifert; Forschungszentrum Karlsruhe, Institut für Technische Chemie, Karlsruhe, Germany (p.28)

12:00

5C4 **NANOSTRUCTURED POROUS PARTICLES BY SELF ASSEMBLY AND PHASE SEPARATION IN AEROSOL DROPLETS.** Shailendra Rathod, TIMOTHY L. WARD, University of New Mexico, Albuquerque, NM (p.30)

12:20

5C5 **SIMULATIONS OF NANOPARTICLE GROWTH AND TRANSPORT IN A PLASMA.** Sarah Warthesen, STEVEN GIRSHICK, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN (p.222)

5D Indoor Aerosols-III (Platform)

Govenors 2 – 4

Andrea Ferro, Jacky Rosati, Chairs

11:00

5D1 **INDOOR-OUTDOOR RELATIONSHIPS, TRENDS AND CARBONACEOUS CONTENT OF FINE PARTICULATE MATTER DURING THE CHAPS STUDY.** Mohammad Arhami, Andrea Polidori, Constantinos Sioutas, University of Southern California, CA; Ralph Delfino, University of California, Irvine, CA (p.814)

11:20

5D2 **ASSESSMENT OF PERSONAL EXPOSURE OF URBAN YOUTH IN CHICAGO TO METALS IN PM2.5.** DANIEL O'CONNELL, Peter Scheff, Serap Erdal, University of Illinois at Chicago, School of Public Health, Division of Environmental and Occupational Health Sciences, 212 West Taylor Street, Chicago, IL, USA (p.816)

11:40

5D3 **INDOOR-OUTDOOR AEROSOLS: EXPERIMENTS AND MODEL SIMULATIONS.** KAARLE HÄMERI, Eija Vartiainen, Finnish Institute of Occupational Health and University of Helsinki, Helsinki, Finland; Rauno Holopainen, Marko Björkroth, Juha Jokisalo, Jarek Kurnitski, Olli Seppänen, Helsinki University of Technology, Laboratory of Heating Ventilating and Air-Conditioning, Helsinki, Finland; Mika Vuolle, SIY; Sisäilmatieto Oy (FiSIAQ), Finland; Aimo Taipale, Ilpo Kulmala, Matti Lehtimäki, Technical Research Centre of

Finland, Industrial Systems, Tampere, Finland;Merja Hautamäki, Arto Voutilainen, Pertti Pasanen, Univesity of Kuopio, Kuopio, Finland (p.817)

12:00

5D4 **OZONE REMOVAL BY PARTICLES ON HVAC FILTERS.** Ping Zhao, JEFFREY SIEGEL, Richard Corsi, CAEE, University of Texas, Austin, TX (p.818)

5E Secondary Organic Aerosol Formation-I (Platform)
Wabasha Suite
Spyros Pandis, Barbara Zielinska, Chairs
11:00

5E1 **SECONDARY ORGANIC AEROSOL FORMATION FROM LIMONENE OZONOLYSIS: NOX CONCENTRATION AND UV RADIATION EFFECT.** Jieyuan Zhang, Kara E. Huff-Hartz, Ravi K. Pathak, and NEIL M. DONAHUE, Center for Atmospheric Particle Studies, Carnegie Mellon University, Pittsburgh, PA, 15213, USA (p.1553)

11:20

5E2 **SECONDARY ORGANIC AEROSOL FORMATION AND CHEMICAL SPECIATION FOR THE CYCLOHEXENE/OZONE SYSTEM IN THE PRESENCE OF WATER VAPOR AND INORGANIC SALTS.** BETHANY WARREN, Quentin G.J. Malloy, Lindsay D. Yee, David R. Cocker III (p.1554)

11:40

5E3 **THE ROLE OF THE VOLATILE CARBONYL GLYOXAL IN THE FORMATION OF SECONDARY ORGANIC AEROSOL.** Rainer Volkamer, Kerri Denkenberger, Kim Prather, Mario Molina, University of California San Diego; Ken Docherty, Jose Jimenez, University of Colorado; Paul Ziemann, University of California Riverside (p.1556)

12:00

5E4 **OZONOLYSIS OF ß-PINENE AND LIMONENE: ROLE OF INORGANIC SEEDS, OZONE AND TEMPERATURE ON SOA YIELDS.** RAVI KANT PATHAK, Kara E. H. Hartz, Neil M. Donahue, and Spyros N. Pandis, Carnegie Mellon University, Pittsburgh, PA (p.1557)

5F Nucleation Experiments-II (Platform)
Kellogg Suite
Markku Kulmala, P. Wagner, Chairs
11:00

5F1 **ARGON CONDENSATION IN A SUPERSONIC NOZZLE APPARATUS.** SOMNATH SINHA,Barbara E. Wyslouzil,Department of Chemical and Biomolecular Engineering,The Ohio State University,Columbus,OH (p.1620)

11:20

5F2 **USING DISCRIMINANT ANALYSIS AS A NUCLEATION EVENT CLASSIFICATION METHOD.** SANTTU MIKKONEN, Amar Hamed, Ari Laaksonen, University of Kuopio, Kuopio, Finland; Kari E. J. Lehtinen, Finnish meteorological institute, Kuopio, Finland (p.1622)

11:40

5F3 **HOMOGENEOUS NUCLEATION KINETICS MEASUREMENTS IN SUPERSATURATED VAPORS OF N-BUTANOL, THE INFLUENCE OF TOTAL PRESSURE.** ANTTI-PEKKA HYVÄRINEN, Heikki Lihavainen, Finnish Meteorological Institute, Helsinki, Finland; David Brus, Vladimír _dímal, Laboratory Aerosol Chemistry and Physics, Institute of Chemical Process Fundamentals, Academy of Sciences of the Czech Republic, Prague , Czech Republic (p.1624)

12:00

5F4 **ESTIMATION OF LINE TENSION AND CONTACT ANGLE FROM HETEROGENEOUS NUCLEATION EXPERIMENTAL DATA.** ANCA IOANA GAMAN, Hanna Vehkamäki, Ismo Napari and Markku Kulmala, University of Helsinki. Division of Atmospheric Sciences, Paul Winkler, Paul E. Wagner, Institute für Experimentalphysik, Universität Wien (p.1626)

5G Atmospheric Aerosols: Marine, Tropospheric and Global Effects (Poster)
Garden Court East
Michael Alexander, R. Griffin, Chairs
11:00

5G1 **ON-ROAD PM2.5 EMISSION FROM A TUNNEL STUDY IN HONG KONG.** K. F. Ho, S. C. Lee, Y. Cheng, Department of Civil and Structural Engineering, The Hong Kong Polytechnic University, Hun Hom, Hong Kong (p.1283)

11:00

5G2 **NORTH TAIWAN AEROSOL SUPERSITE.** CHUNG-TE LEE, Pang-Wei Chen, National Central University, Jhongli, TAIWAN; Charles C.-K. Chou, Wei-Nye Chen, Research Center for Climate Changes, Academia Sinica, Taipei, TAIWAN (p.1284)

11:00

5G3 **ESTIMATION OF SOURCE APPORTIONMENT AND POTENTIAL SOURCE LOCATION OF PM2.5 IN WESTERN US IMPROVE SITES.** INJO HWANG, Philip K. Hopke, Clarkson University, Potsdam, NY; Seung-Muk Yi, Seoul National University, Seoul, South Korea (p.1286)

11:00

5G4 **COMPARISON OF PARTICLE LIGHT SCATTERING AND PM2.5 MASS IN CENTRAL CALIFORNIA.** KIHONG PARK,Department of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea; Judith C. Chow, John G. Watson, Douglas H. Lowenthal, Norman F. Robinson, Division of Atmospheric Science, Desert Research Institute, Reno, NV;Karen A. Magliano, California Air Resources, Sacramento, CA (p.1288)

11:00

5G5 **RECEPTOR-MODEL BASED ANALYSIS OF HIGH PARTICULATE-MATTER DAYS IN SEVERAL URBAN AND RURAL SITES IN GEORGIA IN LIGHT OF THE US-EPA PROPOSED NEW DAILY AMBIENT AIR-QUALITY STANDARD.** AMIT MARMUR, Georgia Environmental Protection Division (p.1290)

11:00

5G6 **SIZE-RESOLVED INORGANIC CHEMICAL COMPOSITION OF PM10 IN AN URBAN AND INDUSTRIALISED COASTAL SITE.** Juliette Rimetz, Laure Lamaison, Laurent ALLEMAN, Esperanza Perdrix, Sophie Sobanska, Claude Brémard (p.1291)

11:00

5G7 **ASSESSMENT OF AIR QUALITY ON BASIS OF PARTICLE MATTER (PM) MEASUREMENT IN NORTH ATLANTIC.** FILIPE BARATA, Paulo Fialho, Grupo de Quimica-Fisica da Atmosfera, Dep. de Ciencias Agrarias, Universidade dos Acores, Portugal; Casimiro Pio, Dep. de Ambiente e Ordenamento, Universidade de Aveiro, Portugal. (p.1293)

11:00

5G8 **ESTIMATES OF SECONDARY ORGANIC CARBON IN PM2.5 FROM THE SOUTHEASTERN UNITED STATES.** RICK SAYLOR, Atmospheric Research and Analysis, Inc., Snellville, GA; Eric Edgerton, Atmospheric Research and Analysis, Inc., Cary, NC; Benjamin Hartsell, Atmospheric Research and Analysis, Inc., Plano, TX (p.1294)

11:00

5G9 **SOURCE TRACER IDENTIFICATION IN PM10 OF AN URBAN AND INDUSTRIALIZED COASTAL SITE, DUNKERQUE, NORTHERN FRANCE.** Laure Lamaison, LAURENT Y. ALLEMAN, Juliette Rimetz, Esperanza Perdrix, Jean-Claude Galloo, Ecole des Mines de Douai, Douai, France; Antoine Robache, Direction Régionale de l'Industrie, de la Recherche et de l'Environnement DRIRE Bourgogne, Dijon, France (p.1296)

11:00

5G10 **INVESTIGATING SPATIAL DISTRIBUTION OF ORIGINS FOR NITRATE AND SULPHATE IN MIDWESTERN AREAS VIA SQTBA AND RTWC.** WEIXIANG ZHAO, Philip K. Hopke, Department of Chemical Engineering and Center for Air Resources Engineering and Science, Clarkson University, PO Box 5708, Potsdam, NY 1369, USA (p.1298)

11:00

5G11 **UTILIZING BACKWARD TRAJECTORIES IN MULTILINEAR RECEPTOR MODEL.** EUGENE KIM, Philip K. Hopke, Clarkson University, Potsdam, NY; Delbert J. Eatough, Brigham Young University, Provo, UT; Donald V. Martello, National Energy Technology Laboratory, Pittsburgh, PA (p.1300)

11:00

5G12 **EVIDENCE OF SEED OILS IN FINE PARTICLES FROM THE NEW YORK METROPOLITAN AREA.** MONICA A. MAZUREK, Min Li, Claire Belisle, Department of Civil and Environmental Engineering, Rutgers University, Piscataway, NJ, USA; Steve McDow, Human Exposure and Atmospheric Sciences Division, National Exposure Research Laboratory, U.S. EPA, Research Triangle Park, NC, USA (p.1302)

11:00

5G13 **STUDY OF POLYCYLCIC AROMATIC HYDROCARBON LEVELS TO IDENTIFY PARTICULATE MATTER SOURCES IN HANOI, VIETNAM.** LUDOVIC BERNAUDAT, Peter Nelson, Macquarie University,

Sydney, Australia; Thao Pham, Dung Nghiem, Bach Khoa University of Technology, Hanoi, Vietnam (p.1303)

11:00

5G14 **CHARACTERIZATIONS OF WATER SOLUBLE IONS AND METALS IN THE ATMOSPHERIC COARSE AND FINE PARTICULATES COLLECTED NEAR A TRAFFIC SOURCE.** WEN-YINN LIN, Institute of Environmental Engineering and Management, National Taipei University of Technology, Taipei, Taiwan; Shui-Jen Chen, Kuo-Lin Huang, Chih-Chung Lin, Yi-Chu Huang, Department of Environmental Engineering and Science, National Pingtung University of Science and Technology, PingTung, Taiwan (p.1304)

11:00

5G15 **ATOMIC ABSORPTION MASS SPECTROSCOPY OF TOXIC TRACE METALS OF ATMOSPHERIC AEROSOLS IN RUSTENBURG, SOUTH AFRICA.** Nnenesi A. Kgabi, Department of Physics, North-West University, South Africa, Remofilwe T. Mosimaneeng, Department of Chemistry, North-West University, Mmabatho,South Africa, Jacobus J. Pienaar, School of Chemistry and Biochemistry, North-West University, Potchefstroom, South Africa, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.1306)

11:00

5G16 **TRACE METAL CONCENTRATIONS IN FINE AEROSOL PARTICLES (PM2.5) OF VENICE.** LAURA MANODORI, Giuseppa Toscano, Ca' Foscari University, Venice, Italy; Andrea Gambaro, Warren R. L. Cairns, Gabriele Capodaglio, Paolo Cescon, Institute for the Dynamics of Environmental Processes – National Research Council, Venice, Italy (p.1308)

11:00

5G17 **PARTICLE SIZE DISTRIBUTION OF TRACE ELEMENTS AT A COASTAL SITE IN THE SOUTH OF ITALY.** Francesca Sprovieri, and Nicola Pirrone, CNR-Institute for Atmospheric Pollution, 87036 Rende, Italy (p.1310)

11:00

5G18 **MEASUREMENTS OF AEROSOL CHEMICAL COMPOSITION AND OPTICAL PROPERTIES IN THE POLLUTED SUMMER MARINE BOUNDARY LAYER.** Chelsea A. Corr, Laura D. Cottrell, Luke D. Ziemba, Pieter J. Beckman, Robert W. Talbot, ROBERT J. GRIF-

FIN, University of New Hampshire, Durham, NH (p.1312)

11:00

5G19 **PATOS: THE FIRST EXTENSIVE FIELD CAMPAIGN FOR THE AEROSOL CHARACTERISATION IN TUSCANY (ITALY).** FRANCO LUCARELLI, Massimo Chiari, Silvia Nava, Leonardo Paperetti, Department of Physics and INFN, University of Florence, Italy; Silvia Becagli, Emiliano Castellano, Alessandra Cincinelli, Alessandra Mannini, Tania Martellini, Luciano Lepri, Roberto Udisti, Department of Chemistry, University of Florence, Italy. (p.1314)

11:00

5G20 **A PASSIVE SAMPLER TO MEASURE AMBIENT COARSE PARTICULATE MATTER, PM10-2.5.** DARRIN OTT, Thomas Peters, Dept. of Occupational and Environmental Health, University of Iowa, Iowa City, IA (p.1316)

11:00

5G21 **IDENTIFICATION OF THE IMPACT OF DUST STORM ON THE AMBIENT PM10 CONCENTRATIONS IN SOUTHERN TAIWAN.** YEE-LIN WU, Jhih-Siang Jian, Jhong-You Kel, and Chen-Chieh Kuo, Department of Environmental Engineering, National Cheng Kung University, Tainan, Taiwan (p.1317)

11:00

5G22 **COMPARISON OF PM2.5 CHEMICAL SPECIATION RESULTS FOR TEXAS SITES.** Richard J. Tropp, Steven D. Kohl, Judith C. Chow, John G. Watson, Desert Research Institute, Reno, NV; JAMES B. FLANAGAN, R.K.M. Jayanty, RTI International, Research Triangle Park, NC (p.1319)

11:00

5G23 **FINE PARTICLES EMISSION PROFILE FOR A SECONDARY LEAD RECYCLING FACILITY IN TAMPA, FL BASED ON HIGHLY TIME-RESOLVED MULTI-ELEMENT TRACERS MEASUREMENTS.** Matthew Landis, US Environmental Protection Agency, Office of Research and Development, Research Triangle Park, NC; John Ondov, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD; Robert K Stevens, Florida Department of Environmental Protection, on assignment to US EPA, Research Triangle Park, NC (p.1320)

11:00

5G24 **SOURCES OF FINE PARTICULATE SPECIES IN AMBIENT AIR OVER LAKE CHAMPLAIN BASIN, VERMONT.** AMY E. GILDEMEISTER, Philip K. Hopke, Eugene Kim, Clarkson University, Potsdam, NY; Ning Gao, Kira Krumhansl, Katherine Lafferty, St. Lawrence University, Canton, NY; Richard L. Poirot ,Department of Environmental Conservation, Vermont Agency of Natural Resources, Waterbury, VT (p.1322)

11:00

5G25 **PM2.5 ORGANIC SPECIATION INTERCOMPARISON RESULTS.** Stephen R. McDow, Human Exposure and Atmospheric Sciences Division, EPA, Research Triangle Park, NC; Michele M. Schantz, Stephen A. Wise, National Institute of Standards and Technology, Gaithersburg, MD; Joellen Lewtas, Dept. of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA (p.1324)

11:00

5G26 **DIRECT THERMAL DESORPTION GC/MS METHOD FOR ANALYSIS OF MONOCARBOXYLIC ACIDS IN PM2.5 AND PM10-2.5 SAMPLES.** ARDHENDU S. SHANNIGRAHI, Mattias Hallquist, Dept. of Chemistry, Atmospheric Science, Göteborg University, Göteborg; Sarka Langer, SP Swedish National Testing and Research Institute, Boras; Magnus Hagström, Sara Janhäll, Dept. of Chemistry, Atmospheric Science, Göteborg University, Göteborg (p.1325)

11:00

5G27 **A NEW INSTRUMENT FOR SIZE-SEGREGATED, NEAR REAL-TIME VOLATILITY CHARACTERIZATION OF FINE AND COARSE PARTICLES.** KRISHANU BANERJEE, Sang-Rin Lee, Thomas Holsen, Suresh Dhaniyala, Clarkson University, NY (p.1327)

11:00

5G28 **EVALUATION OF CHEMICAL COMPOSITION ANALYSIS METHODS FOR CHARACTERIZATION OF PM2.5.** LUYI DING, Fu Ke, Daniel Wang and Tom Dann, Environment Canada, Ottawa, ON, Canada (p.1328)

11:00

5G29 **SOURCE IDENTIFICATION AND HEALTH EFFECT OF PM2.5 IN SEOUL, KOREA.** JONGBAE HUH, HyunSun Kim, Seung-Hee Kim, Yong-Seok Seo, DoMyung Paek, Seung-Muk Yi, Seoul National

University, Seoul, Korea; Philip K Hopke, Clarkson University, Potsdam, NY, USA (p.1330)

11:00

5G30 **CHARACTERIZATION OF MAJOR CHEMICAL CONSTITUENTS OF PM2.5 IN SEOUL, KOREA.** HYUNSUN KIM, Jong-Bae Huh, Seung-Hee Kim, Yong-Seok Seo, DoMyung Paek, and Seung-Muk Yi, Seoul National University, Seoul, Korea (p.1332)

11:00

5G31 **SAMPLING AND CHARACTERIZATION OF PM2.5 AND PM10 IN PUNE, INDIA.** Ajay Ojha, AQM Cell, Pune Municipal Corporation, Pune, India; Nitin Goyal, Rashmi S. Patil, VIRENDRA SETHI, CESE, Indian Institute of Technology – Bombay, India; Rakesh Kumar, NEERI, Mumbai Zonal Laboratory, India. (p.1334)

11:00

5G32 **SEASONAL VARIATION OF CHEMICAL COMPOSITION OF SIZE-SEGREGATED AEROSOLS ABOVE THE EASTERN MEDITERRANEAN.** E. Koulouri, P. Zarbas, N. Mihalopoulos, Department of Chemistry, Environmental Chemistry Processes laboratory, University of Crete, 71409, Heraklion, Greece , S. Saarikoski, T. Mäkelä2, R. Hillamo, Finnish Meteorological Iinstitute, Air Quality Research, POB 503, FI-00101, Helsinki, Finland, Markku Kulmala, Department of Physical Sciences, University of Helsinki, POB 64, FI-00014, Helsinki, Finland (p.1336)

11:00

5G33 **MONITORING OF PARTICULATE MATTER PM10 AND PM2.5 IN URBAN AREAS IN MITROVICA.** Afrim Syla, Agron Veliu (p.1337)

11:00

5G34 **THE QUANTITATIVE RELATIONSHIP BETWEEN VISIBILITY AND MASS CONCENTRATION OF PM2.5 IN BEIJING.** Zhang Yuan-hang, Shao Min, State Joint Key Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences, Peking University;Liu Xu-lin, Beijing Meteorological Information and Network Center (p.1339)

11:00

5G35 **VERTICAL PROFILES OF AEROSOLS USING UNMANNED AERIAL VEHICLES.** CE Corrigan, V Ramanathan, MV Ramana, D Kim, and G Roberts, Scripps Institution of Oceanography

5H PM-10 and PM-2.5 Characterization-IV (Poster)
Great River Ballroom
Stephen McDow, P. Adams, Chairs
11:00

5H1 **BLACK CARBON (BC) AND DUST MASS CONCENTRATIONS MEASURES AT NORH ATLANTIC FREE TROPOSPHERE.** FILIPE BARATA, Paulo Fialho, Grupo de Qumica Fisica da Atmosfera, Departamento de Ciencias Agrarias, Universidade dos Acores, Portugal (p.1131)

11:00

5H2 **MODELING PARTICLE DRY DEPOSITION TO A FOREST CANOPY USING THE STEADY STATE DIFFUSION EQUATION.** FREDI BIRSAN, Sara Pryor (p.1132)

11:00

5H3 **AEROSOL NUCLEATION IN ATMOSPHERE OF BACKGROUND REGIONS OF SIBERIA.** VALERY ZAGAYNOV, Alex Lushnikov, Yury Biryukov, Karpov Institute of Physical Chemistry, Moscow RUSSIA, Tamara Khodzher, Vladimir Obolkin, Vladimir Potyemkin, Lyudmila Golobokova, Irina Marinayte, Limnological Institute SB RAS, Irkutsk, RUSSIA, Artash Aloyan, Institute of Numerical Mathematics RAS, Moscow, RUSSIA, Richard Aromoto, University of New Mexoco, NM, USA, Julia Lyubovtseva, Geophysical Center, Moscow, RUSSIA (p.1134)

11:00

5H4 **ALL YEAR-ROUND AEROSOL SAMPLING AT DOME C, CENTRAL EAST ANTARCTICA: FIRST RESULTS OF THE 2004-2005 CAMPAIGN AND SCIENTIFIC ACTIVITY CARRYING ON IN THE PRESENT 2005-06 CAMPAIGN.** Roberto Udisti, Silvia Becagli, Emiliano Castellano, Omar Cerri, Alessandra Mannini, Andrea Morganti, Emanuele Salvietti, Mirko Severi, Rita Traversi, Chemistry Department, University of Florence, Italy; Franco Lucarelli, Silvia Nava, Physics Department, and INFN, University of Florence, Italy; Federica Marino, DISAT, University of Milano–Bicocca, Italy (p.1136)

11:00

5H5 **CHEMICAL AND PHYSICAL CHARACTERIZATION OF SIZE-SEGREGATED SUMMER AEROSOL IN COASTAL AND INNER AREAS OF ANTARCTICA AND ATMOSPHERE/SNOW TRANSFER STUDIES.** Rita Traversi, Silvia Becagli, Emiliano Castellano, Omar Cerri, Alessandra Mannini, Andrea Morganti, Emanuele Salvietti, Mirko Severi,

Roberto Udisti, Chemistry Dept. University of Florence, Italy; Franco Lucarelli, Silvia Nava, Physics Dept., University of Florence, INFN, Italy; Federica Marino, DISAT, University of Milano-Bicocca, Italy. (p.1138)

11:00

5H6 **VOLCANIC AEROSOLS FROM THE 2006 MT. AUGUSTINE ERUPTION.** CATHERINE CAHILL, Jonathan Dehn, Geophysical Institute, University of Alaska Fairbanks, Fairbanks, AK; Thomas Cahill, David Barnes, DELTA Group, Department of Chemical Engineering and Material Science, University of California at Davis, Davis, CA, USA (p.1140)

11:00

5H7 **EVALUATION OF TROPOSPHERIC AEROSOL MICROPHYSICS SIMULATIONS USING ASSIMILATED METEOROLOGY AND FIELD CAMPAIGN OBSERVATIONS.** WIN TRIVITAYANURAK, Peter J. Adams, Carnegie Mellon University, Pittsburgh, PA (p.1141)

11:00

5H8 **COMPONENT ANALYSIS OF ORGANIC AEROSOLS IN URBAN, RURAL, AND REMOTE ATMOSPHERES BASED ON AEROSOL MASS SPECTROMETRY.** Ql ZHANG, Atmospheric Science Research Center, State University of New York, Albany, NY, 12203, USA; Jose-Luis Jimenez, Katja Dzepina, Edward Dunlea, Kenneth Docherty, Dept. Chemistry and CIRES, University of Colorado-Boulder, CO, USA; James Allan, M. Rami Alfarra, Paul Williams, Hugh Coe, Keith Bower, School of Earth, Atmospheric and Environmental Science, University of Manchester, Manchester, UK; Manjula Canagaratna, Timothy Onasch, John Jayne, Douglas Worsnop, Aerodyne Research Inc, Billerica, MA, USA; Akinori Takami, Takao Miyoshi, Shiro Hatakeyama, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan; Akio Shimono, Sanyu Plant Service Co., LTD., Kanagawa, 229-1132 Japan; Silke Weimer, PSI, Switzerland; Ken Demerjian, Atmospheric Science Research Center, State University of New York, Albany, NY, USA; Frank Drewnick, Max Planck-Mainz, Germany; Nobu Takegawa, Yukata Kondo, University of Tokyo, Japan; Ann Middlebrook, NOAA Earth System Research Laboratory, Boulder, USA; and Roya Bahreini, NOAA ESRL/Chemical Sciences

Division and CIRES USA (p.1143)

11:00

5H9 **SIMULATING SECONDARY ORGANIC AEROSOL (SOA) FORMATION ASSOCIATED WITH BIOGENIC VOC EMISSIONS IN A GLOBAL ATMOSPHERIC GENERAL CIRCULATION MODEL.** ARI ASMI, Risto Makkonen, Markku Kulmala, University of Helsinki, Helsinki, Finland; Hannele Korhonen, Simo Järvenoja, Petri Räisänen, Veli-Matti Kerminen, Heikki Järvinen, Finnish Meteorological Institute, Helsinki, Finland; Harri Kokkola, Kari Lehtinen, University of Kuopio, Kuopio, Finland (p.1145)

11:00

5H11 **DEVELOPMENT OF THE COASTAL AEROSOL MODEL.** GENNADY KALOSHIN, Sergey Shishkin, Institute of Atmospheric Optics, Tomsk, Russia ; Jacques Piazzola, Institute of Engineering Sciences,Toulon, France; Sergey Serov, Tomsk University of Control Systems and Radio Electronics, Tomsk, Russia (p.1147)

11:00

5H12 **SEASONAL PATTERN OF ATMOSPHERIC LOAD AND CHEMICAL COMPOSITION OF SIZE SEGREGATED (PM10, PM2.5 AND PM1.0) AEROSOL SAMPLES COLLECTED ALL YEAR ROUND (JUNE 04-JUNE05) AT LAMPEDUSA ISLAND.** Silvia Becagli, Emiliano Castellano, Alessandra Mannini, , Mirko Severi, Damiano M. Sferlazzo, Rita Traversi, Roberto Udisti, Dept of Chemistry, University of Florence, Italy; Carlo Bommarito, Francesco Monteleone, ENEA, Climate laboratory, Palermo, Italy; Franco Lucarelli, Silvia Nava, Department of Phyisic, University of Florence and INFN, Florence, Italy; Federica Marino, DISAT, University of Milano-Bicocca, Italy (p.1148)

11:00

5H13 **SPATIAL VARIABILITY OF LOAD AND CHEMICAL COMPOSITION OF SIZE-SEGREGATED AEROSOL COLLECTED IN THE WESTERN MEDITERRANEAN DURING 2004 AND 2005 MEDGOOS CRUISES.** Alessandra Mannini, Silvia Becagli, Emiliano Castellano, Mirko Severi, Rita Traversi, Roberto Udisti, Department of Chemistry, University of Florence; Franco Lucarelli, Silvia Nava, Department of Physics, University of Florence and INFN, Italy; Federica Marino, DISAT, University of Milano-Bicocca, Italy; Massimiliano Pasqui, LaMMA, CNR IBIMET, Sesto F.no (Florence), Italy (p.1150)

11:00

5H14 **SPRAY PRODUCTION OF SEA-SALT PARTICLES OVER THE OPEN OCEAN.** MARILE COLON-ROBLES, Robert Rauber, University of Illinois at Urbana-Champaign, Urbana, IL; Jorgen Jensen, David Rogers, Stuart Beaton, National Center for Atmospheric Research, Boulder, CO (p.1152)

11:00

5H15 **AEROSOL DATA AVAILABLE FROM THE ATMOSPHERIC SCIENCE DATA CENTER.** Linda A Hunt, Nancy A. Ritchey, Atmospheric Science Data Center, NASA Langley Research Center, Hampton, VA (p.1153)

11:00

5H16 **AIRBORNE MEASUREMENTS OF PARTICLES FROM BIOMASS BURNING IN NORTHERN TERRITORY, AUSTRALIA.** ZORAN RISTOVSKI, Arinto Wardoyo, Lidia Morawska,Milan Jamriska, Graham Johnson,International Laboratory for Air Quality and Health, Queensland University of Technology, Brisbane, Australia; Stephen Carr, Defence Science and Technology Organisation, Edinburgh, South Australia, Australia (p.1155)

11:00

5H17 **FORMATION OF AEROSOL PARTICLES IN THE BOREAL FOREST OF SIBERIA IN RUSSIA.** EIJA VARTIAINEN, Finnish Institute of Occupational Health, Helsinki, University of Helsinki, Helsinki, Markku Kulmala, Mikael Ehn, University of Helsinki, Sanna Kuokka, Risto Hillamo, Veli-Matti Kerminen, Markus Sillanpää, Finnish Meteorological Institute, Helsinki, Andrei I. Skorokhod, Igor B. Belikov, Andrei A. Ralko, Nikolai F. Elansky, Obukhov Institute of Atmospheric Physics, Moscow (p.1157)

11:00

5H18 **SUBMICRON AEROSOL SIZE DISTRIBUTIONS AND CLOUD CONDENSATION NUCLEI CONCENTRATIONS MEASURED IN JEJUDO, KOREA DURING THE ABC-EAREX 2005.** SEONG SOO YUM, Greg Roberts, Jong Hwan Kim, Keunyong Song, Dohyeong Kim (p.1158)

11:00

5H19 **HYGROSCOPIC PROPERTIES OF THE FINE AND COARSE MEDITERRANEAN AEROSOL MEASURED ON CRETE IN SUMMER 2005.** MARIA STOCK, Andreas Massling, Birgit Wehner, Wolfram Birmili, Alfred Wiedensohler, Leibniz-Institute for Tropospheric Research, Department of Physics, Leipzig, Germany; Stephan Leinert, Environmental Protection Agency, Dublin, Ireland; Nikos Kalivitis, Nikos Mihalopoulus, Department of Chemistry, Environmental Chemistry Processes Laboratory, University of Crete, Heraklion, Greece (p.1159)

11:00

5H20 **SOME DETAILS OF ATMOSPHERIC NANOAEROSOL DYNAMICS IN THE SIBERIAN BOREAL AREA.** Anatoli Baklanov, Michael Anisimov, Inastitute of Chemicak Kinetics and Combustion SB RAS, 630090, Novosibirsk, Russia, Ol'ga Khutorova, Department of Physics, Kazan State University, 420008 Kazan, Russia , Michael Arshinov, Boris Belan, Institute of Atmospheric Optics SB RAS, 634055, Tomsk, Russia, Markku Kulmala, Department of Physical Sciences, University of Helsinki, FIN-00014, Helsinki, Finland (p.1161)

11:00

5H21 **SIZE-SEGREGATED MULTICOMPONENT AEROSOL MODEL FOR CLIMATE AND AIR QUALITY STUDIES.** HANNELE KORHONEN, Veli-Matti Kerminen, Finnish Meteorological Institute, Helsinki, Finland; Harri Kokkola, Finnish Meteorological Institute, Kuopio, Finland; Kari E. J. Lehtinen, Finnish Meteorological Institute and University of Kuopio, Kuopio, Finland (p.1163)

11:00

5H22 **THE IMPACT OF SHORT-TERM CLIMATE VARIATIONS ON PREDICTED SURFACE OZONE CONCENTRATIONS IN THE EASTERN US 2020 AND BEYOND.** Shao-Hang Chu and W. M. Cox, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711 (p.1164)

11:00

5H23 **EFFECT OF CLIMATE ON REGIONAL AIR QUALITY IN CALIFORNIA.** MICHAEL J. KLEEMAN, University of California at Davis, Davis CA (p.1165)

11:00

5H24 **MEASUREMENT OF CARBONACEOUS AEROSOL PARTICLE ABSORPTIVIY USING LASER HEATING.** CARY PRESSER and Ashot Nazarian, National Institute of Standards and Technology, Gaithersburg, MD USA , Science Applications International Corporation, Vienna, VA USA (p.1166)

11:00

5H25 **ACTIVE AND PASSIVE REMOTE SENSING OF ATMOSPHERIC AEROSOL OVER GRANADA, SPAIN.** LUCAS ALADOS ARBOLEDAS, Juan Luis. Guerrero-Rascado, Hassan Lyamani, Jaime Elías Gil, Borja Ruiz, Alberto Cazorla and Francisco José Olmo, Grupo de Física de la Atmósfera. Centro Andaluz de Medio Ambiente, Junta de Andalucía Universidad de Granada, Granada, E-18006, Granada, Spain. (p.1167)

11:00

5H26 **IN-SITU MEASUREMENT OF AEROSOL ABSORPTION COEFFICIENT.** A.W. Strawa, NASA-Ames Research Center, 95129, Moffett Field, CA, USA, T.W. Kirchstetter, Lawrence Berkeley National Laboratory, 95129, Berkeley, CA, USA, A.G. Hallar, National Research Council, 95129, Moffett Field, CA, USA, H.H. Jonsson, Naval Postgraduate School, 95129, Monterey, CA, USA (p.1169)

11:00

5H27 **DABEX-DODO: AN INTRODUCTION TO DUST AND BIOMASS BURNING AEROSOL OVER WEST AFRICA.** GERARD CAPES, James Allan, Keith Bower, Hugh Coe, Jonathon Crosier, Paul Williams, School Of Earth, Atmospheric and Environmental Sciences, University of Manchester, Manchester,UK; E. J. Highwood, C. McConnell, Department of Meteorology, University of Reading, Reading, UK; J. Haywood, Simon Osborne, M. Glew, Met Office, Exeter, Devon, UK (p.1171)

11:00

5H28 **PARAMETERIZATION OF CLOUD DROPLET FORMATION AND AUTOCONVERSION IN LARGE-SCALE MODELS.** WEI-CHUN HSIEH, Athanasios Nene,

School of Earth and Atmospheric Science, Georgia Institute of Technology, Atlanta, GA (p.1172)

11:00

5H31 **IMPACTS OF AEROSOLS ON SURFACE LAND-ATMOSPHERE INTERACTIONS: SURFACE ENERGY BALANCE, CARBON CYCLE, CONVECTION AND PRECIPITATION.** HSIN-I CHANG,Department of Earth and Atmospheric Science, Purdue University; Dev Niyogi, Department of Agronomy, Purdue University; Lianhong Gu,Division of Environmental Sciences, Oak Ridge National Laboratory; Toshi Matsui, Department of Atmospheric Sciences, Colorado State University; Surabi Menon, Lawrence Berkeley National Laboratory; Roger A. Pielke Sr. University of Colorado, Boulder (p.1175)

11:00

5H32 **ORGANICS IN PARTICLES IN THE LOWER STRATOSPHERE AND TROPOPAUSE REGION.** DANIEL M. MURPHY, David S. Thomson (p.1176)

11:00

5H33 **VERTICAL AEROSOL TRANSPORT IN THE MIDDLE ATMOSPHERE: RADIOMETRIC PHOTOPHORESIS, ACCOMMODATION FORCES (GRAVITO-PHOTOPHORESIS) AND VERTICAL STRATOSPHERIC WIND.** SERGEY BERESNEV, Victor Gryazin, Louisa Kochneva, Ural State University, Ekaterinburg, Russia (p.1177)

11:00

5H34 **A NEW PARAMETERISATION FOR THE HOMOGENEOUS NUCLEATION RATE OF NITRIC ACID DIHYDRATE.** OTTMAR MOEHLER, Helmut Bunz, Robert Wagner, Institute for Meteorology and Climate Research (IMK-AAF), Forschungszentrum Karlsruhe, Germany; Olaf Stetzer, Institute for Atmospheric and Climate Science, ETH, Zurich, Switzerland (p.1178)

Tuesday 12:40 PM – 2:00 PM
Lunch (on your own)

Tuesday 2:00 PM – 3:40 PM
Session 6
6A Cloud and Fog Aerosol Interactions-I (Platform)
Minnesota Ballroom
Niku Kivekas, H. ten Brink, Chairs
2:00

6A1 **A CCN-CLOSURE-STUDY FOR HULIS AEROSOL.** Silvia Henning, Tabea Hennig, Alexei Kiselev, Andreas Massling, Frank Stratmann, HEIKE WEX, Alfred Wiedensohler, Leibniz Institute for Tropospheric Research, Leipzig, Germany; Imre Salma, Rita Ocskay, Eötvös University, Institute of Chemistry, Budapest, Hungary (p.1341)

2:20

6A2 **ON THE RATIO OF NITRATE TO SULPHATE IN CCN IN THE NETHERLANDS.** HARRY TEN BRINK, Rene Otjes, Piet Jongejan, Energy research Centre of the Netherlands (ECN), Petten, The Netherlands (p.1343)

2:40

6A3 **AEROSOL NUMBER TO VOLUME CONCENTRATION RATIO IN A CLEAN CONTINENTAL ATMOSPHERE – SEASONAL VARIATION DURING YEAR 2001 AND FACTORS BEHIND IT.** NIKU KIVEKÄS, Veli-Matti kerminen, Heikki Lihavainen, Mika Komppula, Yrjö Viisanen, Finnish Meteorological Institute, Helsinki, Finland, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.1345)

3:00

6A4 **HYGROSCOPIC PROPERTIES OF ATMOSPHERIC AND MODEL HUMIC LIKE SUBSTANCES (HULIS).** Elad Dinar, Ilya Taraniuk, YINON RUDICH, Weizmann Institute, Rehovot, Israel, Ellen R. Graber, Volcani Center, Bet Dagan, Israel, Tatu Anttila, Thomas F. Mentel, Research Center Jülich, Jülich Germany (p.1347)

3:20

6A5 **UNCERTAINTY IN AEROSOL INDIRECT EFFECT FROM CCN PREDICTION ERRORS: A GLOBAL MODELING ASSESSMENT.** RAFAELLA – ELENI P. SOTIROPOULOU, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA; Athanasios Nenes, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, Georgia and School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA (p.1348)

6B Urban and Regional Aerosol-I (Platform)
Capitol Ballroom
Jennifer Richmond-Bryant, Chair
2:00

6B1 **CARBONACEOUS AEROSOL PROCESSING IN MEXICO CITY METROPOLITAN AREA.** TIMOHTY B. ONASCH, Scott Herndon, Manjula Canagaratna, John Jayne,Douglas R. Worsnop, Charles E. Kolb, Aerodyne Research, Inc, Billerica, MA, USA; Berk Knighton, Montana State University-Bozeman, Bozeman, MT, USA; Dara Salcedo, Universidad Autónoma del Estado de Morelos, Cuernavaca, Morelos, México; Katja Dzepina, Jose Jimenez, University of Colorado at Boulder, Boulder, CO, USA; Qi Zhang, University of Albany, Albany, NY, USA (p.1745)

2:20

6B2 **THERMAL DESORPTION-PYROLYSIS COUPLED WITH PHOTO IONIZATION TIME-OF-FLIGHT MASS SPECTROMETRY FOR THE ANALYSIS OF ORGANIC CONTENT IN URBAN PARTICULATE MATTER.** T. STREIBEL, J. Weh1, S. Mitschke, and R.Zimmermann, Analytical Chemistry, Institute of Physics, University of Augsburg, Augsburg, Germany, and Institute of Ecological Chemistry, GSF – National Research Centre for Environment and Health, Neuherberg, Germany (p.1746)

2:40

6B3 **SIMULTANEOUS MEASUREMENTS OF VERTICAL PROFILES FOR OZONE AND PARTICLE SIZE DISTRIBUTIONS WITHIN MIXING LAYER.** Yee-Lin Wu, Department of Environmental Engineering, National Cheng Kung University, Tainan, Taiwan; Ching-Ho Lin, and Chin-Hsing Lai, Departement of Environmental Engineering and Science, Fooyi University, Kaohsiung, Taiwan (p.1747)

3:00

6B4 **DAY-OF-THE-WEEK AND HOUR-OF-THE-DAY TRENDS IN THE MASS ABSORPTION EFFICIENCY OF ELEMENTAL CARBON IN THE URBAN ATMOSPHERE.** DAVID C. SNYDER, James J. Schauer, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, Madison, WI; Matt Spencer, Kimberly A. Prather, Department of Chemistry and Biochemistry, University of California-San Diego, La Jolla, CA (p.1749)

3:20

6B5 **VOLUME SIZE DISTRIBUTIONS OF SOLUBLE PARTICLE MATTER OF THE AEROSOL IN BEIJING.** Andreas Massling, Maria Stock, Birgit Wehner, Thomas Tuch, Erika Brüggemann, Thomas Gnauk, Hartmut Herrmann, Alfred Wiedensohler, Leibniz-Institute for Tropospheric Research, Department of Physics, Leipzig, Germany; Zhijun Wu, Min Hu, Department State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences, Peking University, Beijing, P. R. China (p.1751)

6C Symposium: Aerosol Research and Education Software-I (Platform)

Governors 1 and 5

C.Y. Wu, K. Okuyama, Chairs

2:00

6C1 **THE IMPORTANCE OF ASSESSING EDUCATIONAL MATERIALS DEVELOPMENT PROJECTS.** ANNE E. DONNELLY, Emilia Hodge, Chang-Yu Wu, University of Florida, Gainesville, FL; Pratim Biswas, Washingto University in St. Louis, St. Louis, MO (p.551)

2:20

6C2 **THE AEROSOL INORGANICS MODEL (AIM) ON THE WORLD WIDE WEB: HTTP://WWW.UEA.AC.UK/~E770/AIM.HTML.** SIMON CLEGG, University of East Anglia, Norwich, U.K.; Anthony Wexler, University of California, Davis, CA (p.553)

2:40

6C3 **DESCRIPTION OF AN AEROSOL CALCULATOR.** PAUL A. BARON, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Cincinnati, OH (p.555)

3:00

6C4 **VISUALIZATION TOOLS FOR RESEARCH AND EDUCATION IN AEROSOL DYNAMICS.** Kikuo Okuyama, Manabu Shimada, WULED LENGGORO, Takashi Ogi, Hiroshima University, Higashihiroshima, Japan (p.556)

3:20

6C5 **BUILDING A NANOPARTICLE INFORMATION LIBRARY (NIL).** ARTHUR L. MILLER, National Institute for Occupational Safety and Health, Spokane, WA; Mark D. Hoover, National Institute for Occupational Safety and Health, Morgantown WV (p.558)

6D Indoor Aerosols-IV (Platform)

Govenors 2 – 4

Tiina Reponen, Lupita Montoya, Chairs

2:00

6D1 **A CHAMBER STUDY TO ESTIMATE PARTICLE RESUSPENSION RATE FROM HUMAN ACTIVITY.** Jing Qian and Andrea R. Ferro, Clarkson Univeristy, Potsdam, NY (p.820)

2:20

6D2 **LARGE EDDY SIMULATION OF HUMAN INDUCED CONTAMINANT TRANSPORT.** JUNG-IL CHOI, Jack R. Edwards, North Carolina State University, NC (p.821)

2:40

6D3 **THE EFFECT OF LONG-RANGE TRANSPORTED PM2.5 TRACE ELEMENTS ON PERSONAL EXPOSURE AND INDOOR LEVELS.** PETER MOLNÁR, Sandra Johannesson, Lars Barregård, Gerd Sällsten, Department of Occupational and Environmental Medicine, Sahlgrenska Academy, Göteborg University, Göteborg, Sweden; Johan Boman, Department of Chemistry, Atmospheric Science, Göteborg University, Göteborg, Sweden (p.822)

3:00

6D4 **INDOOR AIR QUALITY IN DOMESTIC HOMES AT THREE DIFFERENT MICROENVIRONMENTS OF CENTRAL REGION IN INDIA-INDOOR/OUTDOOR RELATIONSHIP.** ALFRED J. LAWRENCE, Ajay Taneja, School of Chemical Sciences, Department of Chemistry, St. John's College, Agra, India (p.823)

3:20

6D5 **INDOOR AIR QUALITY IN PAKISTAN.** Zaheer Ahmad Nasir,IAN COLBECK, University of Essex, UK:Shahida Hasnain, University of the Punjab, Pakistan (p.825)

6E Chemistry of Inorganic Atmospheric Particles-II (Platform)

Wabasha Suite

Cort Anastasio, Florent Louis, Chairs

2:00

6E1 **EFFECTS OF SOLUBLE ORGANIC COATINGS ON HYGROSCOPICITY OF AMMONIUM SULFATE PARTICLES: RESULTS OF TWO CYCLES OF DELIQUESCENCE AND CRYSTALLIZATION MEASUREMENTS.** Man N. Chan, Alex, K. Y. Lee, and CHAK K. CHAN, Department of Chemical Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong. (p.1005)

2:20

6E2 **A KINETIC STUDY OF THE HETEROGENEOUS REACTION OF DELIQUESCED SODIUM CHLORIDE PARTICLES WITH HYDROXYL RADICALS.** ALEXANDER LASKIN, Pacific Northwest National Laboratory, Richland WA; Hai Wang, University of Southern California, Los Angeles, CA; William H. Robertson, University of California, Irvine, CA; James P. Cowin, Pacific Northwest National Laboratory, Richland WA; Michael J. Ezell and Barbara J. Finlayson-Pitts, University of California, Irvine, CA (p.1007)

2:40

6E3 **LABORATORY MEASUREMENTS OF THE HYGROSCOPIC GROWTH, IR EXTINCTION, AND CCN ACTIVITY OF CHEMICALLY PROCESSED MINERAL DUST AEROSOL.** ELIZABETH GIBSON, Paula Hudson, Vicki Grassian, Unversity of Iowa, Iowa City, IA. (p.1009)

3:00

6E4 **ISORROPIA II: A COMPUTATIONALLY EFFICIENT THERMODYNAMIC EQUILIBRIUM MODEL FOR MULTIPHASE MULTICOMPONENT AEROSOLS.** CHRISTOS FOUNTOUKIS (1), Athanasios Nenes (1,2), (1) School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA, USA., (2) School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, USA. (p.1011)

3:20

6E5 **REACTION BETWEEN SINGLE AQUEOUS DROPLET OF NA2CO3 AND SO2 IN AN ELECTRODYNAMIC BALANCE.** Azuchi Harano, Akira Akahoshi, Takayuki Takarada, Gunma University, Kiryu, Japan; E. James Davis, University of Washington, Seattle, WA (p.1013)

6F Aerosol Coagulation (Platform)
Kellogg Suite
Peter Vainhtein, S. Garrick, Chairs
2:00

6F1 **NANOPARTICLE FORMATION AND GROWTH IN A TURBULENT REACTING JET – THE DYNAMICS OF CONDENSATION AND COAGULATION.** Guanghai Wang, University of Minnesota, Minneapolis, MN, SEAN C GARRICK, University of Minnesota, Minneapolis, MN (p.672)

2:20

6F2 **CLUSTER MORPHOLOGY AND AGGREGATION KINETICS IN DENSE AEROSOLS.** RAJAN DHAUBHADEL, Amitabha Chakrabarti and Christopher M. Sorensen, Department of Physics, Kansas State University, Kansas, 66506, Manhattan, USA (p.674)

2:40

6F3 **QUASI-GELATION OF SUBMICRON FRACTAL AGGLOMERATES BY SOUND WAVES.** Peter Vainshtein, Michael Shapiro, Faculty of Mechanical Engineering, Technion-Israel Institute of Technology, Haifa, Israel (p.676)

3:00

6F4 **SCENARIOS OF GELATION IN COAGULATING AEROSOLS.** ALEX LUSHNIKOV, University of Helsinki (p.678)

3:20

6F5 **ABOUT A NEW COAGULATION MEASUREMENT DEVICE (CMD).** BERNHARD HEIDEN, University of Technology, Graz, A (p.679)

6G Urban Aerosols-II (Poster)
Great River Ballroom
Roger Tanner, K. Prather, Chairs
2:00

6G1 **ANALYSIS OF FINE PARTICULATE NITRATE ON DIURNAL, WEEKLY AND SEASONAL TIME SCALES.** DEV MILLSTEIN, Rob Harley, University of California, Berkeley, CA; Susanne Hering, Aerosol Dynamics Inc., Berkeley, CA (p.1753)

2:00

6G2 **SPECIATED AEROSOL FLUXES ABOVE AN URBAN CANOPY: MEASUREMENTS DURING THE GÖTE-2005 CAMPAIGN.** RICK THOMAS, Gavin Philips, Emily House, Eiko Nemitz, Centre for Ecology and Hydrology, Edinburgh, UK, Mattias Hallquist, Atmospheric Sciences Group, Chemistry Department, Gothenburg University, 41296 Gothenburg, Sweden, Hugh Coe, School of Earth, Atmospheric and Environmental Sciences (SEAES), The University of Manchester, Sackville Street, M60 1QD, Manchester, U.K. (p.1754)

2:00

6G3 **COMPARISON OF APPORTIONMENT OF PM2.5 AT TWO SITES IN DETROIT, MICHIGAN.** STEVE BROWN, Hilary Hafner, Theresa O'Brien, Paul Roberts, Sonoma Technology, Inc., Petaluma, CA; Birnur Buzco-Guven, Rice University, Houston, TX (p.1755)

2:00

6G4 **SOURCE APPORTIONMENT OF NON-POLAR ORGANICS TO THE BALTIMORE, MD ATMOSPHERE USING MULTIVARIATE TECHNIQUES; POSITIVE MATRIX FACTORIZATION, PRINCIPAL COMPONENT ANALYSIS/MULTIPLE LINEAR REGRESSION, UNMIX.** BERNARD CRIMMINS, Joel Baker, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, MD (p.1757)

2:00

6G5 **AMBIENT AEROSOL MEASUREMENTS IN MEXICO CITY DURING THE MCMA-2003 AND MILAGRO FIELD CAMPAIGNS USING AEROSOL MASS SPECTROMETRY.** DARA SALCEDO, Centro de Investigaciones Químicas, Universidad Autónoma del Estado de Morelos; Cuernavaca, México; A. C. Aiken, K. Dzepina, J. A. Huffman, I. Ulbrich, K. Docherty, M. Cubison, P. F. DeCarlo, J. L. Jiménez, Department of Chemistry and Biochemistry and CIRES, University of Colorado, Boulder, CO; T. B. Onasch, D. Worsnop, M. R. Canagaratna, J. T. Jayne, P. Mortimer, C. E. Kolb, Aerodyne Research, Inc., Billerica, MA; Q. Zhang CIRES, University of Colorado, Boulder, CO, now at Atmospheric Science Research Center, SUNY, Albany, NY; R. Volkamer, M. J. Molina, Department of Earth, Atmospheric and Planetary Sciences and Department of Chemistry,

Massachusetts Institute of Technology, Cambridge, MA, now at Department of Chemistry and Biochemistry, University of California, San Diego, CA; L. T. Molina Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA and Molina Center on Energy and Environment, La Jolla, CA; W. Brune, R. Lesher, T. Shirley, Pennsylvania State University, University Park, PA (p.1758)

2:00

6G7 **RESPONSE OF REGIONAL AIR QUALITY TO GLOBAL CLIMATE CHANGE USING A COUPLED MODEL.** JOHN DAWSON, Pavan Racherla, Barry Lynn, Peter Adams, Carnegie Mellon University, Pittsburgh, PA; Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA, and University of Patras, Patra, Greece (p.1760)

2:00

6G8 **EFFECTS OF CLIMATE ON AIR POLLUTION: A SENSITIVITY STUDY.** JOHN DAWSON, Peter Adams, Carnegie Mellon University, Pittsburgh, PA; Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA, and University of Patras, Patra, Greece (p.1761)

2:00

6G9 **MODELING AIR QUALITY DURING THE CALIFORNIA REGIONAL PARTICULATE AIR QUALITY STUDY (CRPAQS) USING THE CIT/UCD SOURCE-ORIENTED AIR QUALITY MODEL – PART II: BASE CASE MODEL RESULTS AND REGIONAL SOURCE APPORTIONMENT OF PM2.5.** QI YING, Ajith Kaduwela, California Air Resources Board, Sacramento, CA; Michael J. Kleeman, University of California at Davis, Davis CA. (p.1763)

2:00

6G10 **INTERACTION OF PARTICLE MODES IN BACKGROUND URBAN AEROSOLS.** G. GRAMOTNEV, D. K. Gramotnev, Applied Optics Program, School of Physical and Chemical Sciences, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia, P. Madl, Division of Physics and Biophysics, University of Salzburg,-A-5020 Salzburg, Austria (p.1764)

2:00

6G11 **DETECTION OF PARTICLE-PHASE POLYCYCLIC AROMATIC HYDROCARBONS IN MEXICO CITY USING AN AEROSOL MASS SPECTROMETER.** KATJA DZEPINA, Jose-Luis Jimenez, Dept. of

Chemistry and CIRES, University of Colorado, Boulder, CO; Linsey C. Marr, Dept. of Civil and Environmental Engineering, Virginia Tech, Blacksburg, VA; Janet Arey, University of California at Riverside, Air Pollution Research Center, Riverside, CA; Douglas R. Worsnop, Center for Aerosol and Cloud Chemistry, Aerodyne Research, Inc., Billerica, MA; Dara Salcedo, Centro de Investigaciones Quimicas, Universidad Autónoma del Estado de Morelos, Cuernavaca Morelos, Mexico; Qi Zhang, Atmospheric Science Research Center, University at Albany, SUNY, Albany, NY; Luisa T. Molina, Molina Center for Energy and the Environment, La Jolla, CA; Mario J. Molina, Dept. of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA (p.1766)

2:00

6G12 **SIZE, TIME AND COMPOSITION-RESOLVED AEROSOL MEASUREMENTS IN MEXICO CITY DURING THE MCMA-2003 FIELD CAMPAIGN: THE ORGANIC COMPONENT.** KATJA DZEPINA, Jose-Luis Jimenez, Dept. of Chemistry and CIRES, University of Colorado, Boulder, CO; Qi Zhang, Atmospheric Science Research Center, University at Albany, SUNY, Albany, NY; Dara Salcedo, Centro de Investigaciones Quimicas, Universidad Autónoma del Estado de Morelos, Cuernavaca Morelos, Mexico; Matthew J. Dunn, James Smith, National Center for Atmospheric Research, Atmospheric Chemistry Division, Boulder, CO; Jeffrey S. Gaffney, Nancy A. Marley, Argonne National Laboratory, Argonne, IL; Timothy B. Onasch, Manjula R. Canagaratna, Douglas R. Worsnop, Center for Aerosol and Cloud Chemistry, Aerodyne Research, Inc., Billerica, MA; Rainer Volkamer, Benjamin de Foy, Mario J. Molina, Dept. of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA; Luisa T. Molina, Molina Center for Energy and the Environment, La Jolla, CA (p.1768)

2:00

6G13 **A MULTIVARIATE APPROACH FOR SOURCE AND METEOROLOGICAL INFLUENCES ON SUMMERTIME AMBIENT ULTRAFINE PARTICLES.** LI-HAO YOUNG and Gerald J. Keeler, University of Michigan, Ann Arbor, MI (p.1770)

2:00

6G14 **SPATIAL AND TEMPORAL VARIABILITY OF AEROSOL CONCENTRATIONS IN URBAN ATMOSPHERES: RESULTS FROM THE MULTIPLE SITE EXPERIMENT PURAT-1.** Wolfram Birmili, Korinna König, André Sonntag, BIRGIT WEHNER, Institute for Tropospheric Research, Leipzig, Germany, Ulrich Franck, Thomas Tuch, Centre for Environmental Research, Leipzig, Germany (p.1771)

2:00

6G15 **DEVELOPMENT AND EVALUATION OF COMMUNITY MULTISCALE AIR QUALITY MODEL WITH UCD AEROSOL MODULE (CMAQ-UCD).** K. MAX ZHANG, Anthony S. Wexler, University of California, Davis, CA; Christopher G. Nolte, Prakash V. Bhave, Robin L. Dennis, National Oceanic and Atmospheric Administration, RTP, NC; Jinyou Liang, Ajith Kaduwela, California Air Resources Board, Sacramento, CA (p.1773)

2:00

6G16 **IMPACT OF ROAD TRANSPORT ON AIR QUALITY IN KENYA: ROADSIDE SURVEY IN THE CITIES OF MOMBASA AND NAIROBI.** David M. Maina, MICHAEL J. GATARI, University of Nairobi, Nairobi, Kenya, P. Bundi, Meteorology Department, Nairobi, Kenya, H. Muturi, National Council for Science and Technology, Nairobi, Kenya (p.1775)

2:00

6G17 **COMPARISON OF SIZE-RESOLVED AEROSOL CONCENTRATIONS FROM MULTIPLE U.S CITIES.** Olanrewaju, KB; Stanier, CO, University of Iowa, Iowa,IA, McMurry, PH, University of Minnesota, Minneapolis,MN (p.1777)

2:00

6G18 **SEASONAL VARIATION IN AEROSOL SOURCES AND COMPOSITION IN RIVERSIDE, CA DURING THE SUMMER AND FALL DURING SOAR I AND II.** KIMBERLY A. PRATHER, Xueying Qin, Laura Shields, Thomas Rebotier, and Kerri Denkenberger, Stephen Toner (p.1778)

2:00

6G19 **SOURCE APPORTIONMENT OF AEROSOL MASS SPECTROMETER DATA IN PITTSBURGH AND MEXICO CITY POSITIVE MATRIX FACTORIZATION AND OTHER TIME-SERIES ANALYSIS OTHER METHODS.** INGRID ULBRICH, Gregory Brinkman, Michael Hannigan, Jana Milford, Jose Jimenez,

University of Colorado, Boulder, CO; Qi Zhang, State University of New York, Albany, NY (p.1779)

2:00

6G20 **SOURCE REGIONS FOR FINE PARTICULATE MATTER IN NEW JERSEY.** AMY E. GILDEMEISTER, Philip K. Hopke, Eugene Kim, Clarkson University, Potsdam, NY (p.1781)

2:00

6G21 **THE MORPHOLOGY OF ULTRAFINE ATMOSPHERIC AEROSOL COLLECTED AT LOS ANGELES INTERNATIONAL AIRPORT.** TERESA L. BARONE, Rong-Chung Yu, Yifang Zhu, Constantinos Sioutas and John R. Froines, Sheldon K. Friedlander (p.1782)

2:00

6G22 **APPLICATION OF DISPERSION MODEL FOR HEALTH BENEFIT ASSESSMENT OF PARTICULATE REDUCTION STRATEGIES FOR AN URBAN REGION**. Vasudev N. Athalye, RASHMI S. PATIL and Virendra Sethi, Indian Institute of Technology Bombay, Mumbai, India (p.1784)

2:00

6G23 **MODAL STRUCTURE OF THE FINE URBAN AEROSOL IN FOUR EUROPEAN CITIES.** K. ELEFTHERIADIS S. Vratolis, C. Housiadas, Institute of Nuclear Technology and Radiation Protection, N.C.S.R. "Demokritos", 15310 Ag. Paraskevi, Attiki, Greece, J. Smolík, V. _dímal, J. Schwarz, Z. Wagner, Institute of Chemical Process Fundamentals, Laboratory of Aerosol Chemistry and Physics, Prague, Czech Republic, M. Lazaridis, J. Ondracek, Department of Environmental Engineering, Technical University of Crete, Chania 73100, Greece, T. Hussein, University of Helsinki, Department of Physical Sciences, P.O. Box 64, FIN–00014 University of Helsinki, Finland, S. Kephalopoulos and Y. Drossinos, European Commission, Joint Research Centre,I-21020 Ispra (Va), Italy (p.1786)

2:00

6G24 **A FULLY-DYNAMIC APPROACH TO MODEL SECONDARY ORGANIC AEROSOL FORMATION.** SATISH VUTUKURU, Donald Dabdub, University of California, Irvine. Irvine, CA; Robert J. Griffin, University of New Hampshire. Durham, NH. (p.1787)

2:00

6G25 **TOTAL PARTICLE CONCENTRATION AND BLACK CARBON IN HELSINKI METROPOLITAN AREA.** Leena Järvi, Tuukka Petäjä, Jyrki Martikainen, Pasi Aalto, Petri Keronen,Erkki Siivola, Timo Vesala, Markku Kumala, Department of Physical Scinces, University of Helsinki, Helsinki; Timo Mäkelä, Jaakko Laakia, Markus Sillanpää, Veli-Matti Kerminen, Risto Hillamo, Finnish Meteorological Institute (p.1789)

2:00

6G26 **SEASONAL VARIATION OF PARTICLE SIZE DISTRIBUTIONS OF PAHS AT SEOUL, KOREA.** JiYi Lee, Yong Pyo Kim, Department of Environmental Science and Engineering, Ewha Womans University; Chang Hee Kang, Department of Chemistry, Cheju National University (p.1791)

2:00

6G27 **INFLUENCE OF HIGH WAY LJUBLJANA-GRIC; (SLOVENIA) ON POLLUTION WITH PARTICLES.** JANJA TUR_I_, Irena Grgi_, Laboratory for Analytical Chemistry, National Institute of Chemistry, Slovenia, Ljubljana. SI-1000, Slovenia, Tanja Bolte, Andrej _egula, Environmental Agency of the Republic of Slovenia, Vojkova 1b Ljubljana, SI-1000, Slovenia (p.1792)

2:00

6G28 **PAHS, NITROPAHS AND OXIPAHS IN ATMOSPHERIC PARTICLE SAMPLES.** M.G. PERRONE, L. Ferrero, Z. Lazzati , C. LoPorto, S. Petraccone, G. Sangiorgi and E. Bolzacchini, Department of Environmental Science and Technology, University of Milano-Bicocca, Milan, ITALY (p.1794)

2:00

6G29 **VERTICAL DISTRIBUTION OF PARTICULATE MATTER IN THE URBAN ATMOSPHERE OF MILAN.** Luca Ferrero, Zelda Lazzati, Claudia Loporto, MARIA GRAZIA PERRONE, Stefania Petraccone, Giorgia Sangiorgi, Ezio Bolzacchini; University of Milano-Bicocca, Milan, Italy (p.1796)

2:00

6G30 **COARSE, FINE, AND ULTRAFINE PARTICLES IN JAKARTA, INDONESIA.** DANE WESTERDAHL, University of California, Los Angeles, CA, USA; Scott Fruin, California Air Resources Board, Sacramento, CA, USA, Julian Marshall, University of British Columbia, Vancouver, BC,

Canada; Philip M Fine, South Coast Air Quality Management District, Diamond Bar, CA, USA; Manisha Singh, TSI, Soreview, MN, USA (p.1798)

2:00

6G31 **INFLUENCE OF RENOXIFICATION REACTIONS ON OZONE AND PARTICULATE MATTER LEVELS.** Angel Jimenez-Aranda, MARC CARRERAS-SOSPEDRA, Donald Dabdub. University of California, Irvine. Irvine, CA. (p.1800)

2:00

6G32 **MULTI-YEAR MEASUREMENTS OF BLACK CARBON AT TWO URBAN LOCATIONS IN NEW YORK:COMPARISON WITH ELEMENTAL CARBON.** OLIVER RATTIGAN, Dirk Felton, New York State Department of Environmental Conservation, Albany, NY;James Schwab, Kenneth Demerjian, Atmospheric Sciences Research Center, University at Albany, State University of New York, Albany, NY (p.1801)

6H Instrumentation-II (Poster)

Garden Court East

James B. Flanagan, P. Rayner, Chairs

2:00

6H1 **EFFECTS OF SAMPLING ARTIFACTS AND OPERATING PARAMETERS ON THE PERFORMANCE OF A SEMI-CONTINUOUS PARTICULATE EC-OC MONITOR.** MOHAMMAD ARHAMI, Philip M. Fine, Ralph J. Delfino, and Constantinos Sioutas (p.409)

2:00

6H2 **EXPOSURE TO AEROSOLS IN BUSES AND TRAMS IN HELSINKI –SEASONAL DEPENDENCE.** KAARLE HÄMERI, Department of Physical Sciences, University of Helsinki, Finland; Eija Vartiainen, Finnish Institute of Occupational Health, Helsinki, Finland; Tarja Yli-Tuomi, Matti Jantunen, National Public Health Institute, Dept. of Environmental Health, Kuopio, Finland; Päivi Aarnio, Tarja Koskentalo, Anu Kousa, Helsinki Metropolitan Area Council, Environmental Office, Helsinki, Finland; Timo Mäkelä, Risto Hillamo, Finnish Meteorological Institute, Helsinki, Finland (p.411)

2:00

6H3 **DEVELOPMENT OF A CONTINUOUS AEROSOL SEPARATION SYSTEM BASED ON PHOTOPHORETIC PARTICLE PROPERTIES.** Carsten Kykal, Christoph Haisch, REINHARD NIESSNER, Institute of Hydrochemistry, Technical University of Munich, Munich, Germany (p.412)

2:00

6H4 **A METHOD TO MEASURE THE HYGROSCOPIC GROWTH IRREVERSIBILITY OF AEROSOL PARTICLES.** DWANE PAULSEN, George Biskos, Scot T. Martin, Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA (p.414)

2:00

6H5 **EVALUATION OF A URG AMBIENT ION MONITORING SYSTEM (AIM) FOR MEASURING WATER-SOLUBLE ION COMPONENTS OF AMBIENT PM2.5: INTERCOMPARISON WITH PILS-IC MONITOR.** Kwang-Joo Moon, Jin-Seok Han, Il-Rok Jung, National Institute of Environmental Research, Incheon, Republic of Korea, Yutaka Kondo, Yuzo Miyazaki, University of Tokyo (RCAST/UT), Tokyo, Japan (p.416)

2:00

6H6 **AEROSOL PENETRATION CHARACTERISTICS OF THE INTERAGENCY MONITORING OF PROTECTED VISUAL ENVIRONMENTS (IMPROVE) SAMPLER PM2.5 CYCLONE.** JAY TURNER, Washington University, St. Louis, MO; Nathan Kreisberg, Susanne Hering, Aerosol Dynamics, Inc., Berkeley, CA; Gary Walsh, Providence College, Providence, RI (p.418)

2:00

6H7 **DESIGN, NUMERICAL SIMULATION AND EXPERIMENTAL EVALUATION OF AN INERTIAL IMPACTOR USED TO COLLECT ATMOSPHERIC AEROSOLS.** Claudia Costa, Marcia Ferreira and Marcos Sebastião de Paula Gomes; Department of Mechanical Engineering , PUC, Rio de Janeiro, Brasil (p.420)

2:00

6H8 **EFFECT OF DYNAMIC MECHANICAL PROPERTIES OF RUBBER ON PARTICLE BOUNCE-OFF.** S. -G. LEE, Manabu Nishimura, Yoshio Otani, Kanazawa University (p.422)

2:00

6H9 **DESIGN FOR A NEW VAPOR AEROSOL DICHOTOMOUS SAMPLER.** SEUNG WON KIM, Peter Raynor, University of Minnesota, Minneapolis, MN (p.423)

2:00

6H10 **DESIGN AND DEVELOPMENT OF A LARGE PARTICLE INLET.** Sang-Rin Lee, Suresh Dhaniyala, Thomas M. Holsen, Clarkson University, Potsdam, NY, USA (p.425)

2:00

6H11 **EFFECT OF MICRONIZATION METHOD OF ACTIVE INGREDIENT AND THIRD COMPONENT ON DEPOSITION PROFILES OF CEFOTAXIME SODIUM IN DRY POWDER FORMULATIONS.** Abdolhosein Rouholamini Najafabadi, Ramin Asgharian, Hosnie Tajerzadeh, Kambiz Gilani, and Javad Shafiee. (p.426)

2:00

6H12 **SINGLE PARTICLE ANALYSIS USING MICROWAVE PLASMA TORCH ATOMIC EMISSION SPECTROSCOPY.** STEPHEN MANG, Jiho Park, Sergey Nizkorodov, University of California, Irvine, Irvine, CA (p.428)

2:00

6H13 **AUTOMATIC OPTICAL-ELECTRONIC SYSTEM FOR ENVIRONMENTAL AEROSOL MEASUREMENT.** R.S. Asatryan, H.S. Karayan, A.H. Makaryan, M.N. Misakyan, Department of Physics, Yerevan State University, Yerevan, Armenia, S.R. Asatryan, Department of Natural Science, Yerevan State University, Ijevan, Armenia (p.429)

2:00

6H14 **CHARACTERISTICS AND CALIBRATION OF A SPECTRAL ONLINE ABSORPTION PHOTOMETER.** THOMAS MUELLER, Eva Hallbauer, Johannes Pelzer, Leibniz Institute for Tropospheric Research, Leipzig (p.431)

2:00

6H15 **REALTIME MEASUREMENT OF AEROSOL ABSORPTION THROUGH PHOTOTHERMAL INTERFEROMETRY (PTI).** ARTHUR J. SEDLACEK, Brookhaven National Laboratory, Upton, NY (p.432)

2:00

6H16 **EFFECT OF HUMIDITY ON FILTER-BASED MEASUREMENTS OF AEROSOL LIGHT ABSORPTION.** REMO NESSLER, Patrick J. Sheridan, John A. Ogren, National Atmospheric and Oceanic Administration, Boulder, CO; Ernest Weingartner,

Anke Hannemann, Paul Scherrer Institut, Villigen, Switzerland (p.434)

2:00

6H17 **EFFECTS OF PARTICLE REFRACTIVE INDEX ON INDOOR MEASUREMENTS WITH A REAL-TIME LASER PARTICLE COUNTER.** ROYAL J. KOPPERUD, Lynn M. Hildemann (p.436)

2:00

6H18 **USE OF THE AERODYNAMIC PARTICLE SIZER TO MEASURE PM COARSE IN HUMID CONDITIONS.** ADAM RISS, Thomas Peters, University of Iowa, Iowa City, IA; Manisha Singh, Ricky Holm, TSI Incorporated, Shoreview, MN (p.437)

2:00

6H19 **ESTIMATION OF FLUE GAS AND AMBIENT AIR MIXING RATE WITH THE HELP OF IR-VISUALISATION.** Timo Turrek, Jorma Joutsensaari and Jorma Jokiniemi, Department of Environmental Sciences, University of Kuopio, Fine Particle and Aerosol Technology Laboratory, Kuopio, Finland, Jorma Jokiniemi, VTT Technical Research Centre of Finland, Espoo, Finland. (p.438)

2:00

6H20 **ISO-STANDARDIZATION OF AEROSOL CHARACTERIZATION METHODS AND INSTRUMENTATION.** MICHAEL STINTZ, TU Dresden, Institut für Verfahrenstechnik und Umwelttechnik, Arbeitsgruppe Mechanische Verfahrenstechnik, Germany (p.440)

2:00

6H21 **A DMA COVERING THE 1-100 NM SIZE RANGE WITH HIGH RESOLUTION DOWN TO 1 NM.** J. Fernández de la Mora, Yale University, Mechanical Engineering Department, M. Attoui, Université Paris 12, Physics Department

Tuesday 3:40 PM – 6:30 AM
Techical Tours

Wednesday 8:00 AM – 9:20 AM
Plenary
Minnesota Ballroom
David Pui, Chair

8:00 **PLENARY 3. REINVENTING THE WHEEL: NEW VISTAS FOR AEROSOL MEASUREMENT.** Richard C. Flagan, Irma and Ross McCollum William H. Corcoran Professor of Chemical Engineering, California Institute of Technology, Pasadena, CA, USA (p.344)

9:00 **THOMAS MERCER AWARD** presented by John Dennis and David Leith

DAVID SINCLAIR AWARD presented by David Leith

Wednesday 9:00 AM – 5:30 PM
Exhibits Open
Great River Ballroom

Wednesday 9:20 AM – 9:40 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Wednesday 9:40 AM – 11:00 AM
Session 7
7A Urban Aerosol-III (Platform)
Minnesota Ballroom
Eric Swietlicki, R. Wiener, Chairs
9:40
7A1 **SPATIAL VARIATIONS OF DICARBOXYLIC ACIDS IN 14 CITIES OF CHINA.** S. C. Lee, K. F. Ho, Department of Civil and Structural Engineering, The Hong Kong Polytechnic University, Hun Hom, Hong Kong; J. J. Cao, SKLLQG, Institute of Earth Environment, Chinese Academy of Sciences, China; K. Kawamura, Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan (p.1803)
10:00
7A2 **DETERMINATION OF PARTICLE EFFECTIVE DENSITY IN URBAN ENVIRONMENTS WITH AN AEROSOL PARTICLE MASS ANALYZER AND SCANNING MOBILITY PARTICLE SIZER.** MICHAEL D. GELLER, Subhasis Biswas and Constantinos Sioutas,

University of Southern California, Los Angeles, CA (p.1804)

10:20

7A3 **SEASONAL VARIATION OF COLUMN AEROSOLS AND ITS EFFECT ON TOTAL RADIATION FLUX OVER DELHI.** SACHCHIDANAND SINGH, Manoj K. Srivastava, Shambhu Nath, R. S. Tanwar and Risal Singh, National Physical Laboratory (p.1806)

10:40

7A4 **THE IMPACT OF BUILDING TOPOGRAPHY ON AEROSOL DISPERSION IN AN URBAN STREET CANYON.** JENNIFER RICHMOND-BRYANT, Environmental and Occupational Health Sciences, Hunter College, City University of New York, 425 East 25th Street, New York, NY 10010 USA; Laurie A. Brixey, Alion Science and Technology, 1000 Park Forty Suite 200, Research Triangle Park, NC 27713 USA; David K. Heist, Steven G. Perry, Atmospheric Sciences Modeling Division, Air Resources Laboratory/NOAA, MD-81, USEPA, RTP, NC 27711 USA; George E. Bowker, Russell W. Wiener, Atmospheric Modeling Division, NERL/EPA, MD-81, USEPA, RTP, NC 27711 USA (p.1808)

7B Cloud and Fog Aerosol Interactions-II (Platform)

Capitol Ballroom

Athanasios Nenes, P. Connolly, Chairs

9:40

7B1 **THE FINCH (FRANKFURT ICE NUCLEI CHAMBER) COUNTER. NEW DEVELOPMENTS AND FIRST MEASUREMENTS.** ULRICH BUNDKE, Heinz Bingemer, Thomas Wetter, University of Frankfurt, Frankfurt, Germany; Björn Nillius, Ruprecht Jaenicke, University of Mainz, Mainz, Germany (p.1350)

10:00

7B2 **PHYSICAL AND CHEMICAL PROPERTIES OF AEROSOL PARTICLES AND CLOUD DROPLETS DURING THE SECOND PALLAS CLOUD EXPERIMENT (SECOND PACE).** MIKA KOMPPPULA, Heikki Lihavainen, Antti-Pekka Hyvärinen, Veli-Matti Kerminen, Veijo Aaltonen, Christa Engler, Niku Kivekäs, Ari Leskinen, Risto Hillamo, Ulla Makkonen, Yrjö Viisanen, Finnish Meteorological Institute, Research and Development, Helsinki, Finland; Petri Vaattovaara, Jukka Rautiainen,

Pasi Miettinen, Petri Tiitta, Riikka Sorjamaa, Ari Laaksonen, Department of Applied Physics, University of Kuopio, Kuopio, Finland (p.1352)

10:20

7B3 **MODELLING AND MEASUREMENTS OF INTERACTIONS BETWEEN AEROSOLS AND CLOUDS, IN AN INTENSE TROPICAL THUNDERSTORM DURING ACTIVE.** P. J. Connolly, G. Vaughan, T. Choularton, K. N. Bower, M. Gallagher, M. Flynn and the ACTIVE team. (p.1354)

10:40

7B4 **CHEMICAL COMPOSITION MEASUREMENTS OF ICE NUCLEI IN MIXED PHASE TROPOSPHERIC CLOUDS DURING THE CLOUD AND AEROSOL CHARACTERIZATION EXPERIMENTS CLACE.** JOHANNES SCHNEIDER, Saskia Walter, Joachim Curtius, Stephan Borrmann, Cloud Physics and Chemistry Department, Max Planck Institute for Chemistry, Mainz, Germany, Stephan Mertes, Leibniz-Institute for Tropospheric Research, Leipzig, Germany, Ernest Weingartner, Bart Verheggen, Julie Cozic, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institute, Villigen, Switzerland (p.1356)

7C Symposium: Nanomaterials and Occupational Health-I (Platform)

Governors 1 and 5

M. Hoover, C. J. Tsai, Chairs

9:40

7C1 **EXPOSURE TO AIRBORNE NANOPARTICLES IN THE NANOTECHNOLOGY WORKPLACE.** LINSEY C. MARR, Christy M. Kull, Harry C. Dorn, Virginia Polytechnic Institute and State University, Blacksburg, VA; Matthew S. Hull, Luna Innovations, Inc., Blacksburg, VA (p.119)

10:00

7C2 **IN VITRO TESTING OF THE SUBMICRON FRACTION OF FLY ASH FROM A MUNICIPAL WASTE INCINERATOR AT THE AIR – LIQUID INTERFACE.** SONJA MÜLHOPT, Hanns-Rudolf Paur, Institute for Technical Chemistry-Thermal Waste Treatment Division, Forschungszentrum Karlsruhe, Karlsruhe, Germany; Silvia Diabaté, Harald F. Krug, Institute for Toxicology and Genetics, Forschungszentrum Karlsruhe, Karlsruhe, Germany (p.121)

10:20

7C3 **DIFFUSION CHARGING: POSSIBLE INDICATOR FOR HEALTH EFFECTS RELATED TO ULTRAFINE PARTICLES AND PARTICLE SURFACE AREA.** WILLIAM WILSON, U. S. Environmental Protection Agency, Research Triangale Park, NC (p.123)

10:40

7C4 **OPTIMIZATION OF THE RESPONSE OF NSAM FOR OCCUPATIONAL HEALTH STUDIES.** HEINZ FISSAN, A. Trampe, S. Neumann, University of Duisburg-Essen, Duisburg, Germany; David Y.H. Pui, W.G. Shin, University of Minnesota, Minneapolis, MN (p.125)

7D Condensation Particle Counters (Platform)

Govenors 2 – 4

Dave Rogers, Hans-Georg Horn, Chairs

9:40

7D1 **A MICRO-ENVIRONMENTAL, WATER-BASED, CONDENSATION PARTICLE COUNTER.** SUSANNE V. HERING, Gregory S. Lewis, Aerosol Dynamics Inc., Berkeley, CA USA, Frederick R. Quant and Derek R. Oberreit, Quant Technologies LLC, Blaine, MN, USA (p.442)

10:00

7D2 **PARTICLE DETECTION EFFICIENCY OF TSI-3007 CPC AT DIFFERENT AMBIENT TEMPERATURES AND PRESSURES.** MIKKO SIPILÄ, Tiia Grönholm, Kaarle Hämeri, Pasi P. Aalto, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland (p.444)

10:20

7D3 **DESIGN AND CHARACTERIZATION OF THREE NEW BUTANOL-BASED CONDENSATION PARTICLE COUNTERS.** QIAN SHI, Hee-Siew Han, Melissa A. Fink, Steve W. Kerrigan, Steve J. Olson, Rob Caldow, Ed M. Johnson, Mike A. Woessner, Wei Liu, TSI Incorporated, Shoreview, Minnesota 55126, USA (p.446)

10:40

7D4 **MINIATURIZING THE CONTINUOUS-FLOW STREAMWISE THERMAL-GRADIENT CCN CHAMBER.** GREG ROBERTS, Scripps Institution of Oceanography, La Jolla, CA; Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA (p.448)

7E Secondary Organic Aerosol Formation-II (Platform)
Wabasha Suite
Michiro Mochida, Lara Gungel, Chairs
9:40

7E1 **SECONDARY ORGANIC AEROSOL FORMATION THROUGH CLOUD PROCESSING: KINETICS AND PRODUCTS OF AQUEOUS-PHASE GLYOXAL/METHYLGLYOXAL AND HYDROXYL RADICAL REACTIONS.** Annmarie Carlton, Katye Altieri, Sybil Seitzinger, BARBARA TURPIN, Rutgers University, New Brunswick, NJ; Ho-Jin Lim, Kyungpook National University, Daegu, Korea (p.1559)

10:00

7E2 **REAL-TIME DETECTION OF OLIGOMERS IN SECONDARY ORGANIC AEROSOL WITH THE AEROSOL TIME-OF-FLIGHT MASS SPECTROMETER.** DEBORAH GROSS, Carleton College, Northfield, MN; Markus Gälli, TSI, Inc., Shoreview, MN; Markus Kalberer, ETH Zurich, Switzerland; Andre Prevot, Josef Dommen, M. Rami Alfarra, Jonathan Duplissy, Astrid Gascho, Kathrin Gäggeler, Axel Metzger and Urs Baltensperger, Paul Scherrer Institut, Villigen, Switzerland (p.1561)

10:20

7E3 **SECONDARY ORGANIC AEROSOL FROM SPRUCE TREE EMISSIONS: A CASE STUDY.** ASTRID KIENDLER-SCHARR, Thomas Mentel, Ralf Tillmann, ICG-II: Troposphäre, Forschungszentrum Jülich, Germany; Einhard Kleist, Ricarda Uerlings, Juergen Wildt, ICG-III: Phytosphäre, Forschungszentrum Jülich, Germany; (p.1563)

10:40

7E4 **MODELING OF SOA FORMATION BY PARTITIONING AND HETEROGENEOUS REACTIONS IN THE PRESENCE OF INORGANIC SPECIES.** Myoseon Jang, Nadine Czoschke, Amanda Northcross, Gang Cao, The University of North Carolina at Chapel Hill, Chapel Hill, NC (p.1565)

7F Aerosol Generation (Platform)
Kellogg Suite
Michael Heim, A. Schmidt Ott, Chairs
9:40

7F1 **MILD ABLATION OF BIOLOGICAL OBJECTS UNDER THE SUBMILLIMETER RADIATION OF THE FREE ELECTRON LASER.** Alexander Petrov, ALEXANDER KOZLOV, Mark Taraban, Institute of Chemical

Kinetics and Combustion SB RAS, Novosibirsk, Russia; Tatyana Goryachkovskaya, Sergey Peltek Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia; Vasiliy Popik, G.I. Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russia (p.680)

10:00

7F2 **AEROSOL FORMATION AND PARTICLE LOSSES IN MICRO-REACTORS.** MICHAEL HEIM, Robert Wengeler, Hermann Nirschl, Gerhard Kasper, Universität Karlsruhe (TH), Karlsruhe, Germany; Norbert Kockmann, Universität Freiburg, Freiburg, Germany (p.682)

10:20

7F3 **FLOW FOCUSING AND FLOW BLURRING: TWO GEOMETRICAL PARADIGMS FOR PNEUMATIC LIQUID ATOMIZATION.** ALFONSO GANAN-CALVO, Universidad de Sevilla, Sevilla, Spain; Joan Rosell, Universidad Rovira i Virgili, Tarragona, Spain (p.684)

10:40

7F4 **SMALL METAL CLUSTERS IN THE GLOWING WIRE GENERATOR.** CHRISTIAN PEINEKE, Valerie C.L. Butselaar-Orthlieb and Andreas Schmidt-Ott, Nanostructured Materials, Delft University of Technology, Delft, The Netherlands (p.686)

7G Symposium: Aerosol Research and Education Software-II (Poster)

Garden Court West

C.Y. Wu, K. Okuyama, Chairs

9:40

7G1 **DISCONTINUOUS GALERKIN TREATMENT OF THE PARTICLE POPULATION BALANCE EQUATIONS: APPLICATION TO DETAILED MOLECULAR MODELING OF FLAME CHEMISTRY WITH SOOT FORMATION.** HARRY MOFFAT, John Brockman, John Hewson, Sheldon Tieszen, Sandia National Laboratories, Albuquerque, NM (p.560)

9:40

7G2 **A SPREADSHEET-COMPATIBLE CASCADE IMPACTOR DATA INVERSION METHOD.** PATRICK O'SHAUGHNESSY, The University of Iowa, Iowa City, IA; Otto Raabe, University of California, Davis, CA (p.562)

9:40

7G3 **DEVELOPMENT OF POPULATION BALANCE BASED DESIGN PROBLEM FOR A PARTICLE SCIENCE AND TECHNOLOGY COURSE.** Sheryl Ehrman, PATRICIA

CASTELLANOS, Vivek Dwivedi, University of Maryland, College Park, MD; R. Bertram Diemer, DuPont Company, Wilmington, DE (p.563)

9:40

7G4 **OBSERVATION OF PARTICLE BEHAVIOR IN A PECVD REACTOR USING AN IN SITU VISUALIZATION SYSTEM.** MANABU SHIMADA, Kikuo Okuyama, Yutaka Hayashi, Department of Chemical Engineering, Graduate School of Engineering, Hiroshima University, Higashi-Hiroshima, Japan (p.564)

9:40

7G5 **THE U.S. ENVIRONMENTAL PROTECTION AGENCY VERSION OF POSITIVE MATRIX FACTORIZATION.** PHILIP K. HOPKE, Clarkson University, Potsdam, NY; Pentti Paatero, University of Helsinki, Helsinki, FI; Shelly Eberly, U.S. Environmental Protection Agency, Research Triangle Park, NC (p.566)

9:40

7G6 **A WEB-BASED INTERACTIVE AEROSOL PROGRAM FOR UNDERGRADUATE EDUCATION.** CHANG-YU WU, Heath Wintz, Ying Li, Anadi Misra, Randy Switt, Anne Donnelly, Emilia Hodge, Yanmei Zhang, Anne Allen, Priscilla Chapman, University of Florida, Gainesville, FL; Pratim Biswas, Prakash Kumar, Jingkun Jiang, Washingto University in St. Louis, St. Louis, MO. (p.568)

9:40

7G7 **A DESIGN TOOL FOR AERODYNAMIC LENS SYSTEMS.** XIAOLIANG WANG, TSI Incorporated, St Paul, MN, USA, Peter H. McMurry, University of Minnesota, Minneapolis, MN, USA (p.570)

9:40

7G8 **A COMPLETE COMPUTER PROGRAM TO FIT THE DATA FROM AN IMPACTOR TO A SUM OF LOG-NORMALS.** JULIO M. FERNANDEZ-DIAZ, Maria A. Rodriguez-Braña, B. Arganza, University of Oviedo, SPAIN (p.572)

9:40

7G9 **DEVELOPING RURAL NANOTECHNOLOGY AND GAINING PUBLIC ACCEPTANCE.** KEVIN KLUNGTVEDT, RINTek, Rushford Institute for Nanotechnology, Rushford, MN (p.574)

9:40

7G10 **A WEB-BASED COURSE FOR PARTICLE TRANSPORT, DEPOSITION AND REMOVAL.** GOODARZ AHMADI, Stephen Doheny-Farina, John McLaughlin, Kambiz Nazridoust, David J, Schmidt, Xinli Jia, Suresh Dhaniyala, Cetin Cetinkaya, Jeffrey Taylor, Fa-Gung Fan, and Xiangwei Liu,Clarkson University, Potsdam, NY, Xerox Corporation, Webster, NY (p.576)

9:40

7G11 **DISTFIT: PARTICLE SIZE DISTRIBUTION FITTING PROGRAM.** EVAN WHITBY (p.578)

9:40

7G12 **FINE PARTICLE MODEL FOR FLUENT.** EVAN WHITBY (p.579)

7H Atmospheric Measurement Campaigns (Poster)
Garden Court East
Brent Williams, J. Turner, Chairs
9:40

7H1 **IONIC COMPOSITION OF AEROSOLS IN ROCKY MOUNTAIN NATIONAL PARK: A PILOT STUDY.** Suresh Raja, Jeffrey Collett, Jr., Taehyoung Lee, Xiao-Ying Yu, Sonia Kreidenweis, Department of Atmospheric Science, Colorado State University, Fort Collins, Colorado; Jenny Hand, Derek Day, and William Malm, National Park Service/CIRA, Colorado State University, Fort Collins, Colorado 80523 (p.1179)

9:40

7H2 **CHARACTERIZATION, HYGROSCOPIC GROWTH, AND ACTIVATION OF LABORATORY-GENERATED AEROSOL PARTICLES MIMICKING BIOMASS-BURNING AEROSOLS: THE LEXNO-CAMPAIGN.** Alexei Kiselev, Tabea Hennig, Silvia Henning, Frank Stratmann, Christina Wennrich, HEIKE WEX, Leibniz Institute for Tropospheric Research, Leipzig, Germany; Merete Bilde, Adam Kristensson, University of Copenhagen, Copenhagen, Denmark; Ulrike Dusek, Göran Frank, Diana Rose, Johannes Schneider, Saskia Walter, Max Planck Institute for Chemistry, Mainz, Germany; Astrid Kiendler-Scharr, Thomas Mentel, Ralf Tillmann, Research Centre Juelich, Juelich, Germany; Jefferson Snider, University of Wyoming, Laramie, USA (p.1181)

9:40

7H3 **SEASONAL VARIATION OF 2-METHYLTETROLS IN THE AMBIENT AIR SAMPLES.** XIAOYAN XIA, Philip K. Hopke, Ping Li, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY (p.1183)

9:40

7H4 **AEROSOL BEHAVIOR AND ITS IMPACT ON RADIATION AT VARANASI DURING DIWALI FESTIVAL, 2005.** MANOJ K SRIVASTAVA, Sachchidanand Singh, Risal Singh, National Physical Laboratory, Rajeev Kumar Singh, Madpeoples Trust (p.1185)

9:40

7H5 **ANALYSIS OF AMBIENT SEMI-CONTINUOUS DATA COLLECTED AT THE ST. LOUIS – MIDWEST SUPERSITE.** EUGENE KIM, Philip K. Hopke, Clarkson University, Potsdam, NY; Jay R. Turner, Washington University, St. Louis, MO (p.1187)

9:40

7H6 **AEROSOL OPTICAL DEPTH AND AEROSOL CHARACTERIZATION IN 2006 AT UCCLE (BELGIUM).** ANNE CHEYMOL, Hugo De Backer, Alexander Mangold, René lemoine, Andy Delcloo, Royal Meteorological Institute of Belgium, Brussels, Belgium, Jan Cafmeyer and Willy Maenhaut, University of Ghent, Ghent, Belgium (p.1189)

9:40

7H8 **PARTICLE NUMBER CONCENTRATION AND SIZE DISTRIBUTION IN SANTIAGO, CHILE.** GUSTAVO OLIVARES, Christer Johansson, Air Pollution Laboratory, Department of Applied Environmental Sciences, Stockholm University, Stockholm, Sweden (p.1190)

9:40

7H9 **HYGROSCOPIC AND OPTICAL PROPERTIES OF SUBMICROMETER AEROSOLS OVER THE MEDITERRANEAN SEA: RESULTS FROM ARIADNE 2005 ON CRETE, GREECE.** BIRGIT WEHNER, Maria Stock, Andreas Nowak, Andreas Maßling, Thomas Müller, Alfred Wiedensohler, Wolfram Birmili, Leibniz-Institute for Tropospheric Research,Leipzig, Germany, Nikos Kalivitis, Nikos Mihalopoulos , Environmental Chemical Processes Laboratory, Department of Chemistry, University of Crete, Heraklion, Greece (p.1192)

9:40

7H10 **FIRST RESULTS FROM AN INTEGRATED FINE PARTICULATE MATTER (PM1 AND PM2.5) STUDY IN THE GREATER AREA OF ATHENS, GREECE.** G. Grivas, E. Diapouli, V. Kanouta, A. Chaloulakou, N. Spyrellis, School of Chemical Engineering, National Technical University of Athens, Greece; G. BISKOS, Division of Engineering and Applied Science, Harvard University, Cambridge, MA; P. Koutrakis, Department of Environmental Health Exposure, Harvard School of Public Health, Boston, MA. (p.1193)

9:40

7H11 **CONTAMINATION ISSUES IN PM2.5 CHEMICAL SPECIATION TRENDS NETWORK DATA.** W. Cary Eaton, JAMES B. FLANAGAN, Lisa C. Greene, William F. Gutknecht, Eva D. Hardison, R.K.M. Jayanty, Andrea C. McWilliams, James A. O'Rourke, and Max R. Peterson, RTI International, Research Triangle Park, NC (p.1195)

9:40

7H12 **MEASUREMENT OF AEROSOL WATER CONTENT DURING THE MEXICO CITY METROPOLITAN AREA (MCMA) MARCH 2006 CAMPAIGN.** ALICIA KALAFUT, Charles Stanier, University of Iowa (p.1196)

9:40

7H13 **COMPARISON OF FILTER AND CONTINUOUS METHODS FOR PM2.5 AEROSOL CONSTITUENTS AT SOUTHEASTERN U.S. SAMPLING SITES.** ROGER L. TANNER, Solomon T. Bairai, Myra L. Valente, Kenneth J. Olszyna, Ralph J. Valente, Environmental Technologies, Tennessee Valley Authority, Muscle Shoals, AL; Jim Renfro, National Park Service, Gatlinburg, TN. (p.1197)

9:40

7H14 **CHARACTERIZATION OF PHYSICAL, CHEMICAL AND OPTICAL PROPERTIES AS A FUNCTION OF RELATIVE HUMIDITY AT GOSAN, KOREA DURING ABC-EAREX2005.** Jin-Seok Han, Kwang-Joo Moon, Boo-Joo Kong, National Institute of Environmental Research, Incheon, Republic of Korea, Young-Sung Ghim, Korea Institute of Science and Technology, Seoul, Republic of Korea (p.1198)

9:40

7H15 **ORGANIC AMBIENT AEROSOL ANALYSIS WITH THE AERODYNE HIGH RESOLUTION TIME-OF-FLIGHT AEROSOL MASS SPECTROMETER (HR-TOF-AMS) IN MEXICO CITY DURING MILAGRO/ MCMA-2006.** ALLISON C. AIKEN, J. Alex Huffman, Michael Cubison, Ken Docherty, Ingrid Ulbrich, Jose L. Jimenez, University of Colorado at Boulder, Boulder, CO; Dara Salcedo, Universidad Autónoma del Estado de Morelos, Cuernavaca Morelos, Mexico; Douglas R. Worsnop, Aerodyne Research Inc., Billerica, MA (p.1200)

9:40

7H16 **MEASUREMENT OF AROMATIC HYDROCARBONS AND POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) IN AMBIENT AIR AT GHAZIABAD AND MODINAGAR A NATIONAL CAPITAL REGION OF DELHI (NCR) DURING-2005.** RAVI KUMAR1, R.P.Tyagi1,Shashi Bala1 and Nidhi Rani2, Department of chemistry,M.M. (Post Graduate) college, Modinagar, INDIA, Defence Institute of Physiology and allied sciences (DRDO) ,Delhi, INDIA (p.1202)

Wednesday 11:00 AM – 11:20 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Wednesday 11:20 AM – 12:40 PM
Session 8
8A Urban Aerosol-IV (Platform)
Minnesota Ballroom
Mike Geller, P. Titta/P. Mietinen, Chairs
11:20

8A1 **PARTICLE NUMBER SIZE DISTRIBUTIONS AT AN URBAN SITE IN SOUTHERN SWEDEN: ESTIMATES OF THE CONTRIBUTION OF URBAN PARTICLE SOURCES.** Erik SWIETLICKI, Andreas Massling, Jakob Löndahl, Ingela Dahlberg, Division of Nuclear Physics, Lund University, Lund, Sweden; Adam Kristensson, Department of Chemistry, Copenhagen University, Copenhagen, Denmark; Henric Nilsson, Susanna Gustafsson, Environment and Health Protection Board, City of Malmö, Malmö, Sweden; Matthias Ketzel, Department of Atmospheric Environment, National Environmental Research Institute, Roskilde, Denmark (p.1810)

11:40

8A2 **DETERMINATION OF THE CHEMICAL CHARACTERISTICS OF PARTICLES FROM ROAD-SIDE MEASUREMENTS.** PETRI TIITTA, Pasi Miettinen, Petri Vaattovaara, Jorma Joutsensaari, Ari Laaksonen, Department of Applied Physics, University of Kuopio, Finland; Pasi Aalto, Markku Kulmala, University of Helsinki, Finland (p.1812)

12:00

8A3 **ROADSIDE AEROSOL SIZE DISTRIBUTIONS AND PARTICLE DENSITIES DURING WINTER AND SUMMER.** Virtanen, A., Rönkkö, T., Kannosto, J., Mäkelä, J., Keskinen, J., Tampere University of Technology, Tampere, Finland; Pakkanen, T., Hillamo, R., Finnish Meteorological Institute, Helsinki, Finland; Pirjola, L., Helsinki Polytechnics, Helsinki, Finland; Hämeri, K., University of Helsinki, Helsinki, Finland (p.1814)

12:20

8A4 **DETECTION OF SECONDARY ORGANIC AEROSOL TRACERS IN DETROIT, MI DURING THE SUMMER OF 2004.** TADEUSZ KLEINDIENST, Michael Lewandowski, John Offenberg, Edward Edney National Exposure Research Laboratory, U.S. EPA, RTP, NC; Mohammed Jaoui, Alion Science and Technology, RTP, NC (p.1816)

8B Aerosol Hygroscopicity (Platform)

Capitol Ballroom

Tim Raymond, Lynn Russell, Chairs

11:20

8B1 **A COMPARISON OF DIFFERENT TECHNIQUES FOR OBTAINING HYGROSCOPIC CLOSURE AND SIMPLIFICATION OF THE ORGANIC FRACTION.** BENJAMIN A. CORRIS, Gordon McFiggans, M. Rami Alfarra, James Allan, Keith Bower, Hugh Coe, David Topping, Paul Williams, School of Earth, Atmospheric, and Environmental Sciences (SEAES), University of Manchester, Manchester, England, Martin Gysel, Paul Scherrer Institute, Villigen, Switzerland,Mike Cubison, CIRES,University of Colorado, Boulder, CO, Stefano Decesari, Cristina Facchini and Sandro Fuzzi, Institute of Atmospheric Sciences and Climate (ISAC), National Research Council, Bologna, Italy. (p.1015)

11:40

8B2 **INTERACTIONS OF CHEMICAL COMPONENTS IN COMPLEX AEROSOLS AND THE EFFECTS ON WATER UPTAKE.** TIMOTHY RAYMOND, Richard Moore, Bucknell University, Lewisburg, PA (p.1017)

12:00

8B3 **HYGROSCOPIC PROPERTIES OF INORGANIC AEROSOL NANOPARTICLES.** GEORGE BISKOS, Dwane Paulsen, Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA; Lynn M. Russell, Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA; Peter R. Buseck, Department of Geological Sciences, Arizona State University, Tempe, AZ; Scot T Martin, Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA. (p.1018)

12:20

8B4 **MEASUREMENTS OF THE DELIQUESCENCE AND EFFLORESCENCE OF SUCCINIC ACID PARTICLES WITH LACIS.** Silvia Henning, Alexei Kiselev, Frank Stratmann, HEIKE WEX, Markus Ziese, Institute for Tropospheric Research, Leipzig, Germany (p.1019)

8C Symposium: Nanomaterials and Occupational Health-II (Platform)

Governors 1 and 5

M. Hoover, C. J. Tsai, Chairs

11:20

8C1 **MEASUREMENT OF AIRBORNE CARBON NANOFIBER STRUCTURE USING A TANDEM MOBILITY-MASS ANALYSIS.** BON KI KU, National Institute for Occupational Safety and Health, Cincinnati, OH; Mark S. Emery, Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota, Minneapolis, MN; Andrew D. Maynard, Woodrow Wilson International Center for Scholars, Washington, DC (p.127)

11:40

8C2 **CONCENTRATION MEASUREMENTS OF AEROSOLIZED SINGLE-WALLED CARBON NANOTUBES.** NANCY JENNERJOHN, Yifang Zhu, William C. Hinds, Environmental Health Sciences, University of California, Los Angeles, CA; Arantza Eiguren-Fernandez, Institute of the Environment, University of California, Los Angeles, CA (p.129)

12:00

8C3 **METHODOLOGY FOR HUMAN STUDIES ON RESPIRATORY AND CARDIOVASCULAR EFFECTS AT OCCUPATIONAL EXPOSURE TO AEROSOLS AT INDUSTRIAL NANOTECHNOLOGY APPLICATIONS.** MATS BOHGARD, Anders Gudmundsson, Joakim Pagels,Erik Nilsson, Ergonomics and Aerosol Technology, Lund University, Sweden; Jörn Nielsen, Håkan Tinnerberg, Occupational and Environmental Health, Lund University, Sweden; Inger Hagerman, Margareta Berglund, Cardiology, Karolinska University Hospital Huddinge, Sweden; Erik Swietlicki, Jakob Löndahl, Nuclear Physics, Lund University, Sweden; Knut Deppert, Solid State Physics, Lund University, Sweden (p.131)

12:20

8C4 **AN AXIAL FLOW CYCLONE TO REMOVE NANOPARTICLES AT LOW PRESSURE CONDITIONS.** SHENG-CHIEH CHEN, Chuen-Jinn Tsai, Institute of Environmental Engineering, National Chiao Tung University, Hsin Chu, Taiwan (p.133)

8D Particle Mass Spectrometry (Platform)

Govenors 2 – 4

Pete DeCarlo, Jose-Luis Jimenez, Chairs

11:20

8D1 **THE EUROPEAN AEROSOL RESEARCH LIDAR NETWORK: EARLINET.** ALDO AMODEO, Gelsomina Pappalardo, Istituto di Metodologie per l'Analisi Ambientale CNR-IMAA, Potenza, Italy; Jens Bösenberg, Max-Planck-Institut für Meteorologie, Hamburg, Germany; Albert Ansmann, Institut für Troposphärenforschung, Leipzig, Germany; Arnoud Apituley, Rijksinstituut voor Volksgezondheid en Milieu, Bilthoven, The Netherlands; Dimitris Balis, Aristoteleio Panepistimio, Thessalonikis, Greece; Christine Böckmann, Institut für Mathematik der Universität Potsdam, Germany; Anatoly

Chaikovsky, Institute of Physics, National Academy of Sciences, Minsk, Bjelarus; Adolfo Comeron, Universitat Politécnica de Catalunya, Barcelona, Spain; Volker Freudenthaler, Matthias Wiegner; Ludwig-Maximilians-Universität, München, Germany; Georg Hansen, Norwegian Institute for Air Research at the Polar Environmental Centre, Tromsö, Norway; Valentin Mitev, Observatoire Cantonal de Neuchâtel, Switzerland; Alexandros Papayannis, National Technical University of Athens, Mathematics and Physical Sciences, Athens, Greece; Maria Rita Perrone, Università degli Studi di Lecce, Department of Physics, Lecce, Italy; Aleksander Pietruczuk, Institute of Geophysics, Polish Academy of Sciences, Warsaw, Poland; Manuel Pujadas, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Madrid, Spain; Francois Ravetta, CNRS- Institut Pierre Simon Laplace, Paris, France; Vincenzo Rizi, Università degli Studi dell'Aquila – Dipartimento di Fisica – CETEMPS, L'Aquila, Italy; Valentin Simeonov, Ecole Polytechnique Fédérale de Lausanne, Switzerland; Nicola Spinelli, Consorzio Nazionale Interuniversitario per le Scienze Fisiche della Materia, Napoli, Italy; Dimitar Stoyanov, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria; Thomas Trickl, Forschungszentrum Karlsruhe IMK-IFU, Garmisch-Partenkirchen, Germany (p.524)

11:40

8D2 **RESULTS FROM COMBINED EVALUATION OF AEROSOL PARTICLE SPECTRA DETECTED WITH TWO MASS SPECTROMETERS LAMPAS 2 AND SPASS DURING A FIELD CAMPAIGN.** KLAUS-PETER HINZ, Bernhard Spengler, University of Giessen, Giessen, Germany; Nicole Erdmann, University of Mainz, Mainz, Germany; Carsten Grüning, Joint Research Center Ispra, Ispra, Italy (p.450)

12:00

8D3 **REAL-TIME ALKALI METAL DETECTION OF INDIVIDUAL AEROSOL PARTICLES BY SURFACE IONIZATION COMBINED WITH ORTHOGONAL ACCELERATION TIME-OF-FLIGHT MASS SPECTROMETRY.** TORBJÖRN L. GUSTAFSSON, Maria Svane, Patrik U. Andersson, Benny Lönn, Jan B.C. Pettersson, Göteborg University, Göteborg, Sweden (p.452)

12:20

8D4 DEVELOPMENT OF A HIGH MASS RESOLUTION TIME OF FLIGHT AEROSOL MASS SPECTROMETER. PETER DECARLO, Joel Kimmel, Allison Aiken, Jose-Luis Jimenez, University of Colorado, Boulder, CO; Achim Trimborn, John Jayne, Doug Worsnop, Aerodyne Research Inc. Billerica, MA; Marc Gonin, Katrin Furher, Thomas Horvath, Tofwerk, Thun, Switzerland (p.454)

8E Waste Incineration (Platform)

Wabasha Suite

David Cocker, J. Jokinemi, Chairs

11:20

8E1 **ELECTRON MICROSCOPY CHARACTERISATION OF FINE PARTICLE FORMATION IN A PILOT SCALE BOILER DURING WASTE INCINERATION.** UNTO TAPPER, Jouni Hokkinen, Jorma Jokiniemi, VTT Technical Research Center of Finland, Jorma Jokiniemi, University of Kuopio, Department of Environmental Sciences, Fine Particle and Aerosol Technology Laboratory (p.216)

11:40

8E2 **FINE PM CONTROL IN ESP AND HYBRID FILTERS: ASSESSING THE PERFORMANCE BY MEASURING THE FRACTIONAL EFFICIENCY.** Estibaliz Garcia, Saioa Astarloa, AIRg, Portugalete, Spain, Juan Andres Legarreta, Miren Larrion, Egoitz Pena, CRISTINA GUTIERREZ-CANAS, University of the Basque Country, Bilbao, Spain, Carlos Urcelay, Elena Guede, Cementos Lemona, Bilbao, Spain (p.218)

12:00

8E3 **SIMULTANEOUS REMOVAL OF MERCURY, PARTICLES AND DIOXINS BY A WET SCRUBBER.** Jens Korell, HANNS-R. PAUR, Helmut Seifert; Forschungszentrum Karlsruhe,I nstitut für Technische Chemie, Karlsruhe, Germany (p.220)

12:20

8E4 **NUMERICAL STUDY OF THE EFFECT OF PLEAT RATIO ON CLEANING EFFICIENCY IN A PULSEJET CLEANED DUST COLLECTOR.** LI-MING LO, David Y. H. Pui, University of Minnesota, Minneapolis, MN, Shih-Cheng Hu, National Taipei University of Technology, Taipei, Taiwan, Da-Ren Chen, Washington University, St. Louis, MO (p.340)

8F Aerosol Charging (Platform)

Kellogg Suite

Mark Rusyniak, G. Kasper, Chairs

11:20

8F1 **DETERMINATION OF THE CHARGE DISTRIBUTION OF HIGHLY CHARGED AEROSOLS.** LARS HILLEMANN, Michael Stintz, TU Dresden, Dresden; Christoph Helsper, Fachhochschule Aachen, Jülich, Germany (p.688)

11:40

8F2 **NANOPARTICLE CAPTURE IN THE 6-15NM SIZE RANGE UTILIZING DIRECT SOFT X-RAY PHOTOIONIZATION AND DIFFUSION CHARGING: THEORY AND EXPERIMENTS.** CHRISTOPHER J. HOGAN JR., Jingkun Jiang, and Pratim Biswas, Environmental Engineering Science Program, Washington University, Saint Louis, MO, 63130, USA (p.690)

12:00

8F3 **COMBINED FIELD AND DIFFUSION CHARGING IN THE TRANSITION REGIME AT HIGH ION CONCENTRATIONS: MEASUREMENTS AND MODELING.** ANDREAS MARQUARD, Joerg Meyer, Gerhard Kasper, University of Karlsruhe (TH), Germany (p.692)

12:20

8F4 **CHARGING OF NANOPARTICLES BY A UV PHOTOIONIZER AT HIGH FLOW RATES.** ESTHER HONTANON, Ciemat, Madrid, Spain, F. Einar Kruis, University of Duisburg-Essen, Duisburg, Germany (p.694)

8G Aerosol Chemistry-I (Poster)
Minnesota Ballroom
Daniel Knopf, Paula Hudson, Chairs
11:20

8G1 **ENCHILADA: A DATA-MINING APPLICATION FOR THE ANALYSIS OF ATMOSPHERIC MASS SPECTROMETRY DATA.** DAVID MUSICANT, Anna Ritz, Thomas Smith, Deborah Gross, Carleton College, Northfield, MN;James Schauer, Lei Chen, Raghu Ramakrishnan, University of Wisconsin, Madison, WI (p.1020)

11:20

8G2 **DESIGN OF A NEW ION OPTICS FOR 100% DETECTION OF ENERGETIC IONS WITH 0 – 200 EV WITH SINGLE PARTICLE MASS SPECTROMETRY.** Sung-Woo Cho, DONGGEUN LEE, School of Mechanical Engineering, Pusan National University, Busan, Korea (p.1021)

11:20

8G3 **USING "WHITE" LIGHT MIE RESONANCE SPECTROSCOPY TO MEASURE THE VAPOR PRESSURE OF SINGLE, LEVITATED AEROSOL PARTICLES.** Alessandro Zardini and ULRICH K. KRIEGER, Institut für Atmosphäre und Klima, ETH Zürich, 8092 Zurich, Switzerland (p.1023)

11:20

8G4 **HIGH TIME RESOLUTION OF AEROSOL PARTICLES IN TORONTO USING A GAS-PARTICLE ION CHROMATROGRAPHY SYSTEM.** KRYSTAL GODRI, Greg J. Evans, University of Toronto, Toronto, ON, Canada (p.1025)

11:20

8G5 **20 NM SIZE PARTICES, – INORGANIC COMPOSITIONS -.** Katsumi Saitoh (1), Yuichi Komazaki (2), Koichiro Sera (3), Koichiro Hirano (4) and Tadashi Shirai (5), (1) Environmental Research and Information Center of Akita Prefecture, 3-1-1 Sanno, Akita 010-8572, Japan (2) Research Center for Advanced Science and Technology, University of Tokyo, Japan, (3) Cyclotron Research Center, Iwate Medical University, Takizawa, Japan (4) Yokohama City Research Institute of Environmental Science, , Yokohama, Japan (5) Tokyo Dylec Corp.,Tokyo, Japan (p.1027)

11:20

8G6 **APPLICATION OF SYNCHROTRON RADIATION FOR MEASUREMENT OF CHANGES IN FE(II) AND FE(III) IN ATMOSPHERICALLY PROCESSED AEROSOLS.** James J. Schauer, BRIAN J. MAJESTIC, Martin M. Shafer, Environmental Chemistry and Technology, University of Wisconsin – Madison, Madison, WI (p.1028)

11:20

8G7 **APPLICATION OF MAX-DOAS TO CANADIAN URBAN AND RURAL SITES.** Ryan J. C. D'Souza, Greg J. Evans, Department of Chemical Engineering, University of Toronto, Toronto, Canada, Jeffrey R. Brook, Air Quality Research Division, Environment Canada, Toronto, Canada (p.1030)

11:20

8G8 **EVAPORATION OF BINARY DROPLETS CONTAINING HIGHLY VOLATILE AND NONVOLATILE COMPONENTS.** ZHIQIANG GAO and Asit K. Ray, Department of Chemical Engineering, University of Kentucky, Lexington, KY (p.1031)

11:20

8G9 **AEROSOL NUCLEATION RATES OF SULFURIC ACID AND WATER MEASURED UNDER ATMOSPHERIC CONDITIONS.** RHONDA S. HIRSCHL, Shan-Hu Lee, Department of Chemistry, Kent State University (p.1032)

11:20

8G10 **DEVELOPMENT OF A THERMAL DESORPTION/CHEMICAL IONIZATION AEROSOL TIME-OF-FLIGHT MASS SPECTROMETER (CI-ATOFMS) FOR THE ON-LINE ANALYSIS OF NITROGEN-CONTAINING ORGANIC SPECIES IN THE AEROSOL PHASE.** HIROSHI FURUTANI, Joseph Mayer, University of California at San Diego, La Jolla, CA; Kimberly A. Prather, Scripps Institution of Oceanography and University of California at San Diego, La Jolla, CA (p.1033)

11:20

8G11 **SINGLE PARTICLE CHARACTERIZATION OF AMBIENT AIR AND EMISSION SOURCES IN WILMINGTON, DELAWARE USING RSMS-3.** MELISSA S. REINARD and Murray V. Johnston, University of Delaware, Newark, DE, USA (p.1034)

11:20

8G12 **CHARACTERIZATION OF THE AMBIENT SEMI-VOLATILE AND NON-VOLATILE AEROSOL BY ATOFMS AT THE STUDY OF ORGANIC AEROSOLS IN RIVERSIDE (SOAR) I AND II.** KERRI A. DENKENBERGER, Kimberly A. Prather, University of California, San Diego, La Jolla, CA; J. Alex Huffman, Jose L. Jimenez, University of Colorado, Boulder, CO (p.1036)

11:20

8G14 **TROPOSPHERIC MULTIPHASE CHEMISTRY OF 2,5-DIMETHYLPHENOL AND 2,6-DIMETHYLPHENOLS.** Pascal Diévart, Université des Sciences et Technologies de Lille, France, Lyassine Allou, Université Louis Pasteur, Strasbourg, France; Stéphane Le Calvé, Université Louis Pasteur, Strasbourg, France; FLORENT LOUIS, Université des Sciences et Technologies de Lille, France (p.1038)

11:20

8G15 **EFFECT OF ATMOSPHERIC PROCESSING ON SECONDARY ORGANIC AEROSOL CLOUD ACTIVATION.** KARA HUFF HARTZ, Gabriella Engelhart, Shaun R. Ferchak, Neil M. Donahue, Carnegie Mellon University, Pittsburgh, PA, USA; Thomas Rosenoern, Merete Bilde,University of Copenhagen, DK-2100, Copenhagen, Denmark; and Spyros N. Pandis, Carnegie Mellon University, Pittsburgh, PA, 15237, USA and University of Patras, Patra, 26504, Greece (p.1039)

11:20

8G16 **HETEROGENEOUS HYDROLYSIS OF N2O5 IN ORGANIC-COATED AQUEOUS AEROSOLS: THEORETICAL INTERPRETATION OF EXPERIMENTAL RESULTS.** TATU ANTTILA, Astrid Kiendler-Scharr, Ralf Tillmann and Thomas F. Mentel, ICG-II: Troposphäre, Forschungszentrum Jülich, 52425 Jülich, Germany (p.1041)

11:20

8G17 **DESORPTION OF ANIONIC AND NONIONIC SURFACTANT-FORMULATED HERBICIDES FROM SOILS TO THE AIR UNDER VARIOUS RELATIVE HUMIDITY CONDITIONS.** WENLI YANG, Britt Holmén, University of Connecticut, Storrs, CT (p.1043)

11:20

8G18 **A COMPUTATIONAL INVESTIGATION OF THE REACTION BETWEEN STABILIZED CRIEGEE BIRADICALS AND SULFURIC ACID.** Theo Kurtén, Boris Bonn, HANNA VEHKAMÄKI, Markku Kulmala, Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Helsinki, Finland. (p.1044)

11:20

8G19 **THE IMPACT OF AEROSOL COMPOSITION ON THE GAS TO PARTICLE PARTITIONING OF REACTIVE MERCURY.** ANDREW P. RUTTER, University of Wisconsin-Madison; James J. Schauer, University of Wisconsin-Madison and Wisconsin State Laboratory of Hygiene, Madison, WI (p.1046)

11:20

8G20 **HUMIDITY DEPENDENCE OF THE IV – III PHASE TRANSITION OF AMMONIUM NITRATE IN ATMOSPHERIC AEROSOLS.** HongBo Wu, CHAK K. CHAN, Department of Chemical Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong (p.1048)

11:20

8G21 **MODELING THE PHYSICAL STATES OF MIXED ORGANIC/INORGANIC AEROSOLS.** ANDREAS ZUEND, Claudia Marcolli, Beiping Luo, Thomas Peter, Institute for Atmospheric and Climate Science, ETH Zurich, Zurich, Switzerland (p.1050)

8H Health Effects and Bioaerosols (Poster)

Garden Court West

Leon Gradon, Jake McDonald, Chairs

11:20

8H1 **DIMENSIONAL ANALYSIS OF HYGROSCOPIC GROWTH KINETICS OF INHALED AEROSOLS: THE "COUPLING NUMBER".** Rawad Saleh, ALAN SHIHADEH, Aerosol Research Lab, American University of Beirut, Beirut, Lebanon (p.836)

11:20

8H2 **RAMAN CHEMICAL IMAGING FOR INGREDIENT-SPECIFIC PARTICLE SIZE CHARACTERIZATION OF AQUEOUS SUSPENSION NASAL SPRAY FORMULATIONS.** LINDA M. BATYKEFER, Matthew P. Nelson, Oksana Klueva, Patrick J. Treado, ChemImage Corporation, Pittsburgh, PA (p.838)

11:20

8H3 **CASCADE IMPACTOR QUALIFICATION: UTILIZING FLOW RESISTANCE TO PREDICT CHANGES IN THE EFFECTIVE JET DIAMETER OF CASCADE IMPACTOR STAGES.** CHRISTIAN LAVARREDA, Daryl Roberts, Francisco Romay, MSP Corporation, Shoreview, MN (p.840)

11:20

8H4 **PRODUCTION OF SHELL PARTICLES.** TOMASZ CIACH, Leon Gradon, Arkadiusz Moskal, Warsaw University of Technology, Warsaw, POLAND (p.841)

11:20

8H5 **NEBULIZER PERFORMANCE INFLUENCED BY IMPACTOR FLOW RATE.** YUE ZHOU, Lovelace Respiratory Research Institute, Albuquerque, NM; Amitkumar Ahuja, City of Hope Comprehensive Cancer Center and Beckman Research Institute, Duarte, CA; Yung-Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM (p.843)

11:20

8H6 **COMPARISON OF INHALER AEROSOL DEPOSITION IN THREE MOUTH-THROAT MODELS WITH IN VIVO DATA.** Yu Zhang and Warren H. Finlay; Department of Mechanical Engineering, University of Alberta, T6G 2G8, Edmonton, Alberta, Canada (p.844)

11:20

8H7 **PARTICULATE MATTER CONCENTRATIONS MEASURED IN A RESIDENTIAL NEIGHBORHOOD IN BROOKLYN, NEW YORK CITY DURING THE TRAFFIC-RELATED EXPOSURE STUDY (T-REX).** FU-LIN CHEN, Patricia Phousongphouang Rowley, Richard Baldauf, Russell Wiener, Fred Dimmick, US Environmental Protection Agency, RTP, NC; Michael Wheeler, Alion Science and Technology, NC (p.845)

11:20

8H8 **DNA DAMAGE INITIATED BY NICKEL SUBSULFIDE AND OTHER NICKEL SPECIES.** NICHOLAS RALSTON, Kevin Galbreath, Energy and Environmental Research Center, Grand Forks, ND; Edward Zillioux, Florida Power and Light, Juno Beach, FL (p.846)

11:20

8H9 **POTENTIAL HEALTH EFFECTS OF BIO-SOLUBLE FIBERGLASS AEROSOLS.** RÉKA SZÖKE, Ibolya Sziklai-Laszlo, MTA KFKI Atomic Energy Research Institute, Budapest, Hungary;Tibor Kerenyi, 2nd Department of Pathology, Semmelweis University, Budapest, Hungary; Marta Jackel, Central Hospital of Defence Forces, Department of Pathology, Budapest, Hungary (p.848)

11:20

8H10 **TO WHICH SHARE OF OUTDOOR SUB-MICROMETER PARTICLES HUMANS WILL BE REALLY EXPOSED INDOORS?** ("THE 3 INDOOR LS"). ULRICH FRANCK, Thomas Tuch, Maik Schilde, Maria Manjarrez, Olf Herbarth, UFZ – Centre for Environmental Research Leipzig – Halle, Leipzig, Alfred Wiedensohler, Institut for Tropospheric Research, Leipzig, Olf Herbarth, Department of Environmental Hygiene and Epidemiology, University of Leipzig, Leipzig (p.850)

11:20

8H11 **ASSESSMENT OF GASOLINE COMPOSITIONS ON MUTAGENICITY CHARACTERISTICS OF MOTORCYCLE PARTICULATE EMISSIONS.** Chih-Shan Li, TZU-YI HUANG, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, R.O.C. (p.852)

11:20

8H12 **CHARACTERIZATION OF COARSE (PM10-PM2.5) AND FINE (PM2.5) RESUSPENDED ROADWAY DUST IN THE NORTHEAST, SOUTHEAST, SOUTHWEST AND WESTERN U.S.** Jacob D. McDonald, JeanClare Seagrave, Ramesh Chand and Joe L. Mauderly (p.853)

11:20

8H13 **HEART RATE VARIABILITY (HRV) RESPONSES AND PARTICULATE EXPOSURES FOR INDIVIDUALS WHO LIVE NEAR A MAJOR UNITED STATES-CANADA TRADE BRIDGE IN BUFFALO, N.Y.** PETER A JAQUES, Timothy R. McAuley, Xing Sheng, Huang Zheng, Anirban Ghosh, Stephanie Schuckers, Andrea R. Ferro, Clarkson University, Potsdam, NY (p.854)

11:20

8H14 **DETERMINING CONSUMER YIELD-IN-USE BY ANALYSIS OF USED CIGARETTE FILTERS.** PAUL R. NELSON, Alma Campbell, Mitchell F. Stiles, John H. Robinson, R.J. Reynolds, Winston-Salem, NC (p.856)

11:20

8H15 **DEVELOPMENT OF A SMALL INHALATION SYSTEM FOR RODENT EXPOSURE TO FINE AND ULTRAFINE TITANIUM DIOXIDE AEROSOLS.** BEAN CHEN, David Frazer, Sam Stone, Diane Schwegler-Berry, Jared Cumpston, Walt McKinney, Bill Lindsley, Amy Frazer, Michelle Donlin, Kurt Vandestouwe, Vince Castranova, National Institute for Occupational Safety and Health, Morgantown, WV; Tim Nurkiewicz, West Virginia University, Morgantown, WV (p.858)

11:20

8H16 **SOURCE APPORTIONMENT OF FINE PARTICLES IN THE U.S. AND ASSOCIATIONS BETWEEN INFLAMMATORY MARKER IL-8.** RACHELLE M. DUVALL, Gary A. Norris, Janet M. Burke, National Exposure Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC; John K. McGee, M. Ian Gilmour, Robert B. Devlin, National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC (p.860)

11:20

8H17 **ELECTROSTATIC PRECIPITATION AS AN ALTERNATIVE METHOD FOR IN VITRO EXPOSURES TO MIXTURES OF GASES AND PARTICLES.** KIM M. DE BRUIJNE, Sandra W. Lake, Kenneth G. Sexton, Melanie L. Doyle, Seth M. Ebersviller, Harvey E. Jeffries, David H. Leith Department of Science and Engineering, University of North Carolina, Chapel Hill, NC, USA; Ilona Jaspers CEMALB, CHapel Hill, NC, USA; (p.861)

11:20

8H18 **COMPARING SEVERAL PM2.5 SOURCE-APPORTIONMENT RESULTS FOR USE IN A HEALTH STUDY IN ATLANTA, GEORGIA.** AMIT MARMUR, James A. Mulholland, Armistead G. Russell, Georgia Institute of Technology, Atlanta, GA; Eugene Kim, Philip K. Hopke, Clarkson University, Potsdam, NY; Jeremy A. Sarnat, Mitchel Klein, Paige E. Tolbert, Emory University, Atlanta, GA (p.863)

11:20

8H19 **ULTRAFINE PARTICLE CONCENTRATIONS NEAR FREEWAYS AT NIGHT OR EARLY MORNING UNDER CALM WIND CONDITIONS.** SCOTT A. FRUIN, California Air Resources Board, Sacramento, CA; Vlad Isakov, National Oceanic and Atmospheric Administration, Research Triangle Park, NC (p.865)

11:20

8H20 **AEROSOLIZED DUST PARTICULATES AND BIOAEROSOLS OF A DAIRY ON THE SOUTHERN HIGH PLAINS OF NEW MEXICO.** CHARLES W. PURDY, R. Nolan Clark, USDA-ARS, Conservation and Production Research Laboratory, Bushland, TX; David C. Straus, Health Sciences Center, Texas Tech University, Lubbock, TX (p.867)

11:20

8H21 **BSA COATING GOLD NANOPARTICLES IN ELECTROSPRAY PROCESS.** FAN MEI, Da-Ren Chen, Environmental Engineering Science Program, Washington University in St. Louis, St. Louis, MO (p.868)

11:20

8H22 **THE BIOLOGICAL COMPONENT OF ATMOSPHERIC AEROSOL AND ITS POSSIBLE EFFECT ON HUMAN HEALTH.** ALEXANDER S. SAFATOV, Irina S. Andreeva, Galina A. Buryak, Viktor V. Marchenko, Yurii V. Marchenko, Sergei E. Olkin, Irina K. Reznikova, Vladimir E. Repin, Alexander N. Sergeev, Federal State Research Institution «State Research Center of Virology and Biotechnology «Vector», Novosibirsk region, Russia; Vladimir V. Penenko, Elena A. Tsvetova, Institute of Computation Mathematics and Mathematical Geophysics, SB RAS, Novosibirsk, Russia; Mikhail Yu. Arshinov, Boris D. Belan, Mikhail V. Panchenko, Gennadii N. Tolmachev, Institute of Atmospheric Optics, SB RAS, Tomsk, Russia; Anatolii M. Baklanov, Konstantin P.

Koutsenogii, Valerii I. Makarov and Svetlana A. Popova, Institute of Chemical Kinetics and Combustion, SB RAS, Novosibirsk, Russia (p.870)

11:20

8H23 **USE OF GRAVITATIONAL SETTLING FOR QUANTITATIVE BIOAEROSOL MEASUREMENT.** GEDIMINAS MAINELIS and Jose Rivera, Department of Environmental Sciences, Rutgers University, NJ (p.872)

11:20

8H24 **EARTH BOUNDARY SUBLAYER OF BIOAEROSOLS AND FINE PARTICULATE MATTER.** DAVID S. ALBURTY, Andrew E. Page, Carol A. Pranulis, O.D., Deborah A. Larson, Alburtylab, Inc. Drexel, Missouri, USA. (p.873)

11:20

8H25 **BACKGROUND AIRBORNE BACTERIA AND VIRUS POPULATIONS IN AND NEAR BUILDINGS USING VENTILATION FILTERS AS LONG-TERM BIOAEROSOL COLLECTION DEVICES.** THOMAS KUEHN, Nicholas Stanley, Seung Won Kim, M.A. Ramakrishnan, Senthilvelan Anantharaman, Peter Raynor, Sagar Goyal, University of Minnesota, Minneapolis, MN (p.874)

11:20

8H26 **DEVELOPMENT AND CALIBRATION OF WHOLE-CELL REAL-TIME PCR FOR QUANTIFICATION OF TOTAL BACTERIAL NUMBER IN AIR SAMPLES.** HEY REOUN AN, Gediminas Mainelis, and Lori A. White, Rutgers, The State University of New Jersey, New Brunswick, NJ (p.875)

11:20

8H29 **DEMONSTRATION OF AN APPROACH TO DETERMINE THE NUMBER OF CULTURABLE BACTERIAL SPORES CONTAINED IN INDIVIDUAL BIOAEROSOL PARTICLES.** RYAN C. STOKES, Matthew J. Shaw, Battelle Memorial Institute, Columbus, OH (p.876)

11:20

8H30 **COMPARISON OF AIRBORNE BACTERIA AND FUNGI SAMPLING METHODS BETWEEN IMPACTION AND SEDIMENTATION TECHNIQUES FROM A HOSPITAL ENVIRONMENT.** PARADEE CHUAYBAMROONG, Naesinee Chaiear, Pipat Sribenjalux, Khon Kaen University, Khon Kaen, Thailand; Krisaneeya Sungkajuntranon, Buriram Community College, Buriram, Thailand (p.878)

11:20

8H31 **DEPOSITION OF BIOAEROSOL PARTICLES IN VENTILATION SYSTEM.** PIOTR GRZYBOWSKI, Faculty of Chemical and Process Engineering, Warsaw University of Technology, Warsaw, Poland (p.880)

11:20

8H32 **DEVELOPMENT OF SIMULATED DOWNWIND COAL COMBUSTION EMISSIONS EXPOSURE ATMOSPHERES FOR INHALATION TOXICOLOGY STUDIES.** Chandan Misra*, Rich K. White, Mark Gauna, and Jacob D. McDonald, Lovelace Respiratory Research Institute, 2425 Ridgecrest Dr SE, Albuquerque, NM 87108 (p.882)

Wednesday 12:40 PM – 2:00 PM
Lunch (on your own)

Wednesday 2:00 PM – 3:40 PM
Session 9
9A Ice Nucleation (Platform)
Minnesota Ballroom
Bill Malm, O. Stetzer, Chairs
2:00

9A1 **THE ZURICH ICE NUCLEATION CHAMBER (ZINC): FIRST RESULTS FROM LABORATORY AND FIELD MEASUREMENTS.** OLAF STETZER, Stefan Gedamke, Mathieu Nicolet, Peter Amsler, and Ulrike Lohmann, Institute for Atmospheric and Climate Science, ETH Zurich, 8092 Zurich, Switzerland (p.1358)

2:20

9A2 **A CLIMATOLOGY OF ICE IN ARCTIC, MIDLATITUDE AND TROPICAL CIRRUS: IMPLICATIONS FOR SUPERSATURATIONS AND NITRIC ACID PARTITIONING.** M. KRÄMER, C. Schiller, A. Afchine, I. Gensch, N. Spelten, S. Schlicht, FZ Jülich, ICG-I, Germany , N. Sitnikov, CAO, Region Moscow, Russia, Ch. Voigt and H. Schlager, DLR Oberpfaffenhofen, IPA (p.1359)

2:40

9A3 **MODELLING OF UT_LS AEROSOLS UNDER VARYING THERMODYNAMIC BOUNDARY CONDITIONS.** HELMUT BUNZ, Stefan Benz, Ottmar Möhler , Institut für Meteorolgie und Klimaforschung, IMK-AAF, Forschungszentrum Karlsruhe, 76021 Karlsruhe, Germany, Martina Krämer, Iulia Gensch, Institut für Chemie und Dynamik der Geosphäre, Forschungszentrum Jülich, 52425 Jülich, Germany (p.1360)

3:00

9A4 **EFFICIENCY OF THE DEPOSITION MODE ICE NUCLEATION ON MINERAL DUST PARTICLES.** OTTMAR MOEHLER, Institute for Meteorology and Climate Research, Forschungszentrum Karlsruhe, Germany; Paul Field, National Center for Atmospheric Research, Boulder, CO (p.1362)

3:20

9A5 **COUNTERFLOW VIRTUAL IMPACTOR BASED COLLECTION OF SMALL ICE PARTICLES IN MIXED-PHASE CLOUDS FOR THE PHYSICO-CHEMICAL CHARACTERISATION OF TROPOSPHERIC ICE NUCLEI.** Keith Bower, Paul Connolly, University of Manchester, Manchester, United Kingdom; Julie Cozic, Bart Verheggen, Ernest Weingartner, Paul Scherrer Institute, Villigen, Switzerland; Martin Ebert, Annette Worringen, Institute for Applied Geosciences, Darmstadt, Germany; STEPHAN MERTES, Leibniz institute for Tropospheric Research, Leipzig, Germany; Johannes Schneider, Saskia Walter, Max Planck Institute for Chemistry, Mainz, Germany (p.1363)

9B Elemental and Organic Carbon Atmospheric Aerosols-II (Platform)

Capitol Ballroom

Susanne Hering, A. Dillner, Chairs

2:00

9B1 **RADIOCARBON MEASUREMENTS IN ORGANIC CARBON (OC) AND ELEMENTAL CARBON (EC) REVEAL UNEXPECTEDLY HIGH CONTRIBUTIONS FROM RESIDENTIAL WOOD BURNING IN SWITZERLAND.** SOENKE SZIDAT, Theo M. Jenk, Bern University, Bern, Switzerland; Hans-Arno Synal, PSI c/o ETH Hoenggerberg, Zurich, Switzerland; Lukas Wacker, Markus Kalberer, ETH Hoenggerberg, Zurich, Switzerland; Andre S.H. Prevot, Urs Baltensperger, Paul Scherrer Institut (PSI), Villigen, Switzerland (p.1567)

2:20

9B2 **ANALYSIS OF AMBIENT AEROSOLS USING FTIR: SOURCE INFLUENCES AT AN IMPROVE SITE IN ARIZONA.** CHARITY COURY, Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ; Ann Dillner, Crocker Nuclear Laboratory, University of California, Davis, CA (p.1569)

2:40

9B3 **ELEMENTAL AND ORGANIC CARBON AT SANTIAGO, CHILE: 1997-2004.** HÉCTOR JORQUERA, Departmento de Ingeniería Química y Bioprocesos, Pontificia Universidad Católica de Chile, Vicuña Mackenna 4860, Santiago 6904411, Chile; Carlos Gómez, Chemical Metrology Center, Fundación Chile, Santiago, Chile. (p.1571)

3:00

9B4 **ANALYSIS OF CONTINUOUS CARBONACEOUS AEROSOL DATA IN PHOENIX, ARIZONA.** STEVE BROWN, David Vaughn, Theresa O'Brien, Sean Raffuse, Hilary Hafner, Paul Roberts, Sonoma Technology, Inc., Petaluma, CA; Michael Sundblom, Brant Englund, Arizona Department of Environmental Quality, Phoenix, AZ (p.1573)

3:20

9B5 **A METHOD FOR ONLINE OC DETECTION: THE PILS-WSOC TRANSFORMED TO PILS-OC.** RICHARD E. PELTIER, Amy P. Sullivan, Rodney J. Weber, School of Earth and Atmospheric Science, Georgia Tech, Atlanta, GA, James J. Schauer, David Snyder, Water Science and Engineering Laboratory, University of Wisconsin-Madison, Madison, Wisconsin, USA (p.1575)

9C Nanoparticle Measurement and Characterization (Platform)

Governors 1 and 5

Francisco J. Romay, Taesung Kim, Chairs

2:00

9C1 **MECHANICAL STABILITY OF METAL NANOPARTICLE AGGLOMERATES.** MARTIN SEIPENBUSCH, Alfred P. Weber, Institut für Mechanische Verfahrenstechnik und Mechanik, Universität Karlsruhe, Karlsruhe (Germany), Petya Toneva, Wolfgang Peukert, Lehrstuhl für Feststoff- und Grenzflächenverfahrenstechnik, Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany) (p.76)

2:20

9C2 **EXPERIMENTAL STUDY OF AERODYNAMIC FOCUSING OF NANOPARTICLES.** XIAOLIANG WANG, TSI Incorporated, St Paul, MN, USA, Peter H. McMurry, University of Minnesota, Minneapolis, MN, USA (p.78)

2:40

9C3 **A NANO-PARTICLE SAMPLER USING A DIFFERENTIAL MOBILITY ANALYZER AND ITS APPLICATION.** TOSHIHIKO MYOJO, Mariko Ono-Ogasawara, National Institute of Industrial Health, Kawasaki, Japan; Shinji Kobayashi, National Institute for Environmental Studies, Tsukuba, Japan (p.80)

3:00

9C4 **COMPARISON OF CHARGING EFFICIENCY OF A UNIPOLAR CORONA CHARGER AND A BIPOLAR NEUTRALIZER CONTAINING A RADIOACTIVE SOURCE.** Christian Laschober, WLADYSLAW W. VLADEK SZYMANSKI, Institute of Experimental Physics, University of Vienna, Vienna, Austria; Stanley L. Kaufman, TSI, Inc., St. Paul, MN, USA; Guenter Allmaier, Institute of Chemical Technologies and Analytics, Vienna University of Technology, Vienna, Austria (p.82)

3:20

9C5 **DESIGN AND DEVELOPMENT OF THE NANOPARTICLE CROSSFLOW DIFFERENTIAL MOBILITY ANALYZER (NCDMA).** DONG-KEUN SONG, Suresh Dhaniyala, Clarkson University, Potsdam, NY (p.83)

9D Respiratory Deposition (Platform)
Govenors 2 – 4
Imre Balashazy, Gedi Mainelis, Chairs
2:00

9D1 **EFFECTS OF BRONCHOCONSTRICTION ON PARTICLE DEPOSITION IN BRANCHING PEDIATRIC AIRWAY MODELS.** P. WORTH LONGEST and Samir Vinchurkar, Virginia Commonwealth University, Richmond, VA (p.883)

2:20

9D2 **SIZE-RESOLVED RESPIRATORY TRACT DEPOSITION OF ULTRAFINE HYDROPHOBIC AND HYGROSCOPIC PARTICLES DURING REST AND EXERCISE MEASURED ON 30 HUMAN SUBJECTS.** JAKOB LÖNDAHL, Andreas Massling, Joakim Pagels, Erik Swietlicki, Lund University, Lund, Sweden, Elvira Vaclavik, Peter Vinzents and Steffen Loft, Institute of Public Health, Copenhagen, Denmark (p.885)

2:40

9D3 **NUMERICAL STUDIES OF MOUTH-THROAT AEROSOL DEPOSITION USING LARGE EDDY SIMULATION.** Michael Breuer, Institute of Fluid Mechanics, Erlangen, Bavaria, Germany; Edgar Matida, Carleton University, Ottawa, ON, Canada; WARREN FINLAY, University of Alberta, Edmonton, AB, Canada (p.887)

3:00

9D4 **THE EFFECT OF THE LUNG'S STRUCTURAL ASYMMETRY ON VENTILATION AND PARTICLE DEPOSITION.** DAVID M. BRODAY and Yehuda Agnon, Civil and Environmental Engineering, Technion, Haifa, Israel (p.889)

3:20

9D5 **FIBER DEPOSITION IN THE HUMAN UPPER AIRWAYS.** WEI-CHUNG SU, Yung Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM (p.890)

9E Aircraft and Power Plant Emissions (Platform)
Wabasha Suite
Harry tenBrink, C. Sioutas, Chairs
2:00

9E1 **PHYSICO-CHEMICAL CHARACTERIZATION OF SOOT EMITTED BY A CFM56 AIRCRAFT ENGINE.** DAVID DELHAYE, Eliane Ruiz, ONERA, Châtillon, France; Sébastien Guedon, Olivier Penanhoat, SNECMA Villaroche Center, Moissy-Cramayel, France; Daniel Ferry, Benjamin Demirdjian, Jean Suzanne, CRMCN-CNRS, Marseille, France (p.224)

2:20

9E2 **AMBIENT PARTICULATE MATTER, BLACK CARBON AND AIR TOXICS EMITTED BY AIRCRAFT.** RONG CHUN YU, Bill Grant, John Froines, University of California at Los Angeles, Constantinos Sioutas, University of Southern California (p.225)

2:40

9E3 **CASE STUDY OF PARTICULATE EMISSIONS FROM IN-SERVICE C-130 MILITARY AIRCRAFT**. ALEXANDER LASKIN, Pacific Northwest National Laboratory, Richland, WA; Kenneth A. Cowen, Battelle Science and Technology International, Columbus OH; Michael L. Alexander, Yuri Desyaterik, James P. Cowin, Pacific Northwest National Laboratory, Richland, WA; Darrell W. Joseph, C. W. Spicer, Battelle Science and Technology International, Columbus OH (p.227)

3:00

9E4 **FIELD OBSERVATIONS OF PRIMARY SULFATE AND PRIMARY PARTICULATE CARBON IN COAL-FIRED POWER PLANT PLUMES.** ERIC EDGERTON, Atmospheric Research and Analysis, Inc, 410 Midenhall Way, Cary, NC, 27513, USA; Benjamin Hartsell, Atmospheric Research and Analysis, Inc, 730 Avenue F, Suite 220, Plano, TX, 75074, USA; John Jansen, Southern Company, 600 N. 18th Street, Birmingham, AL, 35291, USA (p.229)

3:20

9E5 **SEM AND TEM STUDIES OF CFM56 AIRCRAFT ENGINE SOOT : SIZE, STRUCTURE, AND MORPHOLOGY.** DAVID DELHAYE, Eliane Ruiz, ONERA, Châtillon, France; Sébastien Guedon, Olivier Penanhoat, SNECMA Villaroche Center, Moissy-Cramayel, France; Daniel Ferry, Benjamin Demirdjian, Jean Suzanne, CRMCN-CNRS, Marseille, France (p.231)

9F Optical Properties of Aerosols (Platform)
Kellogg Suite
Weiling Li, F. Wagner, Chairs
2:00

9F1 **DETERMINING FUNDAMENTAL OPTICAL PROPERTIES OF AMBIENT CARBONACEOUS AEROSOL PARTICLES.** Duncan T. L. Alexander, Peter A. Crozier, JAMES ANDERSON, Arizona State University, Tempe, AZ (p.695)

2:20

9F2 **HIGH-ORDER RUNGE-KUTTA DISCONTINUOUS GALERKIN METHOD FOR THE PROBLEM OF LIGHT SCATTERING BY SMALL PARTICLES.** Min-Hung Chen, National Cheng-Kung University, Tainan, Taiwan; L.-W. Antony Chen, Desert Research Institute, Reno, NV (p.697)

2:40

9F3 **PROPERTIES OF ANGSTROM EXPONENT FREQUENCY DISTRIBUTIONS.** FRANK WAGNER, Centro de Geofísica, Évora, PT (p.699)

3:00

9F4 **EVALUATION OF AN ITERATIVE METHOD FOR CALCULATING THE EFFECTIVE REAL REFRACTIVE INDEX OF ANTARCTIC BOUNDARY LAYER AEROSOLS.** AKI VIRKKULA, Kimmo Teinilä, Risto Hillamo, Veli-Matti Kerminen, Finnish Meteorological Institute, Research and Development,Helsinki, Finland, Ismo K.Koponen, Department of Chemistry, University of Copenhagen, Copenhagen, Denmark, Markku Kulmala, Department of Atmospheric Sciences, University of Helsinki, Helsinki, Finland (p.701)

3:20

9F5 **MULTIPLE SCATTERING MEASUREMENTS USING MULTISTATIC LIDAR.** JIN HYEN PARK, THE PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK, PA, C. R. Philbrick, The Pennsylvania State University, University Park, PA (p.703)

9G Aerosol Physics-III (Poster)
Garden Court East
David Kane, F. Prodi, Chairs
2:00

9G1 **MODELING THE TRANSPORT OF FLY ASH FROM COAL FIRED POWER PLANTS.** KENNETH NOLL, Obatosin Aluko, Dept. of Chemical and Environmental Engineering, Illinois Institute of Technology, Chicago, IL; Michael Pilat, Department of Civil Engineering, University of Washington, Seattle WA (p.705)

2:00

9G2 **RESIDENCE TIME OF ATMOSPHERIC AEROSOLS IN ASSOCIATION WITH RADIOACTIVE NUCLIDES.** CONSTANTIN PAPASTEFANOU1,2*, Alexandra Ioannidou2, 1.Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 37831 USA. 2. Atomic and Nuclear Physics Laboratory, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece. *Present address. (p.707)

2:00

9G3 **FILTER SAMPLING ARTEFACTS IN MEASUREMENTS OF MASS CONCENTRATION OF LUBRICANT OIL MIST DOWNSTREAM OF AN ELECTROSTATIC PRECIPITATOR.** Andrei Bologa, Klaus Woletz, HANNS-RUDOLF PAUR, Institut für Technische Chemie, Forschungszentrum Karlsruhe GmbH, Karlsruhe, Germany (p.709)

2:00

9G4 **DETERMINATION OF EXPERIMENTAL CORRELATIONS FOR AEROSOL DEPOSITION INTO CRACKED CONCRETE WALL.** THOMAS GELAIN, Jacques Vendel, Institut de Radioprotection et de Sûreté Nucléaire, Gif-sur-Yvette, France (p.711)

2:00

9G5 **PROGRESS IN SEMIEMPIRICAL DESIGN OF THE NUCLEATION RATE SURFACES.** MICHAEL ANISIMOV, Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk, Russia (p.713)

2:00

9G6 **DETECTING CHARGING STATE OF ULTRA-FINE PARTICLES: INSTRUMENTAL DEVELOPMENT AND AMBIENT MEASUREMENTS.** Stéphanie Gagné, Tuukka Petäjä, LAURI LAAKSO, Pasi Aalto, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.715)

2:00

9G7 **THE IMPLEMENTATION OF A DISCRETE NODAL MODEL TO PROBE THE EFFECT OF SIZE-DEPENDENT SURFACE TENSION ON NANOPARTICLE FORMATION AND GROWTH.** DIBYENDU MUKHERJEE, Anand Prakash and Michael R. Zachariah, University of Maryland, College Park, MD. (p.717)

2:00

9G8 **NUCLEATION SIMULATIONS WITH FLUENT-FPM.** ERIK HERRMANN, Markku Kulmala, University of Helsinki, Helsinki, Finland; Antti Hyvärinen, Heikki Lihavainen, Finnish Meteorological Institute, Helsinki, Finland (p.719)

2:00

9G9 **FLUX DENSITY OF VAPOR INTO AEROSOL PARTICLE IN THE PRESENCE OF ADSORBABLE FOREIGN GAS.** VALERI LEVDANSKY, Heat and Mass Transfer Institute NASB, Minsk, Belarus; Jiri Smolik, Vladimir Zdimal, Pavel Moravec, Institute of Chemical Process Fundamentals AS CR, Prague, Czech Republic (p.721)

2:00

9G10 **DYNAMICS OF EVAPORATION OF SMALL WATER CLUSTERS.** Ismo Napari, HANNA VEHKAMÄKI, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.722)

2:00

9G11 **QUNTUM NATURE OF THE SIGN PREFERENCE.** ALEXEY NADYKTO; Fangqun Yu, SUNY Albany, ASRC, NY; Anas Al Natsheh, University of Kuopio, Kuopio, Finland (p.723)

2:00

9G12 **A POSSIBLE ORIGIN OF THE ERROR IN THE NUCLEATION RATE CALCULATIONS BY THE CLASSICAL THEORY OF HETEROGENEOUS NUCLEATION.** ANTTI LAURI, Evgeni Zapadinsky, Joonas Merikanto, Hanna Vehkamäki, Markku Kulmala, University of Helsinki, Finland (p.725)

2:00

9G13 **INVESTIGATING AEROSOL PROPERTIES WITH CONDENSATION MODELS.** ILONA RIIPINEN, Heli Hietala, Ville Tilvis, Anca I. Gaman, Timo Vesala, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland; Paul M. Winkler, Paul E. Wagner, Institut für Experimentalphysik, Universität Wien, Austria; Kari E.J. Lehtinen, Finnish Meteorological Institute and University of Kuopio, Finland (p.727)

2:00

9G14 **COMPARISON BETWEEN MONTE CARLO NUCLEATION SIMULATIONS AND THE CLASSICAL NUCLEATION THEORY.** JOONAS MERIKANTO, Evgeni Zapadinsky, Hanna Vehkamäki, Antti Lauri, Department of Physical Sciences, University of Helsinki, Finland (p.729)

2:00

9G15 **ROLE OF ELECTRICAL CONDUCTIVITY ON CHARGE INSTABILITY INDUCED BREAKUPS OF DROPLETS.** HARRY HUNTER and Asit K. Ray, Department of Chemical Engineering, University of Kentucky, Lexington, KY 40506-0045, USA (p.730)

2:00

9G16 **A KINETICALLY CORRECT MODEL FOR HETEROGENEOUS NUCLEATION.** Anni Määttänen, HANNA VEHKAMÄKI, Antti Lauri, Ismo Napari, Markku Kulmala, University of Helsinki, Finland; Paul E. Wagner, Universität Wien, Austria (p.731)

2:00

9G17 **PARTICLE FORMATION BY OZONOLYSIS OF INDUCIBLE PLANT VOLATILES.** PASI MIETTINEN, Department of Applied Physics, University of Kuopio, Kuopio, Finland; Jarmo Holopainen, Department of Ecology and Environmental Science, University of Kuopio, Kuopio, Finland; Jorma Joutsensaari, Department of Environmental Sciences, University of Kuopio, Kuopio, Finland; (p.733)

2:00

9G18 **ANTI-CORRELATIONS OF PARTICLE MODES AND FRAGMENTATION THEOREM FOR COMBUSTION AEROSOLS.** DMITRI K. GRAMOTNEV, Galina Gramotnev , Applied Optics Program, School of Physical and Chemical Science, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia (p.734)

2:00

9G19 **EVAPORATIVE COOLING OF AEROSOL DROPLETS AND NANOPARTICLES GROWTH IN A LOW PRESSURE AEROSOL REACTOR.** SERGEY P. FISENKO, National Academy of Sciences, Minsk, Belarus; WEI-NING WANG, I. Wuled Lenggoro, Kikuo Okuyama, Hiroshima University, Higashi-Hiroshima, Japan (p.736)

2:00

9G20 **PHYSICAL CHARACTERISATION OF ATMOSPHERIC AEROSOL PARTICLES OVER AN "URBAN-COASTAL ZONE".** AUROMEET SAHA, Serge Despiau, Tathy Missamou, Universite du Sud Toulon-Var, France (p.738)

2:00

9G21 **PARAMETERIZATION OF AEROSOL SIZE DISTRIBUTION USING CONSTRAINED MATRIX FACTORIZATION.** HEIKKI JUNNINEN, Markku Kulmala; University of Helsinki, Helsinki, Finland (p.740)

2:00

9G22 **MEASUREMENTS OF THERMOPHORETIC VELOCITIES OF AEROSOL PARTICLES IN MICROGRAVITY CONDITIONS IN DIFFERENT CARRIER GASES.** FRANCO PRODI, Gianni Santachiara, Lorenza Di Matteo, Institute ISAC-CNR, Bologna, Italy, Andrei Vedernikov, Microgravity Research Center, Université Libre de Bruxelles, Belgium, Sergey Beresnev, Vladimir Chernyak, Ural State University, Ekaterinburg, Russia (p.741)

2:00

9G23 **DETERMINATION OF THE EFFECTIVE DENSITY OF FRACTAL AGGREGATES BY SERIAL ANALYSIS OF ELECTRICAL MOBILITY AND AERODYNAMIC DIAMETERS: ESTABLISHMENT OF A DENSITY PROFILE FROM PRIMARY PARTICLES TO AGGREGATES.** FRANCOIS-XAVIER OUF, Jacques Vendel, Institut de Radioprotection et de Sûreté Nucléaire, Laboratoire de Physique et Métrologie des Aérosols, Gif-sur-Yvette Cedex, France; Alexis Coppalle, Marc-Emmanuel Weill, Jérôme Yon, Complexe de Recherche Interprofessionnelle en Aérothermochimie, UMR 6614, Saint-Etienne du Rouvray Cedex, France (p.742)

2:00

9G24 **EFFECT OF DIESEL PARTICLES ON THE PHOTOCHEMICAL REACTIONS OF DIESEL EXHAUST-TOLUENE MIXTURE.** Seung-Bok Lee, GWI-NAM BAE, Kil-Choo Moon, Korea Institute of Science and Technology, Seoul, Korea; Mansoo Choi, Seoul National University, Seoul, Korea (p.744)

2:00

9G25 **AEROSOL DISPERSION MODELING WITH PROBABILISTIC IMPLICIT PARTICLE TRACKING ALGORITHM.** ANDREI SMIRNOV, Steven Rowan, James McCormick, West Virginia University, Morgantown, WV (p.745)

9H Biomass Combustion and Organic Emissions (Poster)
Garden Court East
P. Yli-Pirila, J. Schauer, Chairs
2:00

9H1 **NEW ESTIMATION METHOD OF GASEOUS POLLUTANTS EMISSIONS FROM DIESEL LOCOMOTIVES.** DUCKSHIN PARK, Youngmin Cho, Korea Railroad Research Institute, Uiwang, Kyonggi, Korea; Dongsool Kim, Kyunghee University, Yongin, Kyonggi, Korea (p.232)

2:00

9H2 **EMISSIONS OF POLYBROMINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS FROM THE PYROLYSIS OF PRINTED CIRCUIT BOARDS.** Yi-Chieh Lai, Wen-Jhy Lee, National Cheng Kung University, Tainan, Taiwan; Lin-Chi Wang, Guo-Ping Chang-Chien, Cheng-Shiu University, Kaohsiung, Taiwan (p.234)

2:00

9H3 **EMISSIONS OF POLYBROMINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS FROM INDUSTRIAL WASTE INCINERATORS.** Lin-Chi Wang, I-Ching Wang, I-Cheng Chou and Guo-Ping Chang-Chien, Department of Chemical and Materials Engineering, Cheng Shiu University. Kaohsiung, Taiwan, ROC (p.236)

2:00

9H4 **FINE PARTICLE AND TOXIC HEAVY METAL EMISSIONS FROM WASTE INCINERATION.** JOUNI HOKKINEN, Carl Wilen, Antero Moilanen, VTT Technical Research Centre of Finland, Jorma K. Jokiniemi, VTT Technical Research Centre of Finland and University of Kuopio, Department of Environmental Sciences, Fine Particle and Aerosol Technology Laboratory, Risto Hillamo,

Ulla Makkonen, Karri Saarnio, Finnish Meteorological Institute (p.238)

2:00

9H5 **THE EFFECTS OF SULFUR AND CHLORINE ADDITIVES ON PARTICLE FORMATION IN WOOD COMBUSTION.** OLLI M. J. SIPPULA, Jorma K. Jokiniemi, University of Kuopio, Department of Environmental Sciences, Fine Particle and Aerosol Technology Laboratory, Kuopio, Finland, Terttaliisa Lind, Jorma K. Jokiniemi, VTT Technical Research Center of Finland, Fine Particles, Espoo, Finland (p.239)

2:00

9H6 **RESIDENTIAL BIOMASS COMBUSTION AEROSOLS – INFLUENCE OF COMBUSTION CONDITIONS ON PHYSICAL AND CHEMICAL PARTICLE CHARACTERISTICS.** JOAKIM PAGELS, Jenny Rissler, Andreas Massling, Jakob Löndahl, Erik Swietlicki, Lund University, Lund, Sweden; Christoffer Boman, Umeå University, Umeå, Sweden (p.240)

2:00

9H7 **PARTICLE EMISSIONS FROM TWO DISTRICT HEATING UNITS OPERATING ON BIOFUEL AND HEAVY FUEL OIL.** PASI YLI-PIRILÄ, Olli Sippula, Pentti Willman, Jorma Jokiniemi, University of Kuopio, Kuopio, Finland; Jouni Hokkinen, Harri Puustinen, Jorma Jokiniemi, Technical Research Centre of Finland, Espoo, Finland (p.242)

2:00

9H8 **FINE PARTICLE CHARACTERISATION BY ELECTRON MICROSCOPY IN A SMALL SCALE MASONRY HEATER DURING POOR AND GOOD COMBUSTION CONDITIONS.** Jorma Jokiniemi, JUSSI LYYRÄNEN, Unto Tapper, VTT Technical Research Centre of Finland, Fine Particles; Jorma Jokiniemi, Jarkko Tissari, University of Kuopio, Fine Particle and Aerosol Technology Laboratory (p.244)

2:00

9H9 **PAH EMISSIONS FROM A MASONRY HEATER IN SMALL SCALE WOOD COMBUSTION.** KATI HYTÖNEN, Jarkko Tissari, Pasi Yli-Pirilä, Jorma Jokiniemi, University of Kuopio, Kuopio, Finland; Jorma Jokiniemi, VTT Technical Research Center, Espoo, Finland (p.245)

2:00

9H10 **INVESTIGATION OF FIRE SMOKE SPREAD IN A TOWNHOUSE BUILDING.** C.S. Lin, S.C. WANG, C.B. Huang, Yuan Ze University, Taiwan, ROC. (p.247)

2:00

9H11 **UNDERSTANDING THE ORIGIN OF CARBONACEOUS AEROSOLS IN THE NORTHERN INDIAN OCEAN.** ELIZABETH A. STONE, James Schauer, University of Wisconsin-Madison, Madison, WI (p.249)

9H Materials Synthesis-I (Poster)

Garden Court East

J. Jokineimi, Wuled Lengoro, Chairs

2:00

9H12 **A NEW DESIGN OF THE ELECTROSPRAY PYROLYSIS SYSTEM USING PREMIXED FLAME AND SYNTHESIS OF CERIA NANOPARTICLES.** HYUNCHEOL OH, Sangsoo Kim, KAIST, Daejeon, Republic of Korea (p.32)

2:00

9H13 **FLAME SYNTHESIS OF LINI1-Y-ZMNYCOZO2 NANOPARTICLES USING AN ULTRASONIC ATOMIZER.** HEE DONG JANG, Hankwon Chang, Korea Institute of Geoscience and Mineral Resources, Korea; Churl-Kyoung Lee, Kumoh National Institute of Technology, Korea (p.33)

2:00

9H14 **TWO-STAGE SPRAY PYROLYSIS NANOPARTICLE GENERATOR.** Shang-Cong Cheng, Curtis Fekety, ANDREY FILIPPOV, Damon Osterhout, Carlton Truesdale, Marc Whalen, Sullivan Park Research Center, Corning, NY. (p.35)

2:00

9H15 **PRODUCTION OF SILVER NANOPARTICLE BY DC PLASMA JET.** Sang Hoon Lee, DONG-WHA PARK, Inha University, Incheon, Korea; Seung-Min Oh, Daejoo Electronic Material Co., Siheung-shi, Kyunggi-do, Korea (p.36)

2:00

9H16 **AEROSOL SYNTHESIS OF NANOPOROUS SILICA.** RAGHURAMAN PITCHUMANI, Physical Chemistry and Molecular Thermodynamics and Nanostructured Materials, DelftChemTech, Delft University of Technology, Delft, The Netherlands; Marc-Olivier Coppens, Physical Chemistry and Molecular Thermodynamics, DelftChemTech, Delft University of Technology, Delft, The Netherlands; Andreas Schmidt-Ott, Nanostructured Materials, DelftChemTech, Delft University of Technology, Delft, The Netherlands (p.38)

2:00

9H17 **HIGHLY POROUS NANOSTRUCTURED MATERIALS FROM IMPACTED NANOPARTICLES.** CHRISTIAN PEINEKE and Andreas Schmidt-Ott, DCT/Nanostructured Materials,Delft University of Technology, Delft, The Netherlands (p.39)

2:00

9H19 **AEROSOL GROWTH OF CARBON NANOTUBES ON BIMETALLIC NANOCOMPOSITE PARTICLES PRODUCED BY SPRAY PYROLYSIS.** SOO H. KIM, Michael R. Zachariah, University of Maryland, College Park, MD and National Institute of Standards and Technology, Gaithersburg, MD (p.41)

2:00

9H20 **SILVER NANOPARTICLES BY SUPERSONIC NOZZLE EXPANSION: SYNTHESIS AND THERMAL CHARGING.** JAE HEE JUNG, Sang Soo Kim, Korea Advanced Institute of Science and Technology, Daejeon, KOREA. (p.42)

2:00

9H21 **SYNTHESIS OF THE METAL NANOPARTICLES USING FLAT PLATE TYPE HEATER.** JAE HEE JUNG, Hyun Cheol Oh, Sang Soo Kim, Korea Advanced Institute of Science and Technology, Daejeon, KOREA., Hyung Soo Noh, Jun Ho Ji, Samsung Electronics, Suwon, KOREA. (p.43)

2:00

9H22 **GENERATION OF UNAGGLOMERATED NANOPARTICLES BY LASER ABLATION IN THE SOLUTION WITH UNIPOLAR CHARGE BY ELECTROSPRAY.** Joonghyuk Kim, Sangbok Kim and Sang Soo Kim, KAIST, Daejeon, Republic of Korea (p.44)

2:00

9H23 **ONE-STEP PREPARATION OF BARIUM TITANATE NANOPARTICLES VIA AN AEROSOL ROUTE.** WEI-NING WANG, I. Wuled Lenggoro, Kikuo Okuyama, Hiroshima University, Higashi-Hiroshima, Japan (p.45)

2:00

9H24 **COATING CARBON NANOTUBES WITH AEROSOL NANOPARTICLES.** Ganhua Lu, JUNHONG CHEN, University of Wisconsin-Milwaukee, Milwaukee, WI (p.46)

2:00

9H25 **EFFECTS OF PULSE MODULATIONS ON PARTICLE GROWTH IN SILANE PLASMA REACTOR.** DONG-JOO KIM and Kyo-Seon Kim, Department of Chemical Engineering, Kangwon National University, Chuncheon, Kangwon-Do, Korea (p.47)

2:00

9H26 **PRODUCTION OF REFRACTORY SUBSTANCES NANOPOWDERS BY ELECTRON ACCELERATOR AT ATMOSPHERIC CONDITIONS.** SERGEY P. BAR-DAKHANOV, 1Khristianovich Institute of Theoretical and Applied Mechanics of SB RAS, Novosibirsk, Russia; A.I. Korchagin, N.K. Kuksanov, A.V. Lavrukhin, R.A. Salimov, S.N. Fadeev, V.V. Cherepkov and M.G.Golkovski, Budker Institute of Nuclear Physics of SB RAS, Novosibirsk, Russia (p.48)

2:00

9H27 **EFFECT OF OPERATING CONDITIONS ON THE CHARACTERISTICS OF MICRO- AND NANO-POWDERS SYNTHESIZED BY SPRAY DRYING AND PYROLYSIS.** MORTEZA ESLAMIAN, Nasser Ashgriz, Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, ON, Canada (p.49)

Wednesday 3:40 PM – 4:00 PM
Coffee Break
Great River Ballroom, Garden Courts East and West

Wednesday 4:00 PM – 5:20 PM
Session 10
10A Urban Aerosol-V (Platform)
Minnesota Ballroom
Karle Hameri, S. Sobanska, Chairs
4:00

10A1 **SMALL SCALE VARIABILITY OF THE URBAN AEROSOL IN LEIPZIG, GERMANY.** THOMAS M. TUCH, Dieter Bake, Wolfram Birmili, Ulrich Franck, Korinna König, Maik Schilde, Andre Sonntag, Alfred Wiedensohler, Department of Human Exposure Research and Epidemiology, UFZ Centre for Environmental Research, Department of Physics, Leibniz Institute for Tropospheric Research, , Federal Environmental Agency, Berlin, Germany (p.1818)

4:20

10A2 **ELEMENTAL AND MOLECULAR MICRO IMAGING OF URBAN AEROSOL PARTICLES FROM A COASTAL CITY**. Juliette Rimetz, SOPHIE SOBANSKA, Jacky Laureyns, Claude Brémard, LAboratoire de Spectrochimie Infrarouge et Raman, Villeneuve d'Ascq, France; Espéranza Perdrix, Ecole des Mines de Douai, France. (p.1820)

4:40

10A3 **EMISSIONS AND CONCENTRATIONS OF SIZE DISTRIBUTED NUMBERS OF SUBMICROMETER URBAN PARTICLES.** SARA JANHÄLL, Magnus Hagström, Mattias Hallquist, Ardhendu Shannigrahi, Department of Chemistry, Atmospheric Science, Göteborg University, Sweden (p.1821)

5:00

10A4 **URBAN-SCALE VARIABILITY OF AMBIENT PARTICULATE MATTER ATTRIBUTES.** TAL FREIMAN, Nurit Hirshel and David Broday, Technion – Israel Institute of Technology, Haifa, Israel (p.1822)

10B CCN Regional Effects (Platform)
Capitol Ballroom
John Ogren, C. Twohy, Chairs
4:00

10B1 **CCN ACTIVITY OF CLOUD PROCESSED ORGANIC AEROSOL COLLECTED DURING MASE 2005.** AKUA ASA-AWUKU, Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA; Armin Sorooshian, John H. Seinfeld, California Institute of Technology, Pasadena, CA (p.1365)

4:20

10B2 **MEASURING WATER-AEROSOL INTERACTIONS DOWNWING OF MEXICO CITY: INFERENCES ABOUT CHEMICAL COMPOSITION AND AGING OF AMBIENT AEROSOLS.** SARA LANCE, Timothy VanReken, Matthew J. Dunn, James N. Smith, National Center for Atmospheric Research, Boulder, CO; Luz Padro, Akua Asa-Awuku, Amy Sullivan, Rodney Weber, Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA; Michael Hannigan, University of Colorado, Boulder, CO (p.1367)

4:40

10B3 **CHARACTERISTICS OF CLOUD CONDENSATION NUCLEI AND ICE NUCLEI IN DIFFERENT CLOUD TYPES AND REGIONS.** CYNTHIA TWOHY, Oregon State University, Corvallis, OR; James Anderson, Peter Crozier, Arizona State University, Tempe, AZ; James Hudson, Desert Research Institute, Reno, NV (p.1369)

5:00

10B4 **THE EFFECT OF PREEXISTING AMMONIUM SULFATE SEED AEROSOL ON SECONDARY ORGANIC AEROSOL FORMATION IN IRRADIATED TOLUENE/NOX/AIR MIXTURES.** ZIFENG LU, Jiming Hao, Junhua Li, Shan Wu, Zhe Zhao, Tsinghua University, Beijing, CN; Hideto Takekawa, Toyota Central Research and Development Laboratory, Nagakute, Aichi, JP (p.1370)

10C Nanoparticle Measurement and Characterization (Platform)

Governors 1 and 5

Vladek Szymanski, Alfred P. Weber, Chairs

4:00

10C1 **FIRST LDA MEASUREMENT OF NANOPARTICLE VELOCITIES IN LOW PRESSURE JETS.** ALFRED P. WEBER, Clausthal University of Technology, Germany , Kerstin Reuter, Gerhard Kasper, University of Karlsruhe, Germany, Stefan Roesler, University of Applied Sciences of Esslingen, Germany (p.84)

4:20

10C2 **DESIGN, PERFORMANCE AND APPLICATION OF A NANO-AEROSOL MASS SPECTROMETER (NAMS) FOR CHEMICAL CHARACTERIZATION OF INDIVIDUAL AIRBORNE NANOPARTICLES.** Shenyi Wang, Christopher A. Zordan, MURRAY V. JOHNSTON, Department of Chemistry and Biochemistry, University of Delaware, Newark, DE (p.86)

4:40

10C3 **FIELD EXPERIENCES WITH A NEW KIND OF SMPS+E.** CHRISTIAN GERHART, Thomas Rettenmoser, Hans Grimm, Grimm Aerosol Technik GmbH, Ainring, Germany, Mathias Richter, GIP GmbH, Pouch, Germany (p.88)

5:00

10C4 **COMPARISON OF TWO METHODS FOR ESTIMATING SURFACE AREA CONCENTRATION USING NUMBER AND MASS CONCENTRATIONS.** JI YOUNG PARK, Gurumurthy Ramachandran, Peter C. Raynor, Lynn E. Eberly, University of Minnesota, Minneapolis, MN; Andrew D. Maynard, Woodrow Wilson International Center for Scholars Project on Emerging Nanotechnologies, Washington, D.C., MD (p.89)

10D Pharmaceutical Aerosols (Platform)

Govenors 2 – 4

Bahman Asgharian, Tomasz Ciach, Chairs

4:00

10D1 **PULSED-CONTROLLED GROUPING OF MEDICAL AEROSOL PARTICLES – A NEW ADMINISTRATION CONCEPT.** TAL SHAKKED,David Katoshevski, Institute for Applied Biosciences, Ben-Gurion University of the Negev, Israel (p.892)

4:20

10D2 **RAPID SPRAY-FREEZE-DRYING, HIGH EFFICIENCY INHALATION DELIVERY FOR POWDERS CONTAINING ANTI-CANCER CONTAINING DRUG-LOADED NANOPARTICLES.** Lyle G. Sweeney, Zhaolin L. Wang, WARREN H. FINLAY, M. Peppler, Hua Chen, Raimar Loebenberg, Wilson Roa, University of Alberta, Edmonton, Canada (p.894)

4:40

10D3 **ELECTROHYDRODYNAMIC SPRAYING OF LIPID NANOPARTICLES FOR DRUG DELIVERY.** YUN WU, Weiwei Hu, Jeffrey Chalmers, and Barbara Wyslouzil, Department of Chemical and Biomolecular Engineering, The Ohio State University,Columbus, OH (p.896)

5:00

10D4 **EFFECT OF AIRFLOW TURBULIZERS ON AEROSOL EMISSION FROM A POWDER LAYER.** TOMASZ R. SOSNOWSKI, Pawel; Bernatek, Leon Gradon; Warsaw University of Technology, Warsaw, POLAND (p.898)

10E Biomass Combustion (Platform)

Wabasha Suite

Matti Maricq, J. Chow, Chairs

4:00

10E1 **FINE PARTICLE EMISSIONS FROM RURAL HOUSEHOLD BIOFUEL COMBUSTION IN CHINA.** XINGHUA LI , Jiming Hao, Lei Duan, Jingchun Duan, Xingming Guo, Honghong Yi, Tsinghua University, Beijing, China (p.250)

4:20

10E2 **EMISSION COMPARISON OF THE POOR AND GOOD COMBUSTION OF WOOD IN THE SMALL MASONRY HEATER.** JARKKO TISSARI. Kati hytönen, Pasi Yli-Pirilä, Valtteri Suonmaa, Timo Turrek, Pentti Willman, Jorma Jokiniemi, University of Kuopio, Jussi Lyyränen, VTT, Technical Research Centre of Finland (p.252)

4:40

10E3 **EMISSION FACTORS FOR CARBON MONOXIDE, ELEMENTAL CARBON, AND LIGHT ABSORPTION FROM LABORATORY COMBUSTION OF WILDLAND FUELS.** L.-W. Antony Chen, Hans Moosmüller, W. Pat Arnott, Judith Chow, John Watson, Desert Research Institute, Reno, NV; Ronald Susott, Ronald Babbitt, Cyle Wold, Emily Lincoln. Wei Min Hao, USDA Forest Service, Missoula, MT (p.254)

5:00

10E4 **EFFECT OF FLUE GAS RE-CIRCULATION AND FUEL GASIFICATION ON FINE PARTICLE EMISSIONS FROM A SMALL-SCALE BIOMASS POWER PLANT.** ERKKI LAMMINEN, Elina Nieminen, Henna Tuomenoja, Ville Niemelä, Ari Ukkonen, Dekati Ltd., Tampere, Finland (p.256)

10F Modeling Aerosol Properties (Platform)
Kellogg Suite
L. Russell, Ari Laaksonen, Chairs
4:00

10F1 **MONTE CARLO SIMULATION OF DEPOSIT FORMATION FROM AEROSOL PARTICLES.** JOSE L. CASTILLO, Daniel Rodriguez-Perez, J. Carlos Antoranz, UNED, Madrid (Spain) (p.747)

4:20

10F2 **MOLECULAR DYNAMICS SIMULATIONS OF DELIQUESCENCE IN ATMOSPHERIC IONIC NANOPARTICLES.** RANJIT BAHADUR, Lynn M. Russell, Scripps Institution of Oceanography, La Jolla CA; Scot T. Martin, Harvard University, Cambridge MA; Peter R. Buseck, Arizona State University, Tempe AZ (p.749)

4:40

10F3 **THE EFFECT OF SURFACTANT PARTITIONING ON CRITICAL SUPERSATURATION OF CLOUD DROPS: A GENERALIZED APPROACH.** RIIKKA SORJAMAA, Ari Laaksonen, University of Kuopio, Department of Applied Physics, Kuopio, Finland (p.751)

5:00

10F4 **IMPLEMENTATION IN FLUENT OF A NEW STOCHASTIC MODEL FOR PARTICLE DISPERSION IN TURBULENT FLOWS.** ABDELOUAHAB DEHBI, Paul Scherrer Institute, Villigen, Switzerland, W. Timm, Fluent Deutschland GmbH (p.753)

10G Aerosol Chemistry-II (Poster)
Garden Court East
Astrid Kiendler-Scharr, Michael Zachariah, Chairs
4:00

10G1 **SURFACE MODIFICATIONS OF MULTI-WALLED CARBON NANOTUBES.** YU-CHUN CHIANG, Chen-Yueh Lee, Yuan Ze University,Taoyuan, Taiwan, Chien-Cheng Lee, Yuan Ze University, Taoyuan, Taiwan (p.1051)

4:00

10G2 **TOPOLOGIES OF NUCLEATION RATE SURFACES FOR LASER ABLATION OF SOLIDS.** MICHAEL ANISIMOV, Anatoli M. Baklanov, and Tat'yana I. Golavskaya, Institute of Chemical Kinetics and Combustion SBRAS, 630090, Novosibirsk, Russia. E-mail: anisimovmp@mail.ru; Philip K, Hopke, Clarkson University, Box 5708, NY 13699-5708, Potsdam, USA (p.1053)

4:00

10G3 **MULTI-CHANNEL VAPOR NUCLEATION: SEQUENCE OF DIFFERENT PHASE GENERATION.** MICHAEL ANISIMOV, Institute of Kemical Kinetics and Combustion SBRAS, 630090, Novosibirsk, Russia, E-mail: anisimovmp@mail.ru; Vladimir Akimov, Department of Mechanics, Fare Eastern University of Transport, 68022, Khabarovsk, Russia (p.1055)

4:00

10G4 **A COMPARISON OF I2O5 AND SIO2 NANOPARTICLE MORPHOLOGIES AND GROWTH MECHANISMS.** RUSSELL SAUNDERS, John Plane,University of Leeds, UK (p.1057)

4:00

10G5 **KINETICS, THERMODYNAMICS AND COAGULATION STUDIES OF MANIPULATED AEROSOL DROPLETS.** JARIYA BUAJARERN, Laura Mitchem, Jonathan P. Reid, University of Bristol, Bristol, UK; Andrew D. Ward, CCLRC, Rutherford Appleton Laboratory, Didcot, UK (p.1058)

4:00

10G6 **GROWTH KINETICS MEASUREMENT OF AEROSOL CARBON NANOTUBES BY ELECTRICAL MOBILITY CLASSIFICATION.** SOO H. KIM, Michael R. Zachariah, University of Maryland, College Park, MD and National Institute of Standards and Technology, Gaithersburg, MD (p.1059)

4:00

10G7 **EFFECT OF CHARGE-DIPOLE INTERACTION ON THE EVAPORATION OF POLAR MOLECULES FROM CHARGED CLUSTERS.** FANGQUN YU, State University of New York at Albany, Albany, NY (p.1060)

4:00

10G8 **COMPONENT AND MORPHOLOGY BIASES ON QUANTIFYING SIZE AND COMPOSITION OF NANOPARTICLES USING SINGLE-PARTICLE MASS SPECTROMETRY.** LEI ZHOU, Ashish Rai and Michael R. Zachariah, Department of Mechanical Engineering and Department of Chemistry and Biochemistry, University of Maryland, College Park, 20742, USA (p.1062)

4:00

10G9 **THERMODYNAMIC CONSIDERATION OF THE CONTRIBUTION OF CARBOXYLIC AND DICARBOXYLIC ACIDS TO ATMOSPHERIC ORGANIC PARTICULATE MATTER VIA ESTER AND AMIDE FORMATION.** KELLEY BARSANTI, James Pankow, Oregon Health

and Science University, Portland, OR (p.1063)

4:00

10G10 **ADVANCES IN COMPUTATIONALLY EFFICIENT ACTIVITY COEFFICIENT ESTIMATION METHOD FOR LARGE-SCALE ATMOSPHERIC MODELING.** ELSA I. CHANG and James F. Pankow , Oregon Health and Science University, Beaverton, OR (p.1064)

4:00

10G11 **REACTIVITY OF ORGANIC AEROSOL MIXTURES: USING COMPOUND-SPECIFIC UPTAKE COEFFICIENTS TO FOLLOW REACTION STOICHIOMETRY.** AMY M. SAGE, Emily A Weitkamp, Allen L. Robinson, Neil M. Donahue, Center for Atmospheric Particle Studeis, Carnegie Mellon University, Pittsburgh, PA (p.1065)

4:00

10G12 **MECHANISM REDUCTION FOR THE FORMATION OF SECONDARY ORGANIC AEROSOL FOR INTEGRATION INTO A 3-DIMENSIONAL REGIONAL AIR QUALITY MODEL.** ADAM G. XIA, Diane V. Michelangeli,Center for Atmospheric Chemistry, York University, Toronto, Canada; Paul Makar, Air Quality Research Division, Environment Canada, Toronto, Canada (p.1067)

4:00

10G13 **MODELING HETEROGENEOUS ACID CATALYZED SECONDARY ORGANIC AEROSOL MASS PRODUCTION OF TERPENE OZONOLYSIS REACTIONS IN PRESENCE OF INORGANIC ACID.** AMANDA NORTHCROSS and Myoseon Jang, University of North Carolina (p.1069)

4:00

10G14 **SECONDARY ORGANIC AEROSOL FORMATION FROM OXIDATION OF TOLUENE BY OH RADICALS FROM PHOTOLYSIS OF H2O2 IN THE ABSENCE OF NOX.** GANG CAO, Myoseon Jang, The University of North Carolina at Chapel Hill, Chapel Hill, NC (p.1070)

4:00

10G16 **ISOPRENE AND ALPHA-PINENE OXIDATION PRODUCTS IN BOREAL FOREST AEROSOLS FROM HYYTIÄLÄ, FINLAND, DURING A 2005 SUMMER PERIOD.** IVAN KOURTCHEV, Magda Claeys, Department of Pharmaceutical Sciences, University of Antwerp (Campus Drie Eiken), Wilrijk, Belgium, Taina Ruuskanen, Anni Reissell, Markku Kulmala, Department of Physical Sciences, Division of Atmospheric Sciences, University of Helsinki, Helsinki,

Finland, Xuguang Chi, Willy Maenhaut, Department of Analytical Chemistry, Institute for Nuclear Sciences, Ghent University, Ghent, Belgium (p.1072)

4:00

10G17 **STABLE COMPLEXES OF FORMIC ACID WITH SULFURIC ACID AND ITS HYDRATES.** ALEXEY NADYKTO; Fangqun Yu, SUNY at Albany, ASRC, Albany, NY (p.1073)

4:00

10G18 **CHEMICAL CHARACTERIZATION OF PARTICLE NUCLEATION PRODUCTS FORMED DURING THE OZONOLYSIS OF VARIOUS MONOTERPENES USING MASS SPECTROMETRY.** KATHERINE J. HEATON and Murray V. Johnston, University of Delaware, Newark, DE (p.1074)

4:00

10G19 **WATER CLUSTERS IN THE BACKGROUND OF PARTICLE FORMATION EVENTS.** Tiia-Ene Parts, Aare Luts, and MARKO VANA, Institute of Environmental Physics, University of Tartu, Estonia (p.1076)

4:00

10G20 **EVAPORATION RATES AND VAPOUR PRESSURES OF MALONIC, SUCCINIC AND GLUTARIC ACIDS IN AQUEOUS SOLUTIONS.** ILONA RIIPINEN, Anca I. Gaman, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland; Ismo K. Koponen, Thomas Rosenorn, Merete Bilde, Department of Chemistry, University of Copenhagen, Denmark; Kari E.J. Lehtinen, Finnish Meteorological Insititute and University of Kuopio, Finland (p.1078)

4:00

10G21 **CHEMISTRY OF SECONDARY ORGANIC AEROSOL FORMATION FROM REACTIONS OF NO3 AND OH RADICALS WITH LINEAR AND CYCLIC ALKENES.** AIKO MATSUNAGA, Paul J. Ziemann, Air Pollution Research Center, University of California, Riverside, CA (p.1080)

4:00

10G22 **FORMATION OF SECONDARY ORGANIC AEROSOL FROM REACTIONS OF OH RADICALS WITH LINEAR, BRANCHED, AND CYLIC ALKANES UNDER HIGH AND LOW NOX CONDITIONS.** YONG BIN LIM, Paul J. Ziemann, Air Pollution Research Center, University of California, Riverside, CA (p.1081)

10H Materials Synthesis-II (Poster)
Garden Court East
K. Deppert, G. Ahmadi, Chairs
4:00

10H1 **DEVELOPMENT OF PRISTINE AND DOPED IRON OXIDE NANO EMULSION SYSTEMS AS A VEHICLE FOR TARGETED DRUG DELIVERY.** SOUBIR BASAK, Department of Chemical Engineering, Washington University in Saint Louis, MO; Greg Lanza, School of Medicine, Washington University in Saint Louis, MO; Pratim Biswas, Department of Chemical Engineering, Washington University in Saint Louis, MO (p.51)

4:00

10H2 **DIELECTRIC COATING THICKNESS IN CORE-SHELL MICRO/NANOCAPSULES FROM ELECTRIFIED COAXIAL JETS.** ALVARO G. MARÍN, Universidad de Sevilla, Sevilla, Spain, Ignacio G. Loscertales, Universidad de Málaga, Málaga, Spain, Antonio Barrero, Universidad de Sevilla, Sevilla, Spain (p.53)

4:00

10H3 **FUNCTIONAL SURFACE COATINGS WITH THIN POLYMER FILMS PROCESSED AT ATMOSPHERIC PRESSURE BY POST-DISCHARGE ELECTRO-SPRAY.** JP BORRA, Ludovic Tatoulian, Laboratoire de Physique des Gaz et des Plasmas CNRS, France, Michael Tatoulian, Farzy Arefi, Jacques Amouroux, Laboratoire de Génie des Procédés Plasma et Traitement de Surface, ENSCP-Paris VI University, Paris; Diego Mantovani, Département de Génie des mines et des matériaux, Laval University, Quebec (p.54)

4:00

10H4 **ELECTROSPRAYING OF INDIVIDUAL COLLOIDAL NANOPARTICLES FOR SEEDING THE GROWTH OF NANOWIRES.** Zhaoxia Bi, P.H. Michael Böttger, Kimberly A. Dick, Martin N.A. Karlsson, KNUT DEPPERT, Lund University, Sweden (p.56)

4:00

10H5 **SYNTHESIS OF NANOSTRUCTURES COMPOSED OF CARBON NANOTUBES ON MICRON-FIBROUS METAL FILTERS AND ITS EFFECT ON FILTRATION PERFORMANCE.** SEOK JOO PARK, Korea Institute of Energy Research, Korea;; Dong Geun Lee, Chungnam National University, Korea (p.58)

4:00

10H6 **SYNTHESIS OF SINGLE-WALLED CARBON NANOTUBES IN OXY-FUEL INVERSE DIFFUSION FLAMES WITH ONLINE DIAGNOSTICS.** CHAD UNRAU, Richard Axelbaum, Pratim Biswas, Washington University, St. Louis, MO; Phil Fraundorf, University of Missouri-St. Louis, St. Louis, MO (p.60)

4:00

10H7 **ANALYSIS ON PARTICLE COATING IN THE ROTATING PLASMA CHEMICAL VAPOR DEPOSITION PROCESS.** DONG-JOO KIM and Kyo-Seon Kim, Department of Chemical Engineering, Kangwon National University, Chuncheon, Kangwon-Do, Korea (p.62)

4:00

10H8 **NANOPARTICLE PATTERNING THROUGH ELECTROSPRAY OF NANOPARTICLE SUSPENSION.** D. S. Kim, H. C. Lee, J. Suh, K. Jun, J. Lee, M. CHOI, National CRI Center for Nano Particle Control, Seoul National University, Seoul, Korea; (Pesent address – J. Suh: Samsung Electronics, Gyeonggi-do, Korea) (p.63)

4:00

10H9 **AN ELECTROSPRAY METHOD FOR NANOPARTICLE COATING.** Changkeun Lee, KIMIN JUN, Mansoo Choi, Seoul National University, Seoul, Korea (p.64)

4:00

10H10 **DEPOSITION OF TIO2-NANOPARTICLES ON A STEEL SURFACE IN LIQUID FLAME SPRAY METHOD.** JYRKI M MÄKELÄ, Helmi Keskinen, Mikko Aromaa, Erkki Levänen, Tapio Mäntylä, Tampere University of Technology, Tampere, Finland (p.65)

4:00

10H11 **DISTINCTION BETWEEN SIZE EFFECT AND SPECIFIC SURFACE AREA EFFECT IN THE GAS SENSING BEHAVIOR OF SNO1.8:AG MIXED NANOPARTICLE FILMS.** Rakesh K. Joshi, F. EINAR KRUIS, Dept. of Engineering Sciences, University of Duisburg-Essen, Duisburg (p.66)

4:00

10H12 **THE PRODUCTION OF NANOPARTICLES USING A LASER ASSISTED AEROSOL REACTOR.** JAN VAN ERVEN, Zhao Fu, Tomek Trzeciak, Jan Marijnissen, Delft University of Technology, Delft, The Netherlands; Leon Gradon, Albert Podgorski, Warsaw University of Technology, Warsaw, Poland (p.67)

4:00

10H13 **A DMA FOR PARTICLE SIZE SELECTION AT HIGH AEROSOL FLOW RATES.** ESTHER HONTANON, Ciemat, Madrid, Spain, F. Einar Kruis, University of Duisburg-Essen, Duisburg, Germany (p.68)

4:00

10H14 **ADHESION AND REMOVAL MECHANISM FOR PARTICLES IN TURBULENT FLOWS WITH CAPILLARY EFFECT.** XINYU ZHANG, Goodarz Ahmadi, Clarkson University, Potsdam, NY (p.69)

4:00

10H15 **PREVENTION OF DEBRIS RE-DEPOSITION DURING LASER CLEANING USING THERMOPHORESIS AND OTHER EFFECTS.** JIN HO KIM, Sang Soo Kim, Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea (p.71)

4:00

10H16 **NANOPARTICLE AEROSOL GENERATION METHODS FROM BULK POWDERS.** LINDA H. SCHMOLL, Patrick O'Shaughnessy, Landon Pratt, University of Iowa, Iowa City, IA (p.72)

4:00

10H17 **FABRICATION OF POROUS MATERIALS COMPOSED OF NANOPARTICLES SYNTHESIZED BY LASER ABLATION.** SEOK JOO PARK, Korea Institute of Energy Research, Korea;Dong Geun Lee, Chungnam National University, Korea (p.74)

Wednesday 5:30 PM – 6:30 PM
Working Group Meetings for Associations

Wednesday 5:30 PM – 6:30 PM
GAeF General Assembly Meeting
Wabasha Suite

Wednesday 7:00 PM – 10:00 PM
IAC Conference Dinner and Riverboat Cruise

Thursday 8:00 AM – 9:20 AM
Plenary
Minnesota Ballroom
Da-Ren Chen, Chair

8:00 **PLENARY 4. HEALTH EFFECTS OF AMBIENT PARTICULATE MATTER.** Bert Brunekreef, Professor of Environmental Epidemiology and Director, Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands (p.827)

9:00 **S.K. FRIEDLANDER AND B.Y.H. LIU AWARDS.** presented by David Leith

Thursday 9:00 AM – 3:00 PM
Exhibits Open
Great River Ballroom

Thursday 9:20 AM – 11:00 AM
Poster Viewing with Continental Breakfast
for Sessions 7 – 14
Great River Ballroom, Garden Courts East and West

Thursday 11:00 AM – 12:40 PM
Session 11
11A Regional Modeling (Platform)
Minnesota Ballroom
John Seinfeld, D. Covert, Chairs
11:00

11A1 **IMPROVING REGIONAL AIR QUALITY MODEL AEROSOL SIZE DISTRIBUTIONS.** ROBERT A. ELLEMAN, David S. Covert, University of Washington, Seattle, WA (p.1823)

11:20

11A2 **CLIMATE CHANGE IMPACTS ON FINE PARTICULATE MATTER CONCENTRATIONS IN US.** EFTHIMIOS TAGARIS , Kao Jen Liao, Kasemsan Manomaiphiboon, Armistead G. Russell, School of Civil and Env. Engineering, Georgia Institute of Technology, Atlanta, GA; Jung-Hun Woo, Shan He, Praveen Amar, NESCAUM, Boston, MA; Lai-Yung (Ruby) Leung, Pacific Northwest National Laboratory, Richland, WA (p.1824)

11:40

11A3 **AEROSOL CHEMISTRY OBSERVATIONS USING THE TRANS-SIBERIAN RAILROAD – RESULTS OF THE YEAR 2005 TROICA-9 EXPEDITION.** RISTO HILLAMO, Sanna Kuokka, Kimmo Teinilä, Minna Aurela, Sanna Saarikoski, Markus Sillanpää,

Veli-Matti Kerminen, Finnish Meteorological Institute, Helsinki, Finland, Eija Vartiainen, Markku Kulmala, University of Helsinki, Helsinki, Finland, Andrei I. Skorokhod, Andrei A. Ralko, Nikolai F. Elansky, Igor B. Belikov, Obukhov Institute of Atmospheric Physics, Moscow, Russia (p.1826)

12:00

11A4 **QUANTIFYING THE CONTRIBUTION OF PARTICLE FORMATION TO GLOBAL ATMOSPHERIC AEROSOL.** KENNETH S. CARSLAW, Dominick V. Spracklen, Graham W. Mann, School of Earth and Environment, University of Leeds, Leeds, UK; Markku Kulmala, Sanna-Liisa Sihto, University of Helsinki, Dept of Physical Sciences, Helsinki, Finland; Velli-Matti Kerminen, Finnish Meteorological Institute, Helsinki, Finland (p.1828)

11B Aerosol Properties (Platform)

Capitol Ballroom

Mireya Moya, Chair

11:00

11B1 **SATURATED AND UNSATURATED HYDROCARBONS AS INDICATORS OF AEROSOL EMISSION SOURCES DURING THE ICARTT 2004 CAMPAIGN.** STEFANIA GILARDONI, Lynn M. Russell, Scripps Institution of Oceanography, UCSD, La Jolla, CA; Timothy S. Bates, Patricia Quinn, NOAA Pacific Marine Environmental Laboratory, Seattle, WA; John H. Seinfeld, Shane Murphy, California Institute of Technology, Pasadena, CA; James Allan, The University of Manchester, Manchester, UK (p.1372)

11:20

11B2 **INJECTION OF LOW-LEVEL AEROSOL PARTICLES AND GAS INTO THE UPPER TROPICAL TROPOSPHERE BY DEEP CONVECTIVE CELLS: EVIDENCE FROM ACTIVE CAMPAIGN AND MODELLING STUDY.** Marie Monier, Geraint Vaughan, Thomas Choularton, Paul Connolly, Martin Gallagher, Keith Bower, Atmospheric Sciences, University of Manchester, UK, Yan Yin, Department of Applied Meteorology, Nanjing University of Information Science and Technology, China, and the ACTIVE Team (p.1374)

11:40

11B3 **AEROSOL PROPERTIES AT THE MOST WESTERN POINT OF CONTINENTAL EUROPE.** ANA MARIA SILVA, Frank Wagner, Sérgio Pereira, Centro de Geofísica, Évora, PT, Thierry Elias, MétéoFrance, Toulouse, FR (p.1376)

12:00

11B4 **MALTE – MODEL TO PREDICT NEW AEROSOL FORMATION IN THE LOWER TROPOSPHERE.** MICHAEL BOY, Markku Kulmala, University of Helsinki, Helsinki, Finland; Olaf Hellmuth, Leibniz Institute for Tropospheric Research, Leipzig, Germany; Hannele Korhonen, Finnish Meteorological Institute, Helsinki, Finland; Douglas Nilsson, Stockholm University, Stockholm, Sweden; Douglas ReVelle, Los Alamos National Laboratory, Los Alamos, NM; MICHAEL BOY, Andrew Turnipseed, National Center for Atmospheric Research, Boulder, CO; Frank Arnold, Max-Planck Institute for Nuclear Physics, Heidelberg, Germany (p.1378)

11C Symposium: Nanoparticle Dosimetry, Toxicology and Cellular Interactions-I (Platform)

Governors 1 and 5

Chong Kim, MarMarianne Geiser, Chairs

11:00

11C1 **NANOPARTICLES AND RESPIRATORY HEALTH – HOW IMPORTANT ARE PARTICLE SIZE AND SURFACE AREA CHARACTERISTICS?** DAVID B WARHEIT (p.135)

11:20

11C2 **SYSTEMIC TRANSLOCATION OF NANOPARTICLES TOWARDS SECONDARY TARGET ORGANS.** WOLFGANG G. KREYLING, Manuela Semmler-Behnke, Stephanie Fertsch, GSF – National Research Center for Environment and Health, Institute of Inhalation Biology and Focus Network Aerosols and Health, Neuherberg / Munich, Germany; Wolfgang Brandau, University of Essen; Institute of Nuclear Chemistry and Radio Pharmacology, Essen, Germany; Ralph Sperling, Wolfgang Parak, Ludwig-Maximilians-University, Center of NanoScience, Munich, Germany; Guenter Schmid, University of Essen; Institute of Inorganic Chemistry, Essen, German (p.136)

11:40

11C3 **INHALATION EXPOSURE STUDY OF TITANIUM DIOXIDE NANOPARTICLES WITH A PRIMARY PARTICLE SIZE OF 2-5 NM.** VICKI H. GRASSIAN, Patrick O'Shaughnessy, John Pettibone, Andrea Dodd, Peter Thorne, University of Iowa, Iowa City, IA (p.138)

12:00

11C4 **EXPOSURE OF IN VITRO HUMAN EPITHELIAL CELLS TO SECONDARY ORGANIC AEROSOL COATED ON MAGNETIC NANOPARTICLES SUSPENDED IN THE GAS MEDIA.** Myoseon Jang, Gang Cao, Amanda Northcross, The University of North Carolina at Chapel Hill, Chapel Hill, NC; Andrew Ghio, National Health and Environmental Effects Research Laboratory, EPA, RTP, NC; Weidong Wu, Center for Environmental Medicine, Asthma, and Lung Biology, UNC-Chapel Hill, Chapel Hill, NC (p.139)

12:20

11C5 **NANOPARTICLE INTERACTIONS WITH LUNG ALVEOLAR EPITHELIUM: BARRIER AND TRAFFICKING PROPERTIES.** N. Yaghoobian , C. Liang, J. Xie, S.F. Hamm-Alvarez, C.A Peng, L. DeMaio, Z. Borok, EDWARD D. CRANDALL, K.J. Kim (p.141)

11D Electrical Analyzers (Platform)

Govenors 2 – 4

Heinz Burtscher, Suresh Dhaniyala, Chairs

11:00

11D1 **A FULL-RANGE DIFFERENTIAL MOBILITY ANALYZER (FRDMA).** MANUEL ALONSO, National Center for Metallurgical Research (CSIC), Madrid, Spain (p.456)

11:20

11D2 **OPERATIONAL CHARACTERISTICS OF THE MINIATURE ELECTRICAL AEROSOL SPECTROMETER (MEAS).** MANISH RANJAN, Suresh Dhaniyala, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY (p.457)

11:40

11D3 **THE DIFFUSION SIZE CLASSIFIER (DISC) – A PORTABLE DEVICE TO MEASURE PARTICLE NUMBER CONCENTRATION AND MEAN DIAMETER.** Martin Fierz, Peter Steigmeier, HEINZ BURTSCHER, Institute for Aerosol and Sensor Technology, University of Applied Sciences, Northwestern Switzerland, Windisch, Switzerland (p.458)

12:00

11D4 **SCANNING MODE OPERATION OF THE AEROSOL PARTICLE MASS ANALYZER.** KENSEI EHARA, Hiromu Sakurai, Akira Yabe, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; Kevin Coakley, National Institute of Standards and Technology, Boulder, CO (p.460)

11E Nucleation and On Road Particle Formation (Platform)

Wabasha Suite

Leon Ntziachristos, R. Niessner, Chairs

11:00

11E1 **THE EFFECT OF DIFFERENT DILUTION–COOLING CONDITIONS ON NUCLEATION IN DIESEL EXHAUST.** MIKKO LEMMETTY, Topi Rönkkö, Jyrki M. Mäkelä, Jorma Keskinen, Tampere University of Technology, Tampere, Finland; Liisa Pirjola, Helsinki Polytechnic Stadia, Helsinki, Finland (p.1628)

11:20

11E2 **IS ON-ROAD PARTICLE NUMBER CONCENTRATION DEPENDENT ON AMBIENT TEMPERATURE AND RELATIVE HUMIDITY.** XIAOHONG YAO, N.T., Lau, Ming Fang, Institute for the Environment, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kongand Chak K. Chan, Department of Chemical Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong (p.1630)

11:40

11E3 **EFFECT OF DRIVING PARAMETERS ON NUCLEATION MODE PARTICLES IN DIESEL EXHAUST: LABORATORY AND ON-ROAD STUDY.** TOPI RÖNKKÖ, Annele Virtanen, Kati Vaaraslahti, Jorma Keskinen, Tampere University of Technology, Tampere, Finland; Liisa Pirjola, Helsinki Polytechnic, Helsinki, Finland; Maija Lappi,VTT Processes, Helsinki, Finland (p.1631)

12:00

11E4 **IN SITU MEASUREMENTS OF CHEMICAL AND PHYSICAL PARAMETERS OF VARIOUS TRAFFIC RELATED PARTICLES UNDER CRUISE CONDITIONS.** JOHANNES SCHNEIDER, Particle Chemistry Department, Max-Planck-Institute for Chemistry, Mainz, Germany, Ulf Kirchner, Ford Research Center Aachen, Aachen, Germany (p.1633)

12:20

11E5 **ANALYSIS OF CHANGES IN THE STRUCTURE AND REACTIVITY OF SOOT UNDERGOING OXIDATION AND GASIFICATION BY RAMAN MICROSCOPY.** Natalia Ivleva, Armin Messerer, Ulrich Pöschl, REINHARD NIESSNER, Institute of Hydrochemistry, Technical University of Munich, Germany (p.1635)

11F Aerosol Sampling (Platform)

Kellogg Suite

David Kane, V. Marple, Chairs

11:00

11F1 **EXPERIMENTAL STUDY FOR BIO-AEROSOL COLLECTOR CYCLONE.** YOUNGJIN SEO, Andrew R. McFarland, Texas AandM University, College Station, TX; John S. Haglund, The University of Texas, Austin, TX (p.461)

11:20

11F2 **NAVAL UNIVERSAL OMNI-DIRECTIONAL INLET (NUODI): A NEW OMNI-DIRECTIONAL INLET FOR THE DRY FILTER UNIT (DFU).** Virgil A. Marple , Bernard A. Olson, Particle Calibration Laboratory, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN 55455 USA; Edward A. Lustig, Jr., Alan W. Hall, Naval Surface Warfare Center/Dahlgren Division, United States Navy, Dahlgren, VA, USA (p.463)

11:40

11F3 **A NEW WIND TUNNEL FOR AEROSOL INHALABILITY AND SAMPLING AT REALISTIC LOW WIND SPEEDS.** YI-HSUAN WU, Darrah K. Sleeth, James H. Vincent, University of Michigan, Ann Arbor, MI; Sigurd Anderson, William Hambleton, ELD Inc., Lake City, MN (p.464)

12:00

11F4 **DESIGNING AEROSOL SAMPLERS BASED ON CONICAL CYCLONES WITH RE-CIRCULATING LIQUID FILM.** ALEXANDER TOLCHINSKY, Vladimir Sigaev, Alexander Varfolomeev, Research Center for Toxicology, Serpukhov, Moscow region, Russia; Gennady Sigaev, State Research Institute for Especially Pure Biopreparations, St. Petersburg,Russia (p.466)

11G Respiratory Deposition and Workplace Aerosols (Poster)

Garden Court West

Patrick O'Shaughnessy, Brian Wong, Chairs

11:00

11G1 **RESPIRATORY TRACT DEPOSITION OF RESIDENTIAL BIOMASS COMBUSTION AEROSOL PARTICLES IN HUMAN SUBJECTS.** JAKOB LÖNDAHL, Joakim Pagels, Andreas Massling, Erik Swietlicki, Jenny Rissler, Lund University, Lund, Sweden, Christoffer Boman, Anders Blomberg, Thomas Sandström, Umeå universitet, Umeå, Sweden (p.900)

11:00

11G2 **COMPARISON OF DOSIMETRY PREDICTIONS IN MURINE ANIMAL MODELS OF HUMAN DISEASE.** MICHAEL J. OLDHAM, Department of Community and Environmental Medicine, School of Health Sciences, University of California, Irvine, California (p.902)

11:00

11G3 **NUMERICAL SIMULATIONS OF AIRFLOW AND PARTICLE DEPOSITION IN FOUR HUMAN PROXIMAL LUNG BIFURCATION MODELS.** Yu Zhang and Warren H. Finlay; Department of Mechanical Engineering, University of Alberta, T6G 2G8, Edmonton, Alberta, Canada (p.904)

11:00

11G4 **FIBER DEPOSITION IN THE TRACHEOBRONCHIAL REGION: COMPARISON OF EXPERIMENTAL DATA AND THEORETICAL MODELS.** YUE ZHOU, Wei-Chung Su, Lovelace Respiratory Research Institute, Albuquerque, NM; Goodarz Ahmadi, Philip K. Hopke, Clarkson University, Potsdam, NY; Yung Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM (p.905)

11:00

11G5 **EFFECTS OF RESPIRATORY FLOW PATTERNS ON PARTICLE DEPOSITION IN HUMAN LUNGS.** JUNG-IL CHOI, North Carolina State University, Raleigh, NC; Chong S. Kim, US Environmental Protection Agency, Research Triangle Park, NC (p.906)

11:00

11G6 **COMPUTER SIMULATION OF ELLIPSOIDAL PARTICLE TRANSPORT AND DEPOSITION IN HUMAN TRACHEOBRONCHIAL TREE WITH 3-D SYMMETRIC AND ASYMMETRIC BIFURCATION MODEL.** LIN TIAN, Goodarz Ahmadi, Department of Aeronautical and Mechanical Engineering,

Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; Philip K. Hopke, Department of Chemical Engineering, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; Yung-Sung Cheng, Lovelace Respiratory Research Institute, Albuqerque, NM (p.908)

11:00

11G7 **USE OF DIFFERENT MODELING TECHNIQUES TO SIMULATE DEPOSITION IN ASTHMA.** RISA J. ROBINSON, John N. DiFlorio, Rochester Institute of Technology, Rochester, NY (p.910)

11:00

11G8 **HUMAN NASAL PASSAGE FIBROUS PARTICLE DEPOSITION: THE INFLUENCE OF PARTICLE LENGTH, FLOW RATE AND PASSAGE GEOMETRY.** Zuocheng Wang, PHILIP HOPKE, Goodarz Ahmadi, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; Paul Baron, Gregory Deye, National Institute for Occupational Safety and Health, Cincinnati, OH; Yung-Sung Cheng, Wei-Chung Su, Lovelace Respiratory Research Institute, Albuquerque, NM (p.911)

11:00

11G9 **AIRFLOW AND PARTICLE DEPOSITION IN THE CENTRAL AIRWAY MODELS OF THE HUMAN LUNG.** BAHMAN ASGHARIAN, Sravan Gudi, CIIT Centers for Health Research, Research Triangle Park, NC. (p.913)

11:00

11G10 **SMALL AIRWAY MODELS FOR MEASURING DEPOSITION OF FIBROUS AEROSOLS.** ANDREW R. MARTIN, and Warren H. Finlay, Department of Mechanical Engineering, University of Alberta, Edmonton, AB, Canada. (p.915)

11:00

11G11 **A COMPLEX MICRODOSIMETRIC MODEL FOR THE ASSESSMENT OF LUNG CANCER RISK ARISING FROM THE INHALATION OF ALPHA EMITTING PARTICLES.** ISTVÁN SZÖKE, Imre Balásházy, Árpád Farkas, Hungarian Academy of Sciences KFKI Atomic Energy Research Institute, Budapest, Hungary; Werner Hofmann, University of Salzburg, Salzburg, Austria (p.916)

11:00

11G12 **NUMERICAL MODELING OF THE AIRFLOW AND AEROSOL DEPOSITION IN OBSTRUCTED, OCCLUDED AND TUMOROUS CENTRAL AIRWAYS.** ÁRPÁD FARKAS, Imre Balásházy, István Szöke, Hungarian Academy of Sciences KFKI Atomic Energy Research Institute, Werner Hofmann, Division of Physics and Biophysics, University of Salzburg (p.918)

11:00

11G13 **A NUMERICAL MODEL OF THE HUMAN BRONCIAL EPITHELIUM TO COMPUTE CELLULAR DOSES OF INHALED AEROSOLS.** Gabor Barcsa, Technoorg-Linda Scientific Technical Development Co., Imre F. Barna, Istvan Szoke, Hungarian Academy of Sciences KFKI Atomic Energy Research Institute., IMRE BALASHAZY, Hungarian Academy of Sciences KFKI Atomic Energy Research Institute., Respirisk Scientific Research Co. Ltd. (p.920)

11:00

11G14 **STRUCTURE OF A CFD BASED RESPIRATORY TRACT DEPOSITION MODEL.** IMRE BALASHAZY, Arpad Farkas, Istvan Szoke, MTA KFKI Atomic Energy Research Institute, Budapest, Hungary; Werner Hofmann, University of Salzburg, Salzburg Austria (p.921)

11:00

11G15 **INHALED PARTICLE DEPOSITION EFFICIENCY IN AN INDIVIDUAL'S NASAL AIRWAY: MEASUREMENTS IN VIVO AND IN AIRWAY REPLICAS.** BRIAN A. WONG, CIIT Centers for Health Research, RTP, NC (p.923)

11:00

11G16 **COMPUTATIONAL ANALYSIS OF SPHERICAL PARTICLE TRANSPORT AND DEPOSITION IN THE HUMAN NASAL SYSTEM FOR IMPACTION REGIME.** PARSA ZAMANKHAN, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering and Center of Air Resources Engineering and Science Clarkson University, Potsdam, NY; Philip K. Hopke, Department of Chemical Engineering and Center of Air Resources Engineering and Science Clarkson University, Potsdam, NY; Yung-Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque,NM (p.925)

11:00

11G17 **INFLUENCE OF FLOW VARIATIONS ON DISPERSION OF PHARMACEUTICAL PARTICLES AND THEIR DEPOSITION IN THE STANDARD THROAT MODEL (STM).** TOMASZ R. SOSNOWSKI, Arkadiusz Moskal, Leon Grado_, Warsaw University of Technology, Warsaw, POLAND (p.926)

11:00

11G18 **DIFFERENCES IN ESTIMATES OF BERYLLIUM AEROSOL SIZE DISTRIBUTION FOR TOXICITY STUDIES USING PHASE CONTRAST MICROSCOPY, SCANNING ELECTRON MICROSCOPY, AND LIQUID PARTICLE COUNTER TECHNIQUES.** ALEKSANDR B. STEFANIAK, Mark D. Hoover, Gregory A. Day, National Institute for Occupational Safety and Health, Morgantown, WV; Patrick N. Breysse, Johns Hopkins Bloomberg School of Public Health; Ronald C. Scripsick, Los Alamos National Laboratory (p.928)

11:00

11G19 **DETAILED SINGLE PARTICLE ANALYSIS OF ULTRAFINE WELDING PARTICLES.** RONNY LORENZO, Empa Materials Science and Technology, Duebendorf, Switzerland; Ralf Kaegi, Eawag Aquatic Research, Duebendorf, Switzerland; Bernard Grobéty, University of Fribourg, Fribourg, Switzerland (p.930)

11:00

11G20 **PARTICULATE NUMBER AND MASS SIZE DISTRIBUTION IN CAST IRON FOUNDRY.** TERO LÄHDE, Rainer Schimberg, Panu Oksa, Asko Vähäsöyrinki, Kaarle Hämeri, Finnish Institute of Occupational Health, Finland, TERO LÄHDE, Kaarle Hämeri University of Helsinki, Finland (p.931)

11:00

11G21 **ON-LINE MEASUREMENTS OF PARTICLE COMPOSITION AND SIZE DISTRIBUTIONS AT A COKE OVEN FACILITY.** FRANK DREWNICK, Silke S. Hings, Max-Planck Institute for Chemistry, Mainz, Germany; Xavier Chaucherie, Sechaud Environnement, Maizeres-les-Metz, France (p.933)

11:00

11G22 **MEASUREMENT OF SULFURIC ACID MIST CONCENTRATIONS IN PHOSPHATE FERTILIZER PLANTS.** YU-MEI HSU, Chang-Yu Wu, Dale A. Lundgren, Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL;

Brian K. Birky, Florida Institute of Phosphate Research, Bartow, FL (p.934)

11:00

11G23 **DISTRIBUTIONS OF LOCAL DEPOSITION OF SUB-MICRON PARTICLES IN MODEL GEOMETRY OF HUMAN OROPHARYNX AT VARIABLE AIRFLOW.** ARKADIUSZ MOSKAL, Tomasz R. Sosnowski, Leon Gradon; Warsaw University of Technology, Warsaw, POLAND (p.936)

11:00

11G24 **IS NANO STILL NANO IN THE ATMOSPHERE? – GENERATION AND CHARACTERIZATION OF TEST ATMOSPHERES FOR INHALATION STUDIES.** Bennard van Ravenzwaay, Lan Ma-Hock, Armin O. Gamer, Edgar Leibold, BASF Aktiengesellschaft, Ludwigshafen, Germany (p.938)

11:00

11G25 **MEASURING THE AVALANCHE SCENARIO IN ALVEOLAR MACROPHAGES: APPLICATION OF THE CONFOCAL LSM IN SEMI-AUTOMATED COUNTING OF IN VITRO MACROPHAGE UPTAKE OF NANOPARTICLES.** OWEN MOSS, Victoria Wong, CIIT Centers for Health Research, Research Triangle Park, NC, USA (p.940)

11:00

11G26 **GENERATION OF NANODROPLETS AND ITS EFFECT OF INACTIVATING E.COLI.** KIYOKO MIZOTA, Motoaki Adachi, Masakazu Furuta, Osaka Prefecture University, Sakai, Osaka, Japan (p.941)

11:00

11G27 **NON-COMBUSTION SOOT (NCS) NANOPARTICLES GENERATE HIGHLY AFFINE IGG CLASS ANTIBODIES AGAINST POLYCYCLIC AROMATIC HYDROCARBONS WITHIN VERTEBRATES.** Diana Matschulat, Harald Prestel, Dietmar Knopp, REINHARD NIESSNER, Institute of Hydrochemistry, Technical University Munich, München, Germany; Ferdinand Haider, Institute of Physics, University of Augsburg, Germany (p.942)

11:00

11G28 **PERSONAL BIOAEROSOL SAMPLER BASED ON A CYCLONE WITH RE-CIRCULATING LIQUID FILM.** Alexander Tolchinsky, VLADIMIR SIGAEV, Alexander Varfolomeev, Ekaterina Zvyagina, Toxicological Center, Serpukhov,Moscow Region, Russia; Yueng-Sung Cheng, Trevor Brazel, Lovelase Respiratory Research Institute, Albuquerque, NM, USA (p.944)

11:00

11G29 **CONCENTRATION PROFILES OF AIRBORNE MYCOBACTERIUM TUBERBUSLOSIS IN THE MEDICAL CENTER.** Pei-Shih Chen and Chih-Shan Li*, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Room 1449, No. 1, Jen Ai Road, 1st Section100, Taipei, Taiwan, R.O.C. (p.946)

11:00

11G31 **AN EPIDEMIOLOGICAL STUDY OF ORGANIC SPECIES IN TONG LIANG, CHINA WITH IN-INJECTION PORT THERMAL DESORPTION-GAS CHROMATOGRAPHY/MASS SPECTROMETRY METHOD.** STEVEN SAI HANG HO, Judith C. Chow, John G. Watson, Desert Research Institute, Reno, NV (p.947)

11:00

11G32 **DETECTION OF AIRBORNE BACTERIA IN HVAC FILTERS BY POLYMERASE CHAIN REACTION.** M.A. RAMAKRISHNAN, Sagar M. Goyal, Senthilvelan Anantharaman, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, St. Paul, MN; Seung Won Kim, Peter C. Raynor, Division of Environmental Health Sciences, School of Public Health, University of Minnesota, Minneapolis, MN; Nicholas J. Stanley, Thomas H. Kuehn, Department of Mechanical Engineering, Institute of Technology, University of Minnesota, Minneapolis, MN (p.949)

11:00

11G33 **MEASUREMENT OF AEROSOL FROM DU PENTRATOR PERFORATION OF ARMORED VEHICLES.** YUNG SUNG CHENG, Thomas D. Holmes, Lovelace Respiratory Research Institute, Albuquerque, NM; Raymond A. Guilmette. Los Alamos National Laboratory, Los Alamos, NM; Mary Ann Parkhurst, Pacific Northwest National Laboratory, Richland, WA (p.950)

11:00

11G34 **GENERATION AND CHARACTERIZING OF TEST PARTICLES FOR VERIFICATION OF EXPLOSIVE TRACE DETECTION SYSTEMS.** ROBERT FLETCHER, Jennifer Verkouteren, George A. Klouda, and Greg Gillen , National Institute of Standards and Technology, Gaithersburg, MD (p.952)

11H Control Technology-I (Poster)

Garden Court West

Yung-Song Cheng, Mend-dawn Cheng, Chairs

11:00

11H2 **PARTICLE COLLECTION BY REVERSE JET SPRAYS.** KYOUNGSOO Lim, Sihyun Lee, Hyunseol Park, Korea Institute of Energy Research, Daejeon, Korea (p.265)

11:00

11H3 **EFFECT OF SONIC WAVES ON WET GAS FILTRATION BY GRANULAR BEDS.** Leonid Moldavsky, CHAIM GUTFINGER, Alexander Oron and Mati Fichman, Aerosol Research Laboratory, Faculty of Mechanical Engineering, Technion – Israel Institute of Technology, Haifa 32000, Israel. (p.267)

11:00

11H4 **DEPOSITION OF NANOPARTICLES IN THE COMPOSITES OF NANO- AND MICROSIZED FIBERS.** Rafal Przekop, LEON GRADON (p.269)

11:00

11H5 **PENETRATION OF AEROSOL PARTICLES THROUGH HVAC FILTERS ENHANCED BY THE UNIPOLAR AIR IONIZATION UPSTREAM OF THE FILTER.** SERGEY A. GRINSHPUN, Center for Health-Related Aerosol Studies, University of Cincinnati, Cincinnati, Ohio, USA; Igor E. Agranovski, Ruth Huang, Oleg V. Pyankov, Igor S. Altman, Faculty of Environmental Sciences, Griffith University, Brisbane, 4111, QLD, Australia (p.271)

11:00

11H6 **EXPERIMENTAL STUDY OF NANOPARTICLE AGGLOMERATE FILTRATION EFFICIENCY.** SEONG CHAN KIM, Andres Marquez-Guzman, David Y.H. Pui, University of Minnesota, Minneapolis, MN (p.272)

11:00

11H7 **FILTRATION EFFICIENCY OF GRANULAR BED FILTERS UNDER NORMAL, HYPER- AND MICROGRAVITY: EXPERIMENTS AND MONTE-CARLO SIMULATIONS.** WERNER HOLLÄNDER, Karl-Bernd Junker, Hubert Lödding, Wilhelm Dunkhorst and Horst Windt; Fraunhofer ITEM, Hannover, DE (p.273)

11:00

11H8 **REVERSE FLOW EFFECT ON PROTECTION OF CRITICAL SURFACES AGAINST PARTICLE CONTAMINATIONS.** Jung Hyeun Kim, University of Seoul, Seoul, Korea; David Pui, Se-Jin Yook, University of Minnesota, Minneapolis, MN; Christof Asbach, Heinz Fissan, IUTA, Duisburg, Germany (p.274)

11:00

11H9 **DETERMINATION OF HEXAVALENT CHROMIUM BY ION CHROMATOGRAPHY (IC).** Philip K. Hopke, MIN YANG, Eleanor F. Hopke, Clarkson University, Potsdam, NY (p.276)

11:00

11H10 **CHARACTERIZATION AND CONTROL OF BIOAEROSOLS GENERATED FROM BUBBLE BURSTING.** HSUEH FEN HUNG, Shu Chuan Chang, Kun Lin Tsai, Yi Lin Hsiao, Yueh Lin Hsu, Yuanpei Institute of Science and Technology, Taiwan, Yu Mei Kuo, Chung-Hwa College of Medical Technology, Taiwan (p.278)

11:00

11H11 **DECOMPOSITION OF GASEOUS POLLUTANTS USING A SUPERSONIC FLOW OF NANO TIO2 AEROSOL.** Masami Furuuchi, Takako Sakano, Mai Taniuchi, Mitsuhiko Hata, Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa 920-1192, Japan; Pratim Biswas, Environmental Engineering Science, Department of Chemical Engineering, Washington University Saint Louis, Saint Louis, Missouri, 63130,USA (p.280)

11:00

11H12 **COLLECTION OF SUBMICRON PARTICLES BY AN ELECTROSTATIC PRECIPITATOR USING A DIELECTRIC BARRIER DISCHARGE.** Jeong Hoon Byeon, Jungho Hwang, Jae Hong Park, Ki Young Yoon, Byung Ju Ko, Yonsei University (School of Mechanical Engineering); Jun Ho Ji, Samsung Electronics Co., Ltd. (Division of digital appliance network) (p.281)

11:00

11H13 **ELECTROSTATIC-DIRECTED DEPOSITION OF NANOPARTICLES ON A FIELD-GENERATING SUBSTRATE: THEORETICAL AND EXPERIMENTAL ANALYSIS.** DE-HAO TSAI, Kuk Cho, Takumi Hawa, Michael Zachariah, University of Maryland, College Park, and the National Institute of Standards and Technology, Gaithersburg, MD; Shy-Hauh Guo, Ray J. Phaneuf, Laboratory for Physical Science, and University of Maryland, College Park, MD (p.282)

11:00

11H14 **PREDICTING RESISTANCE OF AIR FILTER MEDIA HAVING LOG-NORMAL FIBER DIAMETER DISTRIBUTION AND RANDOM 2-DIMENSION SPACING BY CFD SIMULATION.** PAOLO TRONVILLE, Politecnico di Torino, Turin, ITALY; Richard Rivers, EQS inc., Louisville, KY (p.283)

11:00

11H15 **DEPOSITION EFFICIENCY OF FRACTAL-LIKE AGGREGATES IN FIBROUS FILTERS CALCULATED USING BROWNIAN DYNAMICS APPROACH FOR VARIOUS METHODS OF THE FRICTION COEFFICIENT DETERMINATION.** ANNA BALAZY, Albert Podgorski, Warsaw University of Technology, Poland (p.284)

11:00

11H16 **MODELING OF DEPOSITION OF ELECTRICALLY NEUTRAL, SUBMICRON AEROSOL PARTICLES IN BIPOLARLY CHARGED FIBROUS FILTERS – BROWNIAN DYNAMICS APPROACH.** ALBERT PODGORSKI, Anna Balazy, Warsaw University of Technology, Poland (p.286)

11:00

11H17 **EFFECTS OF DIFFUSIVE DEPOSITION ON THE EFFICIENCY OF FIBROUS FILTERS.** SARAH DUNNETT, Loughborough University, Loughborough, U.K., Charles Clement, Wantage, Oxon, U.K. (p.288)

11:00

11H18 **MEASUREMENT FOR FILTRATION EFFICIENCY OF RESPIRATOR BY SODIUM FLAME METHOD.** FENG JIANG, ZhenZhong Zhang, SuiSheng Ye, Institute of Nuclear and New Energy Technology, Tsinghua University, BeiJing, China (p.289)

Thursday 12:40 PM – 2:00 PM
Lunch (on your own)

Thursday 2:00 PM – 3:40 PM
Session 12
12A Cloud and Fog Aerosol Interactions-III (Platform)
Minnesota Ballroom
Urs Baltensperger, R. Flagan, Chairs
2:00

12A1 **THE CCN ACTIVITY OF WATER-SOLUBLE SECONDARY ORGANIC AEROSOLS GENERATED FROM THE OZONOLYSIS OF ALKENES.** AKUA ASA-AWUKU, Athanasios Nenes, Georgia Institute of Technology, Atlanta,GA; Song Gao , Richard C. Flagan, John H. Seinfeld, California Institute of Technology, Pasadena, CA (p.1380)

2:20

12A2 **ROLE OF ORGANICS IN THE HYGROSCOPICITY AND CCN ACTIVITY OF URBAN AEROSOL PARTICLES: RESULTS FROM IMPACT 2004 IN TOKYO.** Michihiro Mochida, Kimitaka Kawamura, Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan; Mikinori Kuwata, Takuma Miyakawa, Nobuyuki Takegawa, Yutaka Kondo, Research Center for Advanced Science and Technology, the University of Tokyo, Tokyo, Japan (p.1382)

2:40

12A3 **AEROSOL-CLOUD INTERACTIONS IN THE LOWER FREE TROPOSPHERE AS MEASURED AT THE HIGH ALPINE RESEARCH STATION JUNGFRAUJOCH IN SWITZERLAND.** Ernest Weingartner et al. (p.1383)

3:00

12A4 **AEROSOL PROCESSING IN CLOUDS: MONTE CARLO SIMULATIONS ON THE IMPACT OF COAGULATION ON THE MIXING STATE.** NICOLE RIEMER, Stony Brook University, Stony Brook, NY; Matthew West, Stanford Univeristy, CA (p.1385)

3:20

12A5 **ACTIVATION OF LOS ANGELES URBAN AEROSOL.** MICHAEL J. CUBISON, Kenneth Docherty, Peter DeCarlo, Ingrid Ulbrich, Edward Dunlea, Alex Huffman, Jose L. Jimenez, University of Colorado, CO; Barbara Ervens, Graham Feingold, NOAA Earth Systems Laboratory, Boulder, CO; Athanasios Nenes, Georgia Institute of Technology (p.1387)

12B Remote and Rural Aerosols (Platform)
Capitol Ballroom
Greg Carmichael, R. Vecchi, Chairs
2:00

12B1 **DEPENDENCE OF DEPOSITION FLUXES ON PARTICLE SIZE AND FRICTION VELOCITY.** S.C. PRYOR (1), R.J. Barthelmie (2,1,3), L.L. Sørensen (2) and S.E. Larsen (2); (1)Atmospheric Science Program, Department of Geography, Indiana University, Bloomington IN 47405, USA (2)Department of Wind Energy and Atmospheric Physics, Risø National Laboratory, Roskilde, Denmark (3)Institute of Energy Systems, School of Engineering, University of Edinburgh, Edinburgh, Scotland (p.1203)

2:20

12B2 **PHOSPHORUS IN AEROSOLS: DIFFICULT TO MEASURE, BUT WORTH THE EFFORT.** THOMAS A. CAHILL, Steven S. Cliff, Department of Physics and the DELTA Group, Depts. of Chemical Engineering and Applied Science, University of California, Davis, CA; Kevin D. Perry, Dept. of Meteorology, University of Utah, Salt Lake City, UT (p.1205)

2:40

12B3 **A COMPREHENSIVE CHARACTERIZATION ON BACKGROUND ATMOSPHERIC AEROSOLS: RESULTS OF AN INTENSIVE CAMPAIGN CARRIED OUT AT A HIGH ALTITUDE SITE IN ITALY.** ROBERTA VECCHI, Michela Ceriani, Alessandra D'Alessandro, Gianluigi Valli, Institute of Applied General Physics, University of Milan, IT; Franco Marenco, Federico Mazzei, Paolo Prati, Department of Physics, University of Genoa, IT; Massimo Chiari, Silvia Nava, National Institute of Nuclear Physics, IT; Franco Lucarelli, Department of Physics, University of Florence, IT; Paolo Bonasoni, Francescopiero Calzolari, Paolo Cristofanelli, Institute of Atmospheric Sciences and Climate, National Research Council, IT; Paola Fermo, Andrea Piazzalunga, Department of Inorganic, Metallorganic and Analytical Chemistry, University of Milan, IT (p.1207)

3:00

12B4 **ANALYSIS OF PRELIMINARY DATA FROM THE REGIONAL AEROSOL INTENSIVE NETWORK (RAIN).** GEORGE ALLEN, Alan Leston, NESCAUM, Boston MA (p.1209)

3:20

12B5 **PARTICULATE CARBON IN THE AIR AND SNOW ON THE GREENLAND ICE SHEET.** GAYLE HAGLER, Michael Bergin, Eugene Smith, Georgia Institute of Technology, Atlanta, GA; Robert Greenwald, Emory University, Atlanta, GA; James Schauer, Martin Shafer, University of Wisconsin, Madison, WI; Jack Dibb, University of New Hampshire, Durham, NH (p.1211)

12C Symposium: Nanoparticle Dosimetry, Toxicology and Cellular Interactions-II (Platform)

Governors 1 and 5

Chong Kim, Wolfgang Kreyling, Chairs

2:00

12C1 **THE FATE OF INHALED ULTRAFINE TITANIUM DIOXIDE PARTICLES.** MARIANNE GEISER, Marco Casaulta, Barbara Kupferschmid, Institute for Anatomy, University of Bern, Switzerland; Manuela Behnke-Semmler, Holger Schulz, Wolfgang Kreyling, GSF – National Research Center for Environment and Health, Institute for Inhalation Biology, Neuherberg/Munich, Germany (p.143)

2:20

12C2 **AEROSOL SYNTHESIS AND GENE DELIVERY PROPERTIES OF CALCIUM PHOSPHATE BIOCERAMIC NANOPARTICLES.** RENATO P. CAMATA, Hyunbin Kim, Rakesh Kapoor, Selvarangan Ponnazhagan, University of Alabama at Birmingham, Birmingham, AL (p.144)

2:40

12C3 **CELLULAR INTERPLAY AND INFLAMMATORY RESPONSE IN AN EPITHELIAL AIRWAY MODEL AFTER EXPOSITION TO FINE- AND NANOPARTICLES.** FABIAN BLANK, Barbara M. Rothen-Rutishauser, Peter Gehr, Institute of Anatomy, Division of Histology, University of Bern, Bern, Switzerland (p.146)

3:00

12C4 **REGIONAL DEPOSITION DOSE OF INHALED NANO SIZE PARTICLES IN HUMAN LUNGS DURING CONTROLLED NORMAL BREATHING.** CHONG S. KIM, USEPA National Health and Environmental Effects Research Laboratory, Research Triangle Park, NC; Peter Jaques, Department of Biology, Clarkson University, Potsdam, NY; Shu-Chieh Hu, Life Sciences Operation, IIT Research Institute, Chicago, IL (p.148)

3:20

12C5 **DETERMINATION OF DYNAMIC SHAPE FACTORS OF NANOPARTICLE AGGREGATES FROM FRACTIONAL DEPOSITION DATA.** WERNER HOFMANN, Renate Winkler-Heil, University of Salzburg, Austria; Lidia Morawska, Queensland University of Technology, Brisbane, Australia (p.150)

12D Continuous Physical and Chemical Characterization (Platform)

Govenors 2 – 4

Turner, Jay, Russell W. Long, Ph.D., Chairs

2:00

12D1 **SEMI-CONTINUOUS DETERMINATION OF WATER-SOLUBLE PARTICULATE COMPONENTS AND THEIR GASEOUS PRECURSORS: LABORATORY AND FIELD EVALUATION OF INSTRUMENTATION BASED ON WET WALL DENUDER AND ION CHROMATOGRAPHY TECHNOLOGY.** RUSSELL W. LONG and Matthew S. Landis, U.S. EPA, National Exposure Research Laboratory, Research Triangle Park, NC; Keith G. Kronmiller, Alion Science and Technology, Research Triangle Park, NC; Brett D Grover and Delbert J. Eatough, Department of Chemistry and Biochemistry, Brigham Young University, Provo, UT; Rida Al-Horr, Dionex Corporation, Sunnyvale, CA; Robert K. Stevens, Florida Department of Environmental Protection, Tallahassee, FL (p.468)

2:20

12D2 **AEROSOL PARTICLE DENSITY DETERMINATION USING LIGHT SCATTERING IN CONJUNCTION WITH MASS SPECTROMETRY.** EBEN CROSS, Paul Davidovits, Boston College Chemistry Department, Chestnut Hill, MA; Timothy Onasch, Douglas Worsnop, Center for Aerosol and Cloud Chemistry Aerodyne Research, Billerica, MA (p.470)

2:40

12D3 **SIMULTANEOUS MEASUREMENTS OF PM10 AND PM1 USING A SINGLE TEOM.** ULRICH K. KRIEGER, Sabrina Rupp, Edwin Hausammann, Institut für Atmsophäre und Klima, ETH Zürich, Zurich, Switzerland (p.471)

3:00

12D4 **INVESTIGATION OF THE SECONDARY ORGANIC AEROSOL FRACTION, SUMMER 2005 BRITISH COLUMBIA.** ANDREW J. KNOX, Greg J. Evans, University of Toronto, Toronto, Canada; Jeffrey R. Brook, Yayne Aklilu, Environment Canada, Toronto, Canada (p.473)

3:20

12D5 **THERMAL DESORPTION AEROSOL GCXGC (2DTAG): COMPREHENSIVE CHROMATOGRAPHIC RESOLUTION FOR IN-SITU MEASUREMENTS OF ORGANIC AEROSOLS.** ALLEN GOLDSTEIN, Brent Williams, University of California, Berkeley, CA; Susanne Hering, Nathan Kreisberg, Aerosol Dynamics Inc., Berkeley, CA; Ognjen Panic, Tadeusz Górecki, University of Waterloo, Waterloo, ON, Canada (p.475)

12E Motor Vehicle Combustion (Platform)

Wabasha Suite

Chris Sorensen, D. Kittelson, Chairs

2:00

12E1 **PHYSICAL CHARACTERISATION AND EFFECTIVE DENSITY MEASUREMENTS OF PARTICLES EMITTED FROM GASOLINE AND DIESEL LIGHT DUTY VEHICLES WITH ADVANCED AFTERTREATMENT.** LEONIDAS NTZIACHRISTOS, Athanasios Mamakos, Zissis Samaras, Lab of Applied Thermodynamics, Aristotle University, Thessaloniki, Greece; Michael Geller, Costas Sioutas, Dept. of Civil and Environmental Engineering, University Southern California, Los Angeles, CA (p.257)

2:20

12E2 **CHARACTERIZATION OF NANOPARTICLES GENERATED FROM A GASOLINE VEHICLE.** DOH-WON LEE, John Storey, Brian West, and Scott Sluder, Oak Ridge National Laboratory, Oak Ridge, TN; Jian Wang, Brookhaven National Laboratory, Upton, NY (p.258)

2:40

12E3 **AN ELECTRICAL SENSOR FOR ROUTINE TESTING OF PARTICULATE EMISSIONS FROM DIESEL EXHAUST.** Kauko Janka, JUHA TIKKANEN, Arto Kekki, Dekati Ltd., Tampere, Finland; Antti Rostedt, Marko Marjamäki, Jorma Keskinen, Aerosol Physics Laboratory, Tampere University of Technology, Tampere, Finland, Kimmo Pietarinen, Innoment Oy, Tampere, Finland, Mark

Davis, ESP Holdings Inc., E. Granby, CT; M. Matti Maricq, Research and Advanced Engineering, Ford Motor Company, Dearborn, MI (p.260)

3:00

12E4 **NANOPARTICLE FORMATION IN THE EMISSIONS FROM A TRAP-EQUIPPED HEAVY DUTY DIESEL TRUCK.** JORN DINH HERNER and Alberto Ayala, California Air Resources Board, Research Division, Sacramento, CA. USA. (p.261)

3:20

12E5 **ON THE SIZE DISTRIBUTION OF DIESEL SOOT AGGREGATES.** A.G. KONSTANDOPOULOS, M. Kostoglou, Aerosol and Particle Technology Laboratory, CERTH/CPERI, PO Box 361,Thermi 57001, Thessaloniki, Greece (p.263)

12F Bioaerosols (Platform)

Kellogg Suite

Sergey Grinshpun, Charles Purdy, Chairs

2:00

12F1 **ERGOSTEROL – CONVERSION FACTOR FOR ESTIMATING FUNGAL CONCENTRATION IN AMBIENT AEROSOLS.** ARTHUR P.S. LAU, and Ming Fang, Institute for the Environment, Hong Kong University of Science and Technology, Hong Kong, Jessica Y.W. Cheng, Environmental Engineering Program, Hong Kong University of Science and Technology, Hong Kong (p.953)

2:20

12F2 **NEW FIELD-COMPATIBLE METHOD FOR COLLECTION AND ANALYSIS OF B-GLUCAN IN FUNGAL FRAGMENTS.** TIINA REPONEN, Sung-Chul Seo, Yulia Iossifova, Atin Adhikari, Sergey A. Grinshpun, University of Cincinnati, Cincinnati, Ohio, USA (p.955)

2:40

12F3 **SUPPRESSION OF EXHALED BIOAEROSOL PRODUCTION FROM THE RESPIRATORY SYSTEM BY INHALATION THERAPY.** WESLEY H. DEHAAN, Matthew Brande, Jennifer Kenyon and Robert Clarke, Pulmatrix Inc, Cambridge, MA (p.956)

3:00

12F4 **BIOLOGICAL PERFORMANCE OF PORTABLE IMPACTORS WHEN COLLECTING AIRBORNE BACTERIA AND FUNGI.** MAOSHENG YAO and Gediminas Mainelis, Department of Environmental Sciences, Rutgers University, NJ (p.957)

3:20

12F5 **FLUOROCHROME, FLOW CYTOMETRY, AND FLUORESCENT IN SITU HYBRIDIZATION TO MONITOR BIOAEROSOLS IN CHICKEN HOUSES.** MIAO-CHING CHI, Chih-Shan Li, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, R.O.C. (p.958)

12G Instrumentation-III (Poster)

Minnesota Ballroom

Chaolong Qi, G. Mullholland, Chairs

2:00

12G1 **PHYSICAL AND CHEMICAL FIELD VALIDATION OF THE PERFORMANCE OF THE MINIATURE VERSATILE AEROSOL CONCENTRATION ENHANCEMENT SYSTEM (MVACES).** KATHARINE MOORE, Zhi Ning, Satya B Sardar, Philip M Fine, Michael D Geller, Andrea Polidori, Mohammed Arhami, Constantinos Sioutas, University of Southern California, Los Angeles, CA (p.477)

2:00

12G2 **HIGH-VOLUME VIRTUAL IMPACTORS FOR ENHANCEMENT OF INSTRUMENT PERFORMANCE FOR COARSE PARTICLES.** KAUKO JANKA, Riku Reinivaara, Dekati Ltd., Tampere, Finland, Antti Rostedt, Marko Marjamäki, Jorma Keskinen, Tampere University of Technology, Tampere, Finland, Matti Lehtimäki, VTT Technical Research Centre of Finland, Tampere, Finland (p.479)

2:00

12G3 **COMPARISON OF PARTICLE CONCENTRATION FOR A PORTABLE REAL-TIME MONITOR WITH THE FEDERAL REFERENCE METHOD.** C. H. HUANG, Yuanpei University of Science and Technology, Hsinchu, Taiwan; H. L. Chiang, China Medical University, Taichung, Taiwan (p.480)

2:00

12G4 **COMPARISON BETWEEN A DIRECT-READING REAL-TIME AEROSOL MONITOR AND A GRAVIMETRIC INSTRUMENT FOR PM1 MEASUREMENTS IN THE ATMOSPHERE OF ATHENS, GREECE.** B. Georgalas, G. Grivas, A. Chaloulakou, School of Chemical Engineering, National Technical University of Athens, Greece (p.481)

2:00

12G5 **210-POLONIUM AGING EFFECTS IN THE ELECTROSPRAY AEROSOL GENERATOR.** STANLEY L. KAUFMAN, TSI Incorporated, Saint Paul, USA (p.483)

2:00

12G6 **MEASUREMENT OF PARTICLE SIZE DISTRIBUTION USING THE PARTICLE BEAM MASS SPECTROMETER WITHOUT DEFLECTION VOLTAGE SCAN.** J. G. Na, D. G. Jo, J. B. Choi, Y. J. Kim and T. Kim, Sungkyunkwan University, Korea (South) (p.485)

2:00

12G7 **TIME SERIES MEASUREMENTS OF LOS ANGELES URBAN AEROSOL RETRIEVED BY APPLYING THE OPTIMAL ESTIMATION METHOD TO SMPS-APM DATA.** MICHAEL J. CUBISON, Jose L. Jimenez, University of Colorado, CO (p.486)

2:00

12G8 **COMPARISON OF ULTRAFINE CONDENSATION PARTICLE COUNTERS FOR THE GAS-PHASE ELECTROPHORETIC MOBILITY MACROMOLECULE ANALYZER (GEMMA).** XIAOLIANG WANG, Phillip Tan, and Stanley L. Kaufman, TSI Inc.,St Paul, MN 55126, USA (p.488)

2:00

12G9 **SCATTERING PROPERTIES OF COATED NANOPARTICLES COMPARED TO WATER DROPLETS.** PÉTER JANI, L. Vámos, Research Institute for Solid State Physics and Optics, Budapest, Hungary (p.490)

2:00

12G10 **A COMPACT INSTRUMENT FOR VOLATILITY STUDY OF ULTRAFINE PARTICLES.** MANISH RANJAN and Suresh Dhaniyala, Department of Mechanical and Aeronautical Engineering., Clarkson University, Potsdam, NY (p.491)

2:00

12G11 **PERFORMANCE OF DMAS OPERATED AT THE CONDITION OF UNEQUAL POLYDISPERSE AEROSOL AND MONODISPERSE AEROSOL SAMPLING FLOWRATES.** Lin Li, Da-Ren Chen, Environmental Engineering Science Program, Washington University in St. Louis, One Brookings Drive, Saint Louis, MO, U.S.A.; Weiling Li, Sensory Department, Philip Morris, 2000 Bells Road, Richmond, VA, U.S.A. (p.492)

2:00

12G12 **MOBILITY CLASSIFICATION OF DIAMETER-CONTROLLED AEROSOL NANOWIRES: EXPERIMENT AND THEORY.** SOO H. KIM, George W. Mulholland, Michael R. Zachariah,University of Maryland, College Park, MD and National Institute of Standards and Technology, Gaithersburg, MD (p.494)

2:00

12G13 **APPLICATION OF NCDMA (NANOPARTICLE CROSS-FLOW DIFFERENTIAL MOBILITY ANALYZER) FOR VOLATILITY MEASUREMENTS.** DONG-KEUN SONG, Suresh Dhaniyala, Philip K. Hopke, Clarkson University, Potsdam, NY (p.495)

2:00

12G14 **INTERCOMPARISON OF THE PERFORMANCE OF A FAST MOBILITY PARTICLE SIZER AND AN ULTRAFINE WATER-BASED CONDENSATION PARTICLE COUNTER FOR MEASURING PARTICLE NUMBER AND SIZE DISTRIBUTIONS IN THE ATMOSPHERE.** CHEOL-HEON JEONG,Greg J. Evans, University of Toronto, Toronto, ON, Canada (p.496)

2:00

12G15 **PROCESSING OF THE DIFFUSION BATTERY DATA ON THE BASE OF MULTIPLE SOLUTIONS AVERAGING ALGORITHM (MSA).** TAMARA OVCHINNIKOVA, Institute for Water and Environmental Problems Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia; Sergey Eremenko, Anatoly Baklanov, Institute of Chemical Kinetics and Combussion, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia (p.497)

2:00

12G16 **ON OPTIMAL CONSTRUCTION OF GROUND NETWORK FOR ATMOSPHERIC AEROSOL MEASUREMENTS.** ASADOV HIKMAT HAMID, doctor of technical sciences, head of department of atmospheric measurements of Azerbaijan National Aerospace Agency, Abbaszadeh Elnur Sananengineer of said department. (p.499)

2:00

12G17 **SYNERGETIC USE OF MSG-SEVIRI AND ENVISAT-AATSR IMAGERY FOR THE RETRIEVAL OF AEROSOL PROPERTIES OVER LAND AND SEA SURFACES.** YASMINE S. BENNOUNA, Gerrit de Leeuw, TNO Defence, Security and Safety, The Hague, The Netherlands (p.501)

2:00

12G18 **THERMODENUDER-AERODYNE AEROSOL MASS SPECTROMETER SYSTEM: LAB CHARACTERIZATION AND INITIAL FIELD DEPLOYMENT RESULTS.** J. ALEX HUFFMAN, Jose L. Jimenez, Department of Chemistry and Biochemistry, and Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado, Boulder, CO, Paul J. Ziemann, Department of Environmental Sciences, University of California, Riverside, CA, John T. Jayne, Doug R. Worsnop, Aerodyne Research Inc., Billerica, MA (p.502)

2:00

12G19 **DESIGN AND EVALUATION OF A NEW AERODYNAMIC LENS FOR THE AERODYNE AEROSOL MASS SPECTROMETER.** LEAH WILLIAMS, John T. Jayne, Aerodyne Research, Inc., Billerica, MA; Rensheng Deng, Kenneth A. Smith, MIT, Cambridge, MA; Margaret A. Farrar, Cambridge Rindge and Latin School, Cambridge, MA; Kori Moore, Utah State University, Logan, UT; Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA. (p.504)

2:00

12G20 **AEROSOL COLLECTION MODULE FOR ON-LINE SIZE-RESOLVED CHEMICAL AND PHYSICAL CHARACTERIZATION OF PARTICULATE ORGANICS.** Dagmar Trimborn, JOHN T. JAYNE, Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA; Michael L. Alexander, Pacific NW National Laboratory, Richland, WA; Hacene Boudries, General Electric, Wilmington, MA; Kenneth A. Smith, Massachusetts Institute of Technology, Cambridge, MA (p.505)

2:00

12G21 **IMPROVED AEROSOL APPORTIONMENT BY BAYESIAN CLASSIFIER.** THOMAS REBOTIER, Stephen Toner, Kimberly Prather, University of California San Diego, La Jolla, CA (p.506)

2:00

12G22 **CHARACTERIZATION OF CHEMICAL COMPOSITION IN DIFFERENT SIZE FRACTIONS OF FRESH CIGARETTE SMOKE PARTICLES.** JUDY Q. XIONG, Dritan Xhillari, Beverly S. Cohen, Department of Environmental Medicine, New York University School of Medicine, 57 Old Forge Road, Tuxedo, NY 10987, USA (p.508)

2:00

12G23 **EXPERIMENTAL EVALUATION OF AEROSOL CONCENTRATORS.** FRANCISCO ROMAY, Virgil A. Marple, MSP Corporation, Shoreview, MN (p.510)

2:00

12G24 **FIELD VALIDATION OF A NOVEL PERSONAL CYCLONE SAMPLER FOR COLLECTION OF FUNGAL SPORES.** Janet M. Macher, California Department of Health Services, Richmond, CA; TEH-HSUN (BEAN) CHEN, National Institute for Occupational Safety and Health, Morgantown, WV; Carol Y. Rao, Centers for Disease Control and Prevention, Atlanta, GA (p.512)

2:00

12G25 **DETECTION OF BIOAEROSOLS USING FLAPS IN AN ASHRAE STANDARD 52.2 FILTER TEST FACILITY.** WEIHUA TANG, Thomas H. Kuehn, Department of Mechanical Engineering, Institute of Technology, University of Minnesota, Minneapolis, MN; M. A. Ramakrishnan, Sagar M. Goyal, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, St. Paul, MN (p.514)

2:00

12G26 **PROGRESS TOWARDS REAL-TIME MEASUREMENT OF THE MASS AND COMPOSITION OF PARTICLES.** KENNETH C WRIGHT, Peter T. A. Reilly, and William B. Whitten., Chemical Science Division, Oak Ridge National Laboratory, Oak Ridge, TN (p.515)

2:00

12G27 **CONDENSATION OF METHANOL IN A SUPERSONIC NOZZLE: THE EFFECT OF GAS PHASE CLUSTERING.** HARTAWAN S. LAKSMONO, Shinobu Tanimura, Barbara E. Wyslouzil, The Ohio State University, Columbus, OH (p.517)

2:00

12G28 **EXPERIMENTAL EVALUATION OF MOBILITY, MICROSCOPY AND OPTICAL TECHNIQUES FOR THE CHARACTERIZATION OF FLAME PARTICULATES.** Yingwu Teng, UMIT O. KOYLU, Department of Mechanical and Aerospace Engineering, University of Missouri-Rolla, Rolla, MO (p.519)

12H Control Technology-II (Poster)
Garden Court West
John Storey, Sandeep Agnihotri, Chairs
2:00

12H1 **A COMPARISON OF TWO NANO-SIZED PARTICLE AIR FILTRATION TESTS IN THE DIAMETER RANGE OF 10 TO 400 NANOMETERS.** DANIEL A. JAPUNTICH, Andrew S. Viner, 3M Company, Saint Paul, MN; Luke M. Franklin, David Y. Pui, Thomas H. Kuehn, Seong Chan Kim, University of Minnesota, Minneapolis, MN (p.290)

2:00

12H2 **MANUFACTURING AND EVALUATION OF ELECTROPOSITIVELY MODIFIED FILTERS FOR REMOVING OF FINE PARTICLES IN LIQUID FILTRATION.** JINHYOUK SHIN, LG Electronics, Changwon, South Korea, Sunghak Jung, Jaekeun Lee, Pusan National University, Busan, South Korea (p.291)

2:00

12H3 **DETERMINATION OF FILTRATION EFFICIENCY OF AEROSOL PARTICLES THROUGH MULTILAYER FIBROUS FILTERS.** TOMASZ JANKOWSKI, CENTRAL INSTITUTE FOR LABOUR PROTECTION-NATIONAL RESEARCH INSTITUTE, WARSAW, POLAND (p.293)

2:00

12H4 **MODELING TRANSITIONAL LOADING OF FILTERS WITH SOLID AEROSOL PARTICLES.** SHO TAKAGAKI, David Y. H. Pui, Benjamin Y. H. Liu, University of Minnesota, Minneapolis MN, USA; Michael Shapiro, Technion-IIL, Haifa, Israel (p.295)

2:00

12H5 **EMISSION REDUCTIONS OF BOTH PARTICULATE MATTER AND POLYCYCLIC AROMATIC HYDROCARBONS BY ADDING BIO-SOLUTION IN EMULSIFIED DIESEL FUEL.** Yuan-Chung Lin*, Wen-Jhy Lee*, Chun-Chi Chen, Department of Environmental Engineering, National Cheng Kung University, Tainan, Taiwan; Yuan-Chung Lin*, Wen-Jhy Lee*, Chun-Chi Chen, Sustainable Environment Research Center, National Cheng Kung University, Tainan, Taiwan; Chung-Ban Chen, Heavy Duty Diesel Engine Emission Group, Refining and Manufacturing Research Center, Chinese Petroleum Corporation, Chia-Yi, Taiwan (p.297)

2:00

12H6 **VENTILATION SYSTEM COMPRISING A DIELECTRIC BARRIER DISCHARGER AND UV-TIO2 PHOTOCATALYST FILTERS FOR SIMULTANEOUS REMOVAL OF GASEOUS AND PARTICULATE CONTAMINANTS IN THE TEST CHAMBER.** Jae Hong Park, Jeong Hoon Byeon, Ki Young Yoon, Jungho Hwang, Yonsei University (School of Mechanical Engineering) (p.299)

2:00

12H7 **PHOTOCATALYSIS OF GASEOUS POLLUTANTS BY ULTRASONIC MIST INCLUDING TIO2 PARTICLES.** Kazuhiko Sekiguchi, Keisuke Yamamoto, Kazuhiko Sakamoto, Saitama University , Saitama, Japan (p.300)

2:00

12H8 **PARTICLE DEPOSITION ON A HORIZONTAL CIRCULAR PLATE THAT MOVING IN THE SAME DIRECTION OF AIRFLOW IN CLEANROOMS.** Shih-Cheng Hu, Cheng-Wei Ku, Yang-Cheng Shih, James C. M. Tsao, Department of Air Conditioning and Refrigeration Engineering, National Taipei University of Technology, Taipei, Taiwan (p.302)

2:00

12H9 **TEMPORAL ALIGNMENT IN ON-BOARD DIESEL TRANSIT BUS PARTICLE MEASUREMENT AND MODAL EMISSIONS ANALYSIS.** OLIVER H. GAO, Cornell University, Ithaca, NY; Britt A. Holmén, University of Connecticut, Storrs, CT (p.303)

2:00

12H10 **INDOOR REDUCTION OF SMOKE AEROSOLS USING A TITANIUM DIOXIDE CATALYST.** VICTOR W.-C. CHANG, Lynn M. Hildemann (p.304)

2:00

12H11 **NUMERICAL INVESTIGATION OF FILTRATION BY ELLIPTICAL FIBERS.** JING WANG, David Pui, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN (p.305)

2:00

12H12 **FILTRATION AND ELECTRICAL PROPERTIES OF ELECTROSPUN FILTER MEDIA.** HYUN-SEOL PARK, Korea Institute of Energy Research, Daejeon, Korea (p.306)

2:00

12H13 **PARTICLE DEPOSITION BEHAVIOUR ON SINGLE FIBERS – PARTICULATE STRUCTURES AND SINGLE FIBER EFFICIENCY.** STEFAN SCHOLLMEIER, Jörg Meyer, Heinz Umhauer, Gerhard Kasper, Institute for Mechanical Process Engineering and Applied Mechanics, University of Karlsruhe (p.307)

2:00

12H14 **OPTIMUM DROP DIAMETER FOR COLLECTION OF AEROSOL PARTICLES.** MICHAEL PILAT, University of Washington, Seattle, WA (p.309)

2:00

12H15 **EVALUATIONS OF VARIOUS NOBEL CATALYTIC AIR FILTERS: FOR SIMULTANEOUS REMOVAL OF BIOAEROSOLS AND MICROBIAL VOLATILE ORGANIC COMPOUNDS.** Byung Ju Ko, Ki Young Yoon, Jeong Hoon Byeon, Jae Hong Park, Jungho Hwang, Yonsei University (School of mechanical engineering); Hee Seung Yoon, Seung Kon Ryu, Chungnam National University (School of chemical engineering) (p.310)

2:00

12H16 **DECOMPOSITION OF PAHS IN AMBIENT PM BY SOFT X-RAY IRRADIATION.** Yunhe Bai, Masami Furuuchi, Yoshio Otani, Mitsuhiko Hata and Masaya Aizawa, Graduate School of Natural Science and Technology, Kanazawa University, Kakuma-machi, 920-1192, Kanazawa Japan ;Sirima Panyametheekul,Department of Environmental Engineering, Faculty of Engineering, Chularongkorn University, Bangkok, Thailan (p.312)

2:00

12H17 **AIR FILTRATION TESTING USING A SCANNING MOBILITY PARTICLE SIZER FOR SOLID AEROSOLS OF 3.5 TO 100NM DIAMETER.** DANIEL A. JAPUNTICH, 3M Company, St. Paul, MN; Luke M. Franklin, David Y. Pui, Thomas H. Kuehn, University of Minnesota, Minneapolis, MN. (p.314)

2:00

12H18 **RESEARCH ON FILTRATION EFFICIENCY OF MOISTURE SEPARATOR FOR NUCLEAR REACTOR.** ZHENZHONG ZHANG, Feng Jiang, Suisheng Ye, Institute of Nuclear and New Energy Technology, Tsinghua University, Beijing, China (p.315)

Thursday 3:40 PM – 5:30 PM
Fuchs and IARA Award Presentations, AAAR-25 Celebration
Minnesota Ballroom
John Seinfeld and David Pui, Chair

FUCHS MEMORIAL AWARD presented by the Presidents of GAeF, JAST and AAAR

FUCHS LECTURE by the Award winner

INTENATIONAL AEROSOL FELLOW AWARD presented by Helmuth Horvath

FISSAN-PUI-TSI AWARD presented by Kaarle Hämeri

AEROSOL SCIENCE AND ENGINEERING: FROM THE LAST TWENTY-FIVE YEARS TO THE NEXT Sheldon K. Friedlander, UCLA

CELEBRATION OF THE ACHIEVEMENTS OF AEROSOL RESEARCH ASSOCIATIONS AROUND THE WORLD

Thursday 6:00 PM – 10:00 PM
2006 IAC Reception
Science Museum of Minnesota

Thursday 7:00 PM – 8:00 PM
Working Group Chairs Meeting

Friday 8:00 AM – 9:20 AM
Plenary
Minnesota Ballroom
David Pui, Chair

8:00 **PLENARY 5. PRIMARY VERSUS SECONDARY AND BIOGENIC VERSUS ANTHROPOGENIC ORGANIC AEROSOL: GRAND CHALLENGES IN ATMOSPHERIC AEROSOL RESEARCH** Urs Baltensperger, Head of the Laboratory of Atmospheric Chemistry, Paul Scherrer Institut and ETH Zurich, Switzerland (p.1109)

9:00 **RECOGNITION OF SERVICE TO IARA AND AAAR** David Pui and Pratim Biswas

Friday 9:20 AM – 9:40 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Friday 9:40 AM – 11:00 AM
Session 13
13A Nucleation in the Environment-II (Platform)
Minnesota Ballroom
Liisa Pirjola, F. Stratmann, Chairs
9:40

13A1 **A LINEAR MODEL OF NUCLEATION BURST.** ALEX LUSHNIKOV, Markku Kulmala, and Yulia Lyubovtseva, University of Helsinki (p.1637)

10:00

13A2 **EFFECT OF ION-INDUCED NUCLEATION ON PARTICLE FORMATION IN A BOREAL FOREST.** LAURI LAAKSO, Anne Hirsikko, Miikka Dal Maso, Marko Vana, Markku Kulmala, University of Helsinki, Finland; Veli-Matti Kerminen, Finnish Meteorological Institute, Finland (p.1639)

10:20

13A3 **FORMATION OF H2SO4/H2O PARTICLES IN THE ABSENCE OF ORGANICS.** TORSTEN BERNDT, Olaf Böge, Frank Stratmann, Leibniz-Institut für Troposphärenforschung, Leipzig, Germany (p.1641)

10:40

13A4 **CHARGED FRACTION OF FRESHLY NUCLEATED PARTICLES DURING NUCLEATION AND GROWTH EVENTS: IMPLICATIONS FOR THE NUCLEATION MECHANISMS.** FANGQUN YU, State University of New York at Albany, NY (p.1643)

13B Urban and Regional Aerosol-II (Platform)
Capitol Ballroom
Andre Prevot, P. Bhave, Chairs
9:40

13B1 **EMISSIONS INVENTORY OF PM2.5 TRACE ELEMENTS ACROSS THE U.S.** ADAM REFF, Prakash Bhave, U.S. EPA National Exposure Research Laboratory, Research Triangle Park, NC (p.1830)

10:00

13B2 **ATMOSPHERIC LEAD IN EAST BALTIC REGION: CONCENTRATIONS, SOURCES AND ISOTOPIC COMPOSITION.** Darius Ceburnis, National University of Ireland, Galway, Ireland, Darius Ceburnis, Darius Valiulis, Kestutis Kvietkus, Jonas Sakalys, Institute of Physics, Vilnius, Lithuania (p.1832)

10:20

13B3 **METEOROLOGICALLY ADJUSTED LONG-TERM TRENDS (1991 TO 2004) OF PM10 IN SWITZERLAND.** CHRISTOPH HUEGLIN, Stefan Henne, Brigitte Buchmann, Empa, Duebendorf, Switzerland; Carlos Ordonez, Andre Prevot, PSI, Villigen, Switzerland (p.1834)

10:40

13B4 **ASSESSMENT OF THE AIR QUALITY IN THE WESTERN US NATIONAL PARKS: MODEL PERFORMANCE EVALUATION.** MARCO A. RODRIGUEZ, Cooperative Institute for Research in the Atmosphere Colorado State University, Fort Collins, CO; Michael G. Barna, Bret A. Schichtel, Air Resources Division National Park Service, Fort Collins, CO (p.1836)

13C Symposium on Non-Invasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-rays and Light-I (Platform)

Governors 1 and 5

Barbara Wysoulzil, C. Sorensen, Chairs

9:40

13C1 **LIGHT SCATTERING AS A PROBE OF NANOPARTICLE AEROSOLS.** C.M. SORENSEN, Department of Physics, Kansas State University, Manhattan, KS (p.91)

10:00

13C2 **ELASTIC LIGHT SCATTERING AND PHOTOELECTRON IMAGING OF NANOPARTICLES USING TUNABLE VACUUM ULTRAVIOLET RADIATION.** KEVIN R. WILSON, Musahid Ahmed Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, Stephen R. Leone, Departments of Chemistry and Physics, University of California, Berkeley, CA, Jinian Shu, Research Center for Eco-Environmental Sciences, P.O. Box 2871, Beijing 100085, China,Eckart Rühl, Christina Graf, Institut für Physikalische Chemie, Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany (p.92)

10:20

13C3 **PATTERNS IN ELECTROMAGNETIC SCATTERING.** MATTHEW BERG, Chris Sorensen, Amit Chakrabarti, Kansas State University, Manhattan, KS (p.93)

10:40

13C4 **SANS: A TOOL FOR QUANTITATIVE INVESTIGATION OF NANOSIZED STRUCTURES.** Paul D. Butler, National Institute of Standards and Technology, Gaithersburg, MD (p.95)

13D Symposium: Aerosol and Bioterrorism Defense-I (Platform)

Govenors 2 – 4

Ed Stuebing, S. Grinshpun, Chairs

9:40

13D1 **BIOAEROSOL COLLECTION EFFICIENCY FOR DIFFERENT FILTER MATERIALS USING BACILLUS ATROPHAEUS AND MS2 BACTERIOPHAGE AS BIOTERRORISM SURROGATES.** NANCY CLARK BURTON, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Cincinnati, OHAtin Adhikari, Sergey A. Grinshpun, and Tiina Reponen, University of Cincinnati, Cincinnati, OH (p.959)

10:00

13D2 **DEVELOPMENT OF A TIME-RESOLVED HIGH-VOLUME BIOAEROSOL REFERENCE SAMPLER.** Kevin T. Hommema, Rodney S. Black, and Matthew J. Shaw, Battelle Memorial Institute, Columbus, OH (p.960)

10:20

13D3 **AIRBORNE HUMAN VIRUSES CAPTURED BY HVAC FILTERS.** SENTHILVELAN ANANTHARAMAN, M. A. Ramakrishnan, Sagar M. Goyal, Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, St. Paul, MN; Seung Won Kim, Peter C. Raynor, Division of Environmental Health Sciences, School of Public Health, University of Minnesota, Minneapolis, MN; Nicholas J Stanley, Thomas H. Kuehn, Department of Mechanical Engineering, Institute of Technology, University of Minnesota, MN (p.962)

10:40

13D4 **CONTROL OF ORTHOPOXVIRUS INFECTION IN MOUSE MODELS USING SOFT X-RAY ENHANCED ELECTROSTATIC PRECIPITATION.** ERIC KETTLESON, Pratim Biswas, Environmental Engineering Science, Washington University, St. Louis, MO; Divey Saini, Jill Schriewer, R. Mark L. Buller, Molecular Microbiology and Immunology, Saint Louis University, St. Louis, MO (p.963)

13E Remote Sensing (Platform)
Wabasha Suite
Wynn Eberhard, Gregory Schuster, Chairs
9:40

13E1 **REMOTE QUANTIFICATION OF PLUME AEROSOL CONCENTRATIONS AND PLUME SPREAD OVER AGRICULTURAL AND FOREST CANOPIES.** APRIL L HISCOX, David R. Miller, Carmen J. Nappo, Department of Natural Resources Management and Engineering, The University of Connecticut, Storrs, CT (p.520)

10:00

13E2 **SOME RESULTS OF AEROSOL AND PRE-CURSOR GAS OBSERVATIONS OVER NORTHERN AND SOUTHERN LOCATIONS IN INDIA DURING LAND CAMPAIGN PROGRAMS.** P.C.S. Devara, P. Ernest Raj, K.K. Dani, S.K. Saha, S.M. Sonbawne, R.S. Maheskumar and R.L. Bhawar,Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, Pashan, Pune 411 008, India (p.522)

10:20

13E3 **FIRST TWO YEARS OF AUTOMATIC UNATTENDED PARTICLE MEASUREMENTS AT THE FINNISH ANTARCTIC RESEARCH STATION ABOA.** RISTO HILLAMO, Aki Virkkula, Jaakko Laakia, Pasi Aalto and Markku Kulmala; Finnish Meteorological Institute, Research and Development, FIN-00560 Helsinki, Finland and Department of Atmospheric Sciences, University of Helsinki, FIN-00014 Helsinki, Finland (p.1227)

10:40

13E4 **BLACK CARBON CONCENTRATION FROM WORLD-WIDE AEROSOL ROBOTIC NETWORK (AERONET) MEASUREMENTS.** GREGORY L. SCHUSTER, NASA Langley Research Center, Hampton, VA; Oleg Dubovik, Brent N. Holben, NASA Goddard Spaceflight Center, Greenbelt, MD; Eugene E. Clothiaux, Pennsylvania State University, University Park, PA. (p.526)

13F PM and Environmental Health-I (Platform)
Kellogg Suite
Gedi Mainelis, Chih-Shan Li, Chairs
9:40

13F1 **EXAMINING THE CARDIOVASCULAR HEALTH EFFECTS OF ATLANTA AEROSOL USING THREE SOURCE APPORTIONMENT TECHNIQUES.** JEREMY A. SARNAT, Mitchel Klein, Paige E. Tolbert, Emory University, Atlanta, GA, Amit Marmur,

Armistead G. Russell, Jim A. Mulholland, Georgia Institute of Technology, Atlanta, GA , Eugene Kim, Philip K. Hopke, Clarkson University, Potsdam, NY (p.965)

10:00

13F2 **ASSOCIATIONS OF CHEMICAL COMPOSITION OF AMBIENT PM2.5 WITH HEART RATE VARIABILITY IN SPONTANEOUS HYPERTENSIVE RATS.** MASAKO MORISHITA, Gerald Keeler, Ali Kamal, University of Michigan, Ann Arbor, MI; James Wagner, Jack Harkema, Michigan State University, East Lansing, MI; Annette Rohr, Electric Power Research Institute, Palo Alto, CA (p.967)

10:20

13F3 **PERSONAL EXPOSURE OF TORONTO RESIDENTS TO PM0.1 AND PM2.5 DURING THE SUMMER OF 2005.** KELLY SABALIAUSKAS, Greg Evans, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Canada; Monica Campbell, Franca Ursitti, Environmental Protection Office, Toronto Public Health, Toronto, Canada; Anna-Maria Frescura, David Steib, Amanda Wheeler, Air Health Effects Division, Health Canada, Ottawa, Canada; Jeff Brook, Air Quality Research Division, Environment Canada, Toronto, Canada (p.968)

10:40

13F4 **HEALTH STATUS OF WORKERS EXPOSED TO TALCUM IN HOSPITAL.** THITIWORN CHOOSONG, Pitchaya Phakthongsuk, Occupational Heath Unit, Department of Community Medicine, Prince of Songkla University, Songkla, Thailand (p.969)

13G Instrumentation-IV (Poster)

Minnesota Ballroom

Peter Jani, M. Stolzenburg, Chairs

9:40

13G1 **DIGITAL MICRO-FLUIDIC IMPACTOR FOR DETERMINATION OF SULPHATE IN AMBIENT AEROSOL.** Yilin Ma, ANDREY KHLYSTOV, CEE, Duke University, Durham, NC; Vladislav Ivanov, Richard B. Fair, ECE, Duke University, Durham, NC (p.528)

9:40

13G2 **COMPARISON OF APS AND BETA AS CONTINUOUS MONITORS FOR MEASURING PM10 CONCENTRATIONS IN URBAN AIR.** DEVRAJ THIMMAIAH, Jan Hovorka, Charles University in Prague, Czech Republic (p.530)

9:40

13G3 **POSITIVE ARTEFACT FORMATION DURING SAMPLING SEMI-VOLATILE NITRATE AEROSOL USING WET-WALLED DENUDERS.** ANDREY KHLYSTOV, Yilin Ma, Department of Civil and Environmental Engineering, Duke University, Durham, NC (p.532)

9:40

13G4 **VALIDATION OF PM2.5 CARBON MEASUREMENT PROTOCOLS FOR SEMI-CONTINUOUS CARBON MONITOR.** Jin-Seok Han, Kwang-Joo Moon, Yu-Duk Hong, National Institute of Environmental Research, Incheon, Republic of Korea, Yutaka Kondo, Yuzo Miyazaki, University of Tokyo (RCAST/UT), Tokyo, Japan, Young-Jun Kim, Gwangju Institute of Science and Technology (GIST), Gwangju, Republic of Korea (p.534)

9:40

13G5 **INTERCOMPARISON OF REAL TIME PM2.5 AMMONIUM MEASUREMENTS AT URBAN AND RURAL LOCATIONS IN NEW YORK.** MIN-SUK BAE, Kenneth L. Demerjian, James J. Schwab, Atmospheric Sciences Research Center, University at Albany, State University of New York, Albany, NY; Jian Hou, Xianliang Zhou, Wadsworth Center, NYS Department of Health and School of Public Health, University at Albany,NY; Kevin Rhoads, and Doug Orsini, Department of Chemistry, Siena College, Loudonville, NY (p.536)

9:40

13G6 **BIOSIM: NON-BIOLOGICAL SIMULANTS FOR END-TO-END PERFORMANCE TESTING OF BIOLOGICAL DETECTION SYSTEMS.** MICHAEL WATHEN, Freeman Swank, Sceptor Industries, Kansas City, MO; Michelle Palic, Darren Radke, Kelly Brown, Jennifer Dannehl, Midwest Research Institute, Kansas City, MO; David Alburty, Andrew Page, Alburtylab Inc., Drexel, MO (p.538)

9:40

13G7 **COAGULATION: A FEASIBLE METHOD FOR A NUMBER CONCENTRATION STANDARD IN EXHAUST GAS MEASURING SYSTEMS?** GERHARD POHLMANN, Katharina Schwarz, Wolfgang Koch, Department of Aerosol Technology, Fraunhofer Institute Toxicology and Experimental Medicine, Hannover, Germany (p.539)

9:40

13G8 **EXPERIMENTAL EVALUATION OF THE TRANSFER FUNCTION OF TSI MODEL 3081 DMAS.** HIROMU SAKURAI, Yoshihiro Sato, Akira Yabe, Kensei Ehara, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; Chih-Min Lin, Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan (p.540)

9:40

13G9 **DEVELOPMENT AND EVALUATION OF THE PRIMARY CALIBRATION STANDARD FOR THE AEROSOL NUMBER CONCENTRATION.** HIROMU SAKURAI, Kensei Ehara, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; Naoko Tajima, Nobuhiko Fukushima, Kanomax Japan Inc., Suita, Japan (p.541)

9:40

13G10 **ONLINE MEASUREMENT OF ULTRAFINE AGGREGATE VOLUME BY ELECTRICAL MOBILITY ANALYSIS: COMPARISON OF DIFFERENTIAL MOBILITY ANALYZER AND AEROSOL PARTICLE MASS ANALYZER DATA.** ANSHUMAN AMIT LALL, Weizhi Rong, Lutz Mädler, and Sheldon K. Friedlander, Department of Chemical and Biomolecular Engineering, University of California, Los Angeles, CA (p.542)

9:40

13G13 **NEW LAB-ON-A-CHIP APPROACHES FOR FAST ONLINE MEASUREMENT OF AEROSOL COMPOSITION.** JEFFREY L. COLLETT, JR., Lynn Rinehart, Xiao-Ying Yu, Atmospheric Science Department, Colorado State University, Fort Collins, Colorado, USA; David MacDonald, Yan Liu, Scott Noblitt, Charles S. Henry, Department of Chemistry, Colorado State University, Fort Collins, Colorado, USA; Nathan M. Kreisberg, Gregory S. Lewis, Susanne V. Hering, Aerosol Dynamics Inc., Berkeley, California, USA (p.544)

9:40

13G15 **CLOUD PARTICLE SAMPLER DESIGN: SAMPLING OF INTERSTITIAL PARTICLES.** PATRICK EDDY, Suresh Dhaniyala, Clarkson University, Potsdam, NY (p.546)

9:40

13G16 **AIRBORNE TESTS OF A NEW LOW-PRESSURE WATER-BASED CN INSTRUMENT.** DAVID C. ROGERS, Research Aviation Facility, National Center for Atmospheric Research, Broomfield, CO; Susanne Hering, Aerosol Dynamics Inc., Berkeley, CA; Mark R. Stolzenburg, Dept. of Mechanical Engineering, University of Minnesota, Minneapolis MN; Derek Oberreit, Fred Quant, Quant Technologies, Blaine, MN (p.547)

9:40

13G17 **SELF-CONSTRUCTED AEROSOL TIME-OF-FLIGHT MASS SPECTROMETER.** T. LAITINEN, K. Hartonen, K. Kuuspalo, M. Rasilainen, M. Kulmala, M.-L. Riekkola, University of Helsinki, Helsinki, Finland, H. Lihavainen, Y. Viisanen, Finnish Meteorological Institute, Helsinki, Finland (p.549)

13H Atmospheric Aerosols: Visibility, Remote and Rural Aerosols (Poster)

Garden Court East

Thomas Cahill, Y. Lee, Chairs

9:40

13H1 **VOLATILITY CHARACTERISTICS OF AEROSOLS MEASURED AT NY-ÅLESUND COMPARED WITH A BACKGROUND-RURAL AND A SEMI-URBAN LOCATION.** GUY COULSON, National Institute of Water and Atmospheric Research, Auckland, New Zealand; Stephan Nyeki, University of Bern, Switzerland; Mike Cubison, University of Colorado, Boulder, USA; Ian Colbeck, University of Essex, UK (p.1212)

9:40

13H2 **THERMODYNAMIC PREDICTIONS FOR IN-SITU PH IN PM2.5 IN HONG KONG.** Xiaohong Yao, Ming Fang, Institute for the Environment, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, Tsz Yan Ling, Chak K. Chan, Department of Chemical Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong (p.1214)

9:40

13H3 **DIFFERENCE OF AEROSOL CHEMICAL COMPOSITIONS MEASURED AT NORTHERN AND SOUTHERN AREAS OF EAST CHINA SEA.** AKINORI TAKAMI, Takao Miyoshi, Shiro Hatakeyama, National Institute for Environmental Studies,Tsukuba, Japan, Akio Shimono, Sanyu Plant Service Ltd., Sagamihara, Japan (p.1215)

9:40

13H4 **MODELING THE CONSEQUENCES OF DIFFERENT PARTICLE DEPOSITION ALGORITHMS OVER DIFFERENT LAND COVER TYPES.** S.C. Pryor, Atmospheric Science Program, Department of Geography, Indiana University, Bloomington, IN, USA, F.S. BINKOWSKI, C. Mattocks, Carolina Environmental Program, The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA (p.1216)

9:40

13H5 **EARLY INDICATIONS OF NITROGEN AND SULFUR SOURCES AT ROCKY MOUNTAIN NATIONAL PARK.** KRISTI GEBHART (p.1217)

9:40

13H6 **A DETAILED SNOW CORE RECORD OF RECENT ATMOSPHERIC DEPOSITION OF TRACE METALS TO CENTRAL (SUMMIT) GREENLAND.** MARTIN SHAFER. Erika von Schneidemesser, Joel Overdier, James Schauer, Environmental Chemistry and Technology, University of Wisconsin-Madison, Madison, WI; Gayle Hagler, Mike Bergin, Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA. (p.1218)

9:40

13H7 **CHARACTERIZATION OF PARTICLE GROWTH EVENTS AT WESTERN COASTAL SITE OF KOREA IN 2005.** Young-Gon Lee, Korea Global Atmosphere Watch Observatory, Meteorological Research Institute, KMA, Taean, Korea; Chun-Ho Cho, Korea Global Atmosphere Watch Observatory, Meteorological Research Institute, KMA, Taean, Korea; Byoung-cheol Choi, Remote Sensing Research Laboratory, Meteorological Research Institute, KMA, Seoul, Korea (p.1220)

9:40

13H8 **CHARACTERISTICS OF THE AEROSOL FORMATION AND GROWTH EVENTS IN THE KOREA GLOBAL ATMOSPHERE WATCH OBSERVATORY (KGAWO) DURING OCTOBER 2005.** Byoung-Cheol Choi,

Remote Sensing Research Laboratory, Meteorological Research Institute, KMA, Seoul, Korea; Young-Gon Lee, Korea Global Atmosphere Watch Observatory, Meteorological Research Institute, KMA, Taean, Korea (p.1222)

9:40

13H9 **GAS-PHASE POLYCHLOROBIPHENYLS AT TERRA NOVA BAY, ANTARCTICA.** Andrea Gambaro, Roberta Zangrando, Gabriele Capodaglio, Institute for the Dynamics of Environmental Processes – National Research Council, Venice, Italy; LAURA MANODORI, Silvia De Pieri, Ca' Foscari University, Venice, Italy (p.1224)

9:40

13H10 **AEROSOL PROPERTIES AT A BACKGROUND SITE IN INDIA.** Heikki Lihavainen, MIKA KOMPPULA, Veli-Matti Kerminen, Petteri Taalas, Yrjö Viisanen, Finnish Meteorological Institute, Helsinki, Finland; T S Panwar, Vishal Verma, R K Pachauri, The Energy and Resources Institute, New Delhi, India (p.1226)

9:40

13H12 **SPATIAL AND TEMPORAL VARIABILITY IN AMBIENT CONCENTRATIONS OF PM2.5 SULFATE, NITRATE, AMMONIUM AND PRE-CURSORS SO2, HNO3, AND NH3 AT A PREDOMINANTLY RURAL MONITOR NETWORK IN THE EASTERN and CENTRAL UNITED STATES.** Kirk R. Baker, Lake Michigan Air Directors Consortium, Des Plaines, Illinois, USA (p.1228)

9:40

13H13 **MEASUREMENT OF OXYGENATED AEROSOL FLUXES ABOVE AN OAK FOREST IN HAMPSHIRE, U.K.** RICK THOMAS, Gavin Phillips, Emily House, Eiko Nemitz, Centre for Ecology and Hydrology, Edinburgh, UK, Mark Broadmeadow, Forest Research, Alice Holt Lodge, Farnham, Surrey, GU10 4LH, England (p.1230)

9:40

13H14 **ATMOSPHERIC SAMPLING AT A REMOTE SITE ON ITALIAN ALPS.** M.G. PERRONE, L. Ferrero, Z. Lazzati, C. LoPorto, S. Petraccone, G. Sangiorgi, E. Bolzacchini, Department of Environmental Science and Technology, University of Milano-Bicocca, Milan, Italy; E. DelNevo, P. Fermo, F. Martino, A. Piazzalunga, F. Pedrielli, Department of Inorganic, Metallorganic and Analytical Chemistry, University of Milan, Milan, Italy (p.1231)

9:40

13H15 **PRESCRIBED FIRE EMISSIONS AND THE IMPACT ON AIR QUALITY OVER THE SOUTHEASTERN US IN SPRING.** TAO ZENG, Yuhang Wang, Yasuko Yoshida, School of Earth and Atmospheric Science, Georgia Institute of Technology, Atlanta, GA; Di Tian, Amistead G. Russell, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA; William R. Barnard, MACTEC Engineering and Consulting, Inc., Newberry, FL (p.1233)

9:40

13H16 **DETERMINATION OF IN SITU AEROSOL MASS SCATTERING EFFICIENCIES AS A FUNCTION OF RELATIVE HUMIDITY USING DATA FROM THE IMPROVE FINE AEROSOL MONITORING NETWORK.** JENNIFER A. ESKER, Kevin D. Perry, University of Utah, Salt Lake City, UT (p.1234)

9:40

13H18 **IDENTIFICATION OF SULFATE AND NITRATE SOURCES FOR SELECT IMPROVE SITES USING MULTI-RECEPTOR TRAJECTORY SOURCE APPORTIONMENT (TSA).** STEPHANIE LEE and Lowell Ashbaugh, Crocker Nuclear Lab, University of California, Davis, CA (p.1235)

9:40

13H19 **THE EFFECT OF TIME AVERAGING ON THE RELATIONSHIP BETWEEN AEROSOL EXTINCTION AND RELATIVE HUMIDITY.** MELISSA LUNDEN, Shaheen Tonse, De Ling Liu, Nancy Brown, Atmospheric Science Department, Lawrence Berkeley National Laboratory, Berkeley, CA, USA (p.1237)

9:40

13H21 **CONTRIBUTION OF SMOKE TO REGIONAL HAZE IN THE CLASS I AREAS OF THE WESTERN UNITED STATES.** JIN XU, Ilias Kavouras, Dave DuBois, Vic Etyemezian, Mark Green, Desert Research Institute, Las Vegas, NV; Marc Pitchford, NOAA Air Resource Laboratory, Las Vegas, NV (p.1238)

13H Symposium: NanoMaterials and Occupational Health-III (Poster)

Garden Court West

M. Hoover, C. J. Tsai, Chairs

9:40

13H22 **ON-LINE DEPOSITION CHAMBER FOR ORGANIC AEROSOLS ONTO LUNG EPITHELIAL CELL CULTURES – DEPOSITION CHARACTERISTICS AND FIRST RESULTS OF MORPHOLOGICAL ANALYSES AND CELLULAR RESPONSES.** MARKUS KALBER-

ER, ETH Zurich, Switzerland, Melanie Savi, Doris Lang, Marianne Geiser, University of Bern, Bern, Switzerland, Heinz Burtscher, Martin Fierz, University of Applied Sciences Northwestern Switzerland, Windisch, Switzerland, Martin Mohr, Empa, Material Science and Technology, Dübendorf, Switzerland (p.152)

9:40

13H23 **A COMPARISON OF THE NANOPARTICLE SURFACE AREA MONITOR AND THE SCANNING MOBILITY PARTICLE SIZER IN EVALUATING HVAC PANEL FILTER EFFICIENCY.** NICHOLAS STANLEY, Seong Chan Kim, David Y.H. Pui, University of Minnesota, Minneapolis, MN (p.154)

9:40

13H24 **WORKPLACE ASSESSMENT OF POTENTIAL EXPOSURE TO CARBONACEOUS NANOMATERIALS.** EILEEN BIRCH, Douglas Evans, Mark Methner, Robert McCleery, Keith Crouch, Bon-Ki Ku, National Institute for Occupational Safety and Health (NIOSH), Cincinnati, OH; Mark Hoover, Division of Respiratory Disease Studies (NIOSH), Morgantown, WV (p.155)

9:40

13H25 **REDUCTION OF EXPOSURE TO WELDING PROCESS GENERATED NANOPARTICLES BY VENTILATION CHANGES IN AN OCCUPATIONAL ENVIRONMENT.** MYONG-HWA LEE, Sang Bum Kim, Gyung Soo Kim, Korea Institute of Industrial Technology, Chonan-Si, Chungnam, South Korea; Joe Candela, Sheet Metal Workers, St.Louis, MO, USA; Pratim Biswas, Washington University in St. Louis, St.Louis, MO, USA (p.156)

9:40

13H26 **A NOVEL INSTRUMENT FOR MEASURING LUNG-DEPOSITED SURFACE AREA OF NANOPARTICLES.** MANISHA SINGH, Hee-Siew Han, Manpreet S. Phull and Brian L. Osmondson, TSI Incorporated, Shoreview, MN. (p.158)

9:40

13H27 **HIGHLIGHTS OF SELECTED CONTRIBUTIONS TO THE NANOPARTICLE INFORMATION LIBRARY (NIL).** ART MILLER, National Institute for Occupational Safety and Health, Spokane, WA; Mark Hoover, National Institute for Occupational Safety and Health, Morgantown WV. (p.160)

9:40

13H28 **PRODUCTION AND CHARACTERIZATION OF NANOFIBROUS FILTERS FOR RESPIRATORS.** LEON GRADO_, Albert Podgórski, Anna Ba_azy (p.162)

9:40

13H29 **NUCLEATION RATE SURFACES FOR METASTABLE SOLIDS: AEROSOL GENERATION IN SCRATCHED CRYSTAL.** MICHAEL ANISIMOV, Institute of Chemical Kinetics and Combustion SB RAS, 630090, Novosibirsk, Russia, Institute of Catalysis SB RAS, RAS, 630090, Novosibirsk, Russia, E-mail: anisimovmp@mail.ru; Marina Chaykina, Institute of the Solid State Chemistry and Mechanochemistry SB RAS, 630090, Novosibirsk, Russia (p.164)

9:40

13H30 **PATTERNING OF NANOPARTICLES ON SUBSTRATE BY CLUSTER ION DEPOSITION METHOD.** HIROYUKI SHIRAI, Motoaki Adachi, Osaka Prefecture University, Sakai, Osaka, Japan (p.166)

9:40

13H31 **SIZE SELECTIVE TEM SAMPLING DEVICE BASED ON THERMOPHORESIS AND DIFFUSION.** HANNU JOUTSINIEMI, Jouni Pyykönen, Unto Tapper, Ari Auvinen, Jorma Jokiniemi, VTT Technical Research Centre of Finland, Fine Particles, Espoo, Finland; Jorma Jokiniemi, University of Kuopio, Department of Environmental Sciences, Fine Particle and Aerosol Technology Laboratory, Kuopio, Finland (p.167)

9:40

13H32 **EVALUATION OF NANOPARTICLE EMISSION FOR TIO2 NANOPOWDER COATING MATERIALS.** Li-Yeh Hsu, Hung-Min Chein, Industry Technology Research Institute (p.168)

9:40

13H33 **DIAMETER DISTRIBUTION AND DISPERSION OF CARBON NANOTUBES BY RAMAN SPECTROSCOPY.** MADALINA M. CHIRILA, William P. Chisholm and Martin Harper, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Morgantown, WV (p.170)

Friday 11:00 AM – 11:20 AM
Coffee Break
Great River Ballroom, Garden Courts East and West

Friday 11:20 AM – 12:40 PM
Session 14

14A Aerosol Physical Properties (Platform)
Minnesota Ballroom
James Allan, M. Sitarski, Chairs
11:20

14A1 **DIFFUSIOPHORETIC ENHANCEMENT OF BROWNIAN COAGULATION OF KNUDSEN AEROSOLS; KINETICS OF CAPTURE OF SOOT PARTICLES BY MARINE AEROSOL DROPLETS.** MAREK A. SITARSKI, Husson College, Bangor, ME (p.755)

11:40

14A2 **EXPERIMENTAL METHODOLOGY FOR THE DETERMINATION OF DRY DEPOSITION VELOCITIES OF SUBMICRONIC AEROSOLS: APPLICATION TO DIFFERENT RURAL AND URBAN SUBSTRATES.** DENIS MARO, Olivier Connan, Didier Hébert, Marianne Rozet, Jacques Vendel, Denis Boulaud, Institut de Radioprotection et de Sûreté Nucléaire, France (p.756)

12:00

14A3 **THE CLASSIFICATION OF THE CHARGED PARTICLE FORMATION EVENTS MONITORED IN BOREAL FOREST.** ANNE HIRSIKKO, Tommi Bergman, Lauri Laakso, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland (p.758)

12:20

14A4 **A SIMPLE PROCEDURE FOR CORRECTING LOADING EFFECTS OF AETHALOMETER DATA.** AKI VIRKKULA , Timo Mäkelä and Risto Hillamo, Finnish Meteorological Institute, Research and Development, Helsinki, Finland, Tarja Yli-Tuomi, National Public Health Institute, Department of Environmental Health, Kuopio, Finland, Anne Hirsikko, Department of Atmospheric Sciences, University of Helsinki, Finland, Ismo K.Koponen, Department of Chemistry, University of Copenhagen, Denmark (p.760)

14B Biomass and Biogenic Aerosols (Platform)
Capitol Ballroom
Thomas Mentel, A. Prevot, Chairs
11:20

14B1 **CHARACTERISATION OF BIOMASS AEROSOL FROM AN AEROSOL MASS SPECTROMETER.** PAUL IVOR WILLIAMS, Hugh Coe, Jonathon Crosier, James Allan, Keith N Bower, School of Earth, Atmosphere and Environmental Science,

Universityof Manchester, Manchester, M60 1QD, UK; Doug Worsnop, Aerodyne Research Inc., Billerica, MA 01821-3976, USA; J. Hopkins, Jackie Hamilton, Ally Lewis,Department of Chemistry, University of York, Heslington, York, YO10 5DD, UK; James B McQuaid,Department of Chemistry, University of Leeds, Leeds, LS2 9JT; Ruth Purvis, FAAM, Cranfield University, Cranfield, Bedford, MK43 OAL; Jim Haywood, Martin Glew,The Met Office, Fitzroy Road, Exeter, EX1 3PB, UK (p.1239)

11:40

14B2 **BIOGENIC AEROSOL FORMATION IN A NATIVE AUSTRALIAN EUCALYPT FOREST.** TANJA SUNI, Eva van Gorsel, Helen Cleugh, Ray Leuning, Steve Zegelin, Dale Hughes, Mark Kitchen, Richard Hurley, CSIRO Marine and Atmospheric Research, Canberra, Australia; Larisa Sogacheva, Lauri Laakso, Anne Hirsikko, Miikka Dal Maso, Timo Vesala, Markku Kulmala, Division of Atmospheric Sciences, University of Helsinki, Finland (p.1241)

12:00

14B3 **AEROSOLS FROM WOOD BURNING VERSUS TRAFFIC IN ALPINE VALLEYS (AEROWOOD PROJECT).** ANDRE S.H. PREVOT, Jisca Sandradewi, M. Rami Alfarra, Kathrin Gaeggeler, Josef Dommen, Silke Weimer, Claudia Mohr, Markus Furger, Ernest Weingartner, Urs Baltensperger Laboratory of Atmospheric Chemistry, Paul Scherrer Institut, Switzerland; Soenke Szidat, Department of chemistry and biochemistry, University of Berne, Switzerland; Geir Legreid, Matthias Hill, Stefan Reimann, Swiss Federal Laboratories for Materials Testing and Resarch (Empa), Switzerland; Alexandre Caseiro, Anne-Kasper-Giebl5, Hans Puxbaum5, 4Institute of Chemical Technologies and Analytics, Vienna University of Technology, Austria; Aniko Veres, Zoltan Bozoki, University of Szeged, Hungary; Deborah Gross, Carleton College, Northfield, USA (p.1242)

12:20

14B4 **AEROSOL YIELDS FROM THE OZONOLYSIS OF ALPHA-PINENE, LIMONENE AND ISOPRENE AT 243-313** K. HARALD SAATHOFF, Ottmar Möhler, Karl-Heinz. Naumann, Ulrich Schurath, Institute for Meteorology and Climate Research, Forschungszentrum Karlsruhe, Karlsruhe,

Germany; Astrid Kiendler-Scharr, Thomas Mentel, Ralf Tillmann, Institute of Chemistry and Dynamic of the Geosphere, Forschungszentrum Jülich, Jülich, Germany; Åsa Jonsson, Mattias Hallquist, Department of Chemistry, Atmospheric Science, Göteborg University, Göteborg, Sweden; Yoshi Iinuma, Leibniz-Institut for Tropospheric Research, Leipzig, Germany (p.1243)

14C Symposium on Non-Invasive Scattering Techniques for Nanoaerosol Characterization: Neutrons, X-rays and Light-II (Platform)

Governors 1 and 5

Barbara Wysoulzil, C. Sorensen, Chairs

11:20

14C1 **SMALL ANGLE NEUTRON SCATTERING FROM NANODROPLETS: FORMATION RATES AND STRUCTURE.** BARBARA WYSLOUZIL, The Ohio State University, Columbus, OH; Gerald Wilemski University of Missouri – Rolla, Rolla MO; Reinhard Strey, Universität zu Köln, Köln, Germany (p.96)

11:40

14C2 **IN SITU CHARACTERIZATION OF NANOPARTICLES ON SURFACES BY GRAZING INCIDENCE SMALL-ANGLE SCATTERING.** RANDALL E. WINANS, Byeongdu Lee, Stefan Vajda, Soenke Seifert, Argonne National Laboratory, Argonne, IL (p.98)

12:00

14C3 **STATIC AND TIME-RESOLVED SMALL-ANGLE X-RAY SCATTERING OF AEROSOL FORMATION DURING COMBUSTION OF HYDROCARBON FUELS.** JAN P. HESSLER, Chemistry Division, Argonne National Laboratory, Argonne, IL (p.100)

12:20

14C4 **AGGREGATE GROWHT AND BRANCHING KINETICS IN FLAME SYNTHESIS OF NANOMETER-SCALE CERAMICS.** G. Beaucage, A. Kulkarni, N. Agashe, S. E. Pratsinis, H. K. Kammler, R. Jossen, T. Narayanan (p.102)

14D Symposium: Aerosol and Bioterrorism Defense-II (Platform)

Govenors 2 – 4

S. Grinshpun, Ed Stuebing, Chairs

11:20

14D1 **INDOOR REMOTE BIOLOGICAL AEROSOL MEASUREMENT.** JIM HO, Defence R and D Canada Suffield, Alberta, Canada (p.971)

11:40

14D2 **SIMULTANEOUS FORWARD AND BACKWARD HEMISPHERE TAOS PATTERNS OF RESPIRABLE AEROSOLS.** GUSTAVO E FERNANDES, Yong-Le Pan, Richard K. Chang, Yale University, New Haven, CT; Kevin Aptowicz, West Chester University, West Chester, PA; Ronald G. Pinnick, Steven C. Hill, US Army Research Laboratory, Adelphi, MD (p.973)

12:00

14D3 **ON-LINE MALDI OF HIGH MASS BIOAEROSOLS WITH ION TRAP MASS SPECTROMETERS.** WILLIAM A. HARRIS, Peter T.A. Reilly, William B. Whitten, Oak Ridge National Lab, Oak Ridge, TN (p.975)

12:20

14D4 **ATMOSPHERIC PRESSURE FOCUSING OF 3-10 MICRON DIAMETER PARTICLES.** Jody C. Wormhoudt, David K. Lewis and ANDREW FREEDMAN, Aerodyne Research, Inc., Billerica, MA; Rengsheng Deng and Kenneth A. Smith, Massachusetts Institute of Technology, Cambridge, MA (p.977)

14E Control Technology-III (Platform)

Wabasha Suite

Perng-Jy Tsai, Shannon Mahurin, Chairs

11:20

14E1 **THE PERFORMANCE OF NYLON 6 NANOFILTERS FOR REMOVING NANO-PARTICLES.** Gil-Tae Kim, Yu-Jin Hwang, Chang-Gun Lee, Seong-Ir Cheong, Hee-Soo Shin, and Jae-Keun Lee, Department of Mechanical Engineering, Pusan National University, San 30, Jangjeon-dong, Keumjeong-ku, 609-735, Busan, Korea; Ahn-Young Chull, Research Institute of Mechanical Technology, Pusan National University, San 30, Jangjeon-dong, Keumjeong-ku, Busan, 609-735, Korea (p.317)

11:40

14E2 **NANOFIBROUS MEDIA – PROMISING TOOLS FOR FILTRATION OF NANOSIZED AEROSOL PARTICLES.** LEON GRADON, Anna Balazy, Albert Podgorski, Warsaw University of Technology, Poland (p.319)

12:00

14E3 **EFFECT OF RELATIVE HUMIDITY ON THE PERFORMANCE OF FILTERS LOADED WITH SUPERMICRON-SIZED SODIUM CHLORIDE PARTICLES.** Ta-Chih Hsiao, and Da-Ren Chen, Environmental Engineering Science Program, Washington University in St. Louis, MO 63130, St Louis, USA (p.321)

12:20

14E4 **EVALUATION OF IODINE-TREATED FILTER MEDIA FOR THE REMOVAL AND DISINFECTION OF BACTERIAL SPORES AND VIRAL AEROSOLS.** JIN-HWA LEE, Chang-Yu Wu, Samuel Farrah, Katherine M. Wysocki, University of Florida, Gainesville, FL; Joseph Wander, Air Force Research Laboratory, Tyndall Air Force, Base, FL (p.323)

14F PM and Environmental Health-II (Platform)

Kellogg Suite

Bean Chen, Owen Moss, Chairs

11:20

14F1 **GENERATION OF HYDROXYL RADICALS FROM PARTICULATE TRANSITION METALS IN A SURROGATE LUNG FLUID.** EDGAR VIDRIO, Heejung Jung, Cort Anastasio, University of California, Davis, CA (p.979)

11:40

14F2 **MEASUREMENTS OF THE CONTRIBUTION OF ASBESTOS TO AEROSOLS DERIVED FROM BRAKE WEAR.** Stephen M. Wall, Jeff Wagner, Don Scales, and Diamon Pon, California Department of Health Services, Environmental Health Laboratory, Richmond, CA. 94804 (p.981)

12:00

14F3 **CONTROLLED HUMAN CHAMBER EXPOSURE STUDIES OF BIOMASS COMBUSTION AEROSOLS.** CHRISTOFFER BOMAN, Anders Nordin, Energy Technology and Thermal Process Chemistry, Umeå University, SE-901 87, Umeå, Sweden; Joakim Pagels, Mats Bohgard, Division of Aerosol Technology (EAT), Lund Institute of Technology, PO Box 118, SE-221 00, Lund, Sweden; Andreas Massling, Jakob Löndahl, Jenny Rissler, Erik Swietlicki, Department of

Physics, Lund Institute of Technology, PO Box 118, SE-221 00, Lund, Sweden; Anders Blomberg, Thomas Sandström, Department of Respiratory Medicine and Allergy, University Hospital, SE-901 85, Umeå, Sweden (p.982)

12:20

14F4 **COMPOSITION AND HEALTH EFFECTS OF GASOLINE ENGINE EMISSIONS.** JACOB D. MCDONALD, JeanClare Seagrave, Mathew Reed, Mathew Campen, Edward G. Barrett and Joe L. Mauderly (p.984)

14G Aerosol Chemistry-III (Poster)

Garden Court East

Chak Chan, Allison Aiken, Chairs

11:20

14G1 **CORRELATION BETWEEN PM-1 AND PARTICLE BOUND PAH.** Thomas Rettenmoser, Christian Gerhart, Thomas Petry, Roland Hagler, HANS GRIMM, Grimm Aerosol Technik GmbH, Ainring, Germany, Mathias Richter, GIP GmbH, Pouch, Germany (p.1082)

11:20

14G2 **INVESTIGATION OF ATMOSPHERIC TRANSFORMATIONS OF DIESEL EMISSIONS IN THE EUROPEAN PHOTOREACTOR (EUPHORE).** BARBARA ZIELINSKA, John Sagebiel, Shar Samy, Desert Research Institute, 89512 Reno, Nevada; Jacob McDonald, Jean-Clare Seagrave, Lovelace Respiratory Research Institute, Albuquerque, NM; Peter Wiesen, University of Wuppertal, Wuppertal, Germany; Klaus Wirtz, Fundacion Centro de Estudios Ambientales del Mediterraneo, Valencia, Spain (p.1083)

11:20

14G3 **MEASURING HETEROGENEOUS UPTAKE COEFFICIENT OF NO2 ON SOLID AND LIQUID (NH4)2SO4 SURFACES.** Carole Aghnatios,Sophie Sobanska, FLORENT LOUIS, Université des Sciences et Technologies de Lille, France (p.1085)

11:20

14G4 **N2O5 HYDROLYSIS ON COMPONENTS OF MINERAL DUST AND SEA SALT AEROSOL: COMPARISON STUDIES IN AN ENVIRONMENTAL CHAMBER.** PRAVEEN K MOGILI, Department of Chemical and Biochemical Engineering; Vicki H Grassian, Mark A Young, Department of Chemistry; Paul D Kleiber, Department of Physics and Astronomy, University of Iowa, Iowacity, IA. (p.1086)

11:20

14G5 **UPTAKE OF NITRIC ACID ON NACL AT DIFFERENT RELATIVE HUMIDITIES MEASURED BY BACKSCATTERING SPECTROMETRY.** MAURUS HESS, Ulrich K. Krieger, Claudia Marcolli, Thomas Peter, Swiss Federal Institute of Technology, Zurich, Switzerland; William A. Lanford, State University of New York, Albany, NY, USA (p.1088)

11:20

14G6 **TRACKING SMOG CHAMBER SOA WITH A RADIOCARBON TRACER.** CHARLES LEWIS, Tadeusz Kleindienst, Michael Lewandowski, John Offenberg, Edward Edney, U.S. Environmental Protection Agency, Research Triangle Park, NC; Mohammed Jaoui, Alion Science and Technology, Research Triangle Park, NC (p.1090)

11:20

14G7 **THE MS-CHAOS AT PSI (MASS SPECTROMETERS FOR THE CHEMICAL ANALYSIS OF ORGANIC SUBSTANCES AT THE SMOG CHAMBER OF THE PAUL SCHERRER INSTITUTE).** ANDRE S.H. PREVOT, M. Rami. Alfarra, Josef Dommen, Kathrin Gaeggeler, Astrid Gascho, Axel Metzger, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institut, Switzerland; Allison Aiken, Peter De Carlo, Edward Dunlea, Joel Kimmel, Jose-Luis Jimenez, University of Colorado, Boulder, USA; Aurelia Brunner, Markus Jocher, Agroscope, Zürich, Switzerland; Silke Hings, F. Drewnick, Max Planck Institute, Mainz, Germany; Deborah Gross, Carleton College, Northfield, USA; Kevin Wyche, Paul Monks, University of Leicester, Leicester, Great Britain; Megan Northway, Achim Trimborn, Doug Worsnop, Aerodyne Research, Billerica, USA (p.1091)

11:20

14G8 **CONTROLLED OH PRODUCTION VIA OZONE-ALKENE REACTIONS FOR USE IN AEROSOL AGING STUDIES.** ANDREW T. LAMBE, Jieyuan Zhang, Andrew P. Grieshop, Allen L. Robinson, Neil M. Donahue, Carnegie Mellon University, Pittsburgh, PA (p.1092)

11:20

14G10 **DETECTION OF B-CARYOPHYLLENE OXIDATION PRODUCTS IN SMOG CHAMBER SOA AND AMBIENT PM2.5 SAMPLES.** MICHAEL LEWANDOWSKI, John H. Offenberg, Tadeusz E. Kleindienst, Edward O. Edney, National Exposure Research

Laboratory, U.S. Environmental Protection Agency, RTP, NC; Mohammed Jaoui, Alion Science and Technology, RTP, NC (p.1094)

11:20

14G11 **OZONOLYSIS OF A-PINENE AT ATMOSPHERICALLY RELEVANT CONCENTRATIONS: TEMPERATURE DEPENDENCE OF AEROSOL YIELDS.** RAVI KANT PATHAK, , Neil M. Donahue, Carnegie Mellon University, Pittsburgh, PA; Charles O. Stanier, University of Iowa, Iowa City, IA; Spyros N. Pandis, Carnegie Mellon University, Pittsburgh, PA; and University of Patras, Patra, Greece (p.1095)

11:20

14G12 **SECONDARY ORGANIC AEROSOL FORMATION FROM THE PHOTOOXIDATION OF M, O, AND P-XYLENE.** Chen Song, Kwangsam Na, DAVID R. COCKER III, Department of Chemical and Environmental Engineering and College of Engineering, Center for Environmental Research and Technology, UC Riverside, Riverside, CA (p.1097)

11:20

14G13 **FIELD AND LABORATORY STUDIES OF PHOTO-CHEMICAL OXIDATION OF ORGANIC MOLECULAR MARKERS USED FOR SOURCE APPORTIONMENT.** EMILY A WEITKAMP, Kara E. Huff Hartz, Amy M. Sage, Neil M. Donahue, Allen L. Robinson Center for Atmospheric Particle Studies, Carnegie Mellon University, Pittsburgh, PA (p.1099)

11:20

14G14 **SEASONAL VARIATION AND FUNCTIONAL GROUPS ANALYSIS OF HIGH MOLECULAR WEIGHT COM-POUNDS IN THE WATER-SOLUBLE FRACTION OF ORGANIC URBAN AEROSOLS.** Vera SAMBUROVA, Renato Zenobi, Markus Kalberer, Swiss Federal Institute of Technology Zürich, Switzerland (p.1101)

11:20

14G15 **ATMOSPHERIC TRANSFORMATION OF ORGANIC COMPOUNDS ON ULTRAFINE DIESEL PARTICLES.** Zhong Chen and Britt A. Holmén, Civil and Environmental Engineering, University of Connecticut, Storrs, CT 06269,USA (p.1103)

11:20

14G16 **HETEROGENEOUS COMPOSITION OF SECONDARY ORGANIC AEROSOLS FORMED IN ENVIRONMENTAL CHAMBER: ANALYIS BY LASER IONIZATION TIME-OF-FLIGHT MASS SPECTROMETRY.** MASAHIRO

NARUKAWA, Yutaka Matsumi, Jun Matsumoto, Kenshi Takahashi, Solar-Terrestrial Environment Laboratory, Nagoya University, Toyokawa, Japan; Akihiro Yabushita, Horiba Ltd., Kyoto, Japan; Kei Sato, Takashi Imamura, National Institute for Environmental Studies, Tsukuba, Japan (p.1104)

11:20

14G17 **CARBOXYLIC AND DICARBOXYLIC ACIDS IN RURAL AEROSOLS FROM K-PUSZTA, HUNGARY.** IVAN KOURTCHEV, Magda Claeys, Department of Pharmaceutical Sciences, University of Antwerp (Campus Drie Eiken), Wilrijk, Belgium, Lucian Copolovici, Willy Maenhaut, Department of Analytical Chemistry, Institute for Nuclear Sciences, Ghent University, Ghent, Belgium (p.1105)

11:20

14G18 **FORMATION OF HIGH MOLECULAR-WEIGHT ORGANIC PEROXIDES IN THE OZONOLYSIS OF PURE AND MIXED METHYL OLEATE PARTICLES.** MICHIHIRO MOCHIDA, Yasmine Katrib, Scot T. Martin, Harvard University, Cambridge, MA; John T. Jayne, Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA (p.1106)

11:20

14G19 **HIGHLY TIME- AND SIZE-RESOLVED PARTICLE ACIDITY MEASUREMENTS IN PITTSBURGH AND IMPLICATIONS OF ACIDIC PARTICLES FOR SOA FORMATION.** QI ZHANG, Atmospheric Science Research Center, State University of New York, Albany, NY, 12203, USA; Jose-Luis Jimenez, CIRES, University of Colorado-Boulder, CO, 80309, USA; Douglas Worsnop, Manjula Canagaratna, Aerodyne Research Inc, Billerica, MA, 01821, USA (p.1107)

14H Atmospheric Aerosols: Clouds, Fog and Nucleation (Poster)

Garden Court East

Nicole Riemer, J. Wilson, Chairs

11:20

14H1 **MORPHOLOGY OF AEROSOL PARTICLES FROM A CARIBIC FLIGHT AT 10 KM ALTITUDE FROM 50º NORTH TO 30º SOUTH.** HUNG NGOC NGUYEN, Bengt G. Martinsson, Div. Nuclear Physics in Lund University, Lund Sweden. (p.1389)

11:20

14H2 **SINGLE PARTICLE MASS SPECTROMETRY OF ICE NUCLEATING AEROSOL AT THE JUNGFRAUJOCH HIGH ALTITUDE RESEARCH STATION.** DANIEL CZICZO, Stéphane Gallavardin, Olaf Stetzer, Ulrike Lohmann, Institute for Atmospheric and Climate Science, ETH-Zürich (p.1391)

11:20

14H3 **OBSERVATION OF DEHYDRATION IN THE NORTHERN HEMISPHERE MIDLATITUDE TROPOPAUSE REGION DURING STREAM 1998.** FARAHNAZ KHOSRAWI, Department of Applied Environmental Science, Stockholm, Sweden; Rolf Mueller,Juergen Beuermann, Paul Konopka, Cornelius Schiller, Forschungszentrum Juelich, Juelich, Germany (p.1392)

11:20

14H4 **BLACK CARBON CONTRIBUTION TO THE AEROSOL PHASE AND ITS SCAVENGED FRACTION IN MIXED PHASE CLOUDS AT THE HIGH ALPINE SITE JUNGFRAUJOCH (3580M ASL).** J. Cozic, B. Verheggen, U. Baltensperger, E. WEINGARTNER, Paul Scherrer Institut, Switzerland; S. Mertes, Leibniz-Institute for Tropospheric Research, Leipzig, Germany; M. Flynn, P. Connolly, K. Bower, University of Manchester, Manchester, United Kingdom; A. Petzold, German Aerospace Centre, Wessling, Germany (p.1393)

11:20

14H5 **SUBMICROMETER AEROSOL PARTICLES IN THE UPPER TROPOSPHERE AND LOWER STRATOSPHERE – RESULTS FROM THE CARIBIC PROJECT.** MARKUS HERMANN, Jost Heintzenberg, Manuela Reichelt, Alfred Wiedensohler, Leibniz Institute for Tropospheric Research,Leipzig, Germany, Carl A. M. Brenninkmeijer, Franz Slemr, Atmospheric Chemistry Department, Max Planck Institute for Chemistry, Mainz, Germany, Bengt G. Martinsson, Hung N. Nguyen, Division Nuclear Physics, Lund University, Lund, Sweden, Hans Schlager, Helmut Ziereis, Institute of Atmospheric Physics, Deutsches Zentrum für Luft- und Raumfahrt, Weßling, Germany, Andreas Zahn, Institute for Meteorology and Climate Research, Forschungszentrum Karlsruhe, Karlsruhe, Germany (p.1395)

11:20

14H6 **A STUDY OF NEW PARTICLE FORMATION IN THE UPPER TROPOSPHERE AND LOWER STRATOSPHERE DURING THE HIAPER PROGRESSIVE SCIENCE MISSIONS.** DAVID BENSON, Shan-Hu Lee, Kent State University, Kent, OH; James C. Wilson, University of Denver, Denver, CO; David Rodgers, Jorgen Jensen, Teresa Campos, Jeff Stith, National Center for Atmospheric Research, Broomfield, CO; Ru-Shan Gao, National Oceanic and Atmospheric Administration, Boulder, CO (p.1397)

11:20

14H7 **CHARACTERISTICS OF SUBMICRON AEROSOL NEAR THE TROPICAL TROPOPAUSE: IMPACT ON THE STRATOSPHERIC AEROSOL.** JAMES CHARLES WILSON, J. Michael Reeves, Bernard G. Lafleur, University of Denver, Denver, CO; M. J. Mahoney, Robert Herman, Jet Propulsion Laboratory, Pasadena, CA (p.1398)

11:20

14H8 **SIMULATION OF PSC TYPE IB FORMATION DURING THE ARCTIC WINTER 1997 AND 2005.** FARAHNAZ KHOSRAWI, ITM, Stockholm University, Sweden, U. Blum, Forsvarets Forskningsinstitutt, Kjeller, Norway, G. Baumgarten, Leibnitz Institut fuer Atmosphaerenphysik, Kuehlungsborn, Germany, K. H. Fricke, Physikalisches Institut der Universitate Bonn, Bonn, Germany, R. Mueller, Institute for Stratospheric Chemistry, Forschungszentrum Juelich, Germany (p.1399)

11:20

14H9 **CAN H2SO4/H2O OVER-LAYER EXIST AROUND ICE PARTICLES IN SUB-VISIBLE CIRRUS CLOUDS?** ANATOLI BOGDAN, Markku Kulmala, Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.1401)

11:20

14H10 **PHASE DIAGRAM OF DILUTED H2SO4/H2O AEROSOL DROPS: IMPLICATION FOR CIRRUS CLOUD FORMATION.** ANATOLI BOGDAN, Markku Kulmala, Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.1402)

11:20

14H11 **IMPACT OF H2SO4/H2O COATING ON RADIATIVE PROPERTIES OF SUB-VISUAL CIRRUS CLOUDS.** ANATOLI BOGDAN, 1Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Helsinki, Finland, Petri Raisanen, Finnish Meteorological Institute, Helsinki, Finland (p.1404)

11:20

14H12 **MICROPHYSICS OF FREEZING DILUTED H2SO4/H2O AEROSOL DROPS.** ANATOLI BOGDAN, Division of Atmospheric Sciences, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.1406)

11:20

14H13 **MIXING AND AEROSOL BEHAVIOUR IN VOLCANIC PLUMES.** CHARLES CLEMENT, Enviros-QuantiSci, Wantage, Oxon, U.K.; Tamsin Mather, Department of Earth Sciences, University of Cambridge, Cambridge, U.K. (p.1408)

11:20

14H14 **SIMULATION OF THE ACIDITY AND GROWTH OF MULTICOMPONENT NUCLEATED PARTICLES IN THE EASTERN UNITED STATES.** JAEGUN JUNG, Peter J. Adams, Spyros N. Pandis, Carnegie Mellon University, PA (p.1409)

11:20

14H15 **PERIODIC CHANGES OF CONDENSATIONAL AEROSOL WITH SOURCE IN FINITE SYSTEMS.** VALERY ZAGAYNOV, Alex Lushnikov, Marina Bahtyreva, Andrey Lutsenko, Karpov Institute of Physical Chemistry, Moscow, RUSSIA (p.1411)

11:20

14H16 **NUCLEATION AT THE FINISH BOREAL FOREST: AN ATTEMPT TO EXPLAIN SEASONAL BEHAVIOUR.** Boris Bonn, Anne Hirsikko and MARKKU KULMALA , Department of Physical Sciences, Atmospheric Sciences Division, University of Helsinki, P.O. Box 64, FIN-00014 Helsinki, Finland, Hannele Hakola2, Finnish Meteorological Institute, Air Chemistry Laboratory, P.O. Box 503, FIN-10101 Helsinki, Finland (p.1413)

11:20

14H17 **OBSERVATIONS OF ATMOSPHERIC NUCLEATION EVENTS IN THE LOWER FREE TROPOSPHERE.** Bart Verheggen, Julie Cozic, ERNEST WEINGARTNER, Urs Baltensperger, Paul Scherrer Institute, Villigen PSI, Switzerland; Marko Vana, Pasi

Aalto, Anne Hirsikko, Markku Kulmala, University of Helsinki, Finland (p.1415)

11:20

14H18 **EXPLAINING ATMOSPHERIC AEROSOL NUCLEATION EVENTS USING DATA MINING TOOLS, BACK-TRAJECTORIES AND LAND COVER CHARACTERISTICS.** HEIKKI JUNNINEN, Saara Hyvönen, Lauri Laakso, Miikka Dal Maso, Tiia Grönholm, Boris Bonn, Larisa Sogacheva, Petri Keronen, Pasi Aalto, Samuli Launiainen, Veijo Hiltunen, Toivo Pohja, Pertti Hari, Heikki Mannila, Markku Kulmala University of Helsinki, Helsinki, Finland; Harri Niska University of Kuopio, Kuopio Finland; Peter Tunved, Institute for Applied Environmental Research, Stockholm, Sweden; Veli-Matti Kerminen Finnish Meteorological Institute, Helsinki, Finland (p.1417)

11:20

14H19 **VARIABILITY OF THE AEROSOL SIZE DISTRIBUTION: NEW PARTICLE FORMATION AND GROWTH AT THE EASTERN COAST OF THE BALTIC SEA.** VIDMANTAS ULEVICIUS, Kristina Plauskaite, Environmental Physics and Chemistry Laboratory, Institute of Physics, Savanoriu av. 231, LT-02300 Vilnius (p.1419)

11:20

14H20 **ONSET OF AEROSOL FORMATION BY LARGE EDDIES IN THE ATMOSPHERIC BOUNDARY LAYER.** JOHANNA LAUROS, Miikka Dal Maso, Markku Kulmala, University of Helsinki, Helsinki, Finland; E. Douglas Nilsson, University of Stockholm, Stockholm, Sweden (p.1421)

11:20

14H21 **NUCLEATION AND PARTICLE FORMATION STUDIES USING A REGIONAL CTM.** ARI ASMI, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Helsinki, Finland (p.1422)

11:20

14H22 **ON THE BUDGET OF NUCLEATION MODE PARTICLES ABOVE THE BOREAL FOREST IN FINLAND.** WOLFGANG JUNKERMANN, research center Karlsruhe, IMK-IFU, Garmisch-Partenkirchen, Germany (p.1423)

11:20

14H23 **NEW PARAMETERIZATION OF WATER-SULPHURIC ACID-AMMONIA TERNARY NUCLEATION IN ATMOSPHERIC CONDITIONS.** JOONAS MERIKANTO, Ismo Napari, Hanna Vehkamäki, Tatu Anttila, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland (p.1424)

11:20

14H24 **CONNECTION BETWEEN SPRING RECOVERY OF PHOTOSYNTHESIS IN BOREAL FOREST AND ATMOSPHERIC PARTICLE FORMATION: ANALYSIS OF LONG TIME SERIES.** MIIKKA DAL MASO, Pertti Hari, Markku Kulmala, University of Helsinki, Helsinki, Finland (p.1425)

11:20

14H25 **TIME SERIES ANALYSIS OF ATMOSPHERIC PARTICLE FORMATION: A COMPARISON OF FOUR NORDIC STATIONS.** MIIKKA DAL MASO, Ilona Riipinen, Anne Hirsikko, Robert Wagner, Laura Korhonen, Ville Suur-Uski, Pasi P. Aalto, Markku Kulmala, University of Helsinki, Helsinki, Finland; Mika Komppula, Finnish Meteorological Institute, Helsinki, Finland; Peter Tunved, Hans-Christen Hansson, Stockholm University, Stockholm, Sweden (p.1426)

11:20

14H26 **CHARACTERISTICS OF AIR IONS AND AEROSOL PARTICLES AT THE HIGH ALPHINE RESEARCH STATION JUNGFRAUJOCH.** MARKO VANA, Anne Hirsikko, Pasi Aalto, Markku Kulmala, University of Helsinki, Finland; Eduard Tamm, University of Tartu, Estonia; Bart Verheggen, Julie Cozic, Ernest Weingartner, Urs Baltensperger, Paul Scherrer Institute, Switzerland (p.1427)

11:20

14H27 **ACTIVATION PROPERTIES OF ATMOSPHERIC NANOPARTICLES IN THE SIZE RANGE 3 TO 10 NANOMETERS: CONTRASTS BETWEEN URBAN AND RURAL OBSERVATIONS.** Wolfram Birmili, Genrik Mordas, Tuukka Petäjä, Pasi P. Aalto, Ilona Riipinen, Tiia Grönholm, Kaarle Hämeri, and MARKKU KULMALA (p.1428)

11:20

14H28 **IDENTIFYING THE CONTRIBUTION OF ION INDUCED NUCLEATION FROM MEASUREMENTS OF CHARGE DISTRIBUTIONS AND AEROSOL SIZE DISTRIBUTIONS.** Kenjiro Iida, Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota, Minneapolis, MN; Matthew Dunn, James N.

Smith, Fred Eisele, National Center for Atmospheric Research, Boulder, CO; Pat Keady, Quant Technologies, LLC, Blaine, MN (p.1430)

11:20

14H29 **ICE NUCLEATION CHARACTERISTICS OF MINERAL DUST AEROSOL PARTICLES AFTER EXPOSURE TO AMMONIA WITH A CONTINUOUS FLOW DIFFUSION CHAMBER.** ABDUS SALAM, Ulrike Lohmann, Glen Lesins, Department of Physics and Atmospheric Science, Dalhousie University, Halifax, NS, Canada (p.1432)

11:20

14H30 **AEROSOL ACTIVATION BEHAVIOUR PREDICTED USING A PRIMITIVE FORM OF THE KÖHLER EQUATION AND A VARIETY OF SURFACE TENSION MODELS.** DAVID TOPPING, Gordon McFiggans, Hugh Coe. School of Earth, Atmospheric and Environmental Science, Manchester University, Manchester, UK; Gyula Kiss,Zsófia Varga. Hungarian Academy of Sciences, Univeristy of Veszprem, Veszprem, Hungary; Miheala Mircea, Stefano Decesaril, Institute of Atmospheric Sciences and Climate (ISAC), National Research Council, Bologna, Italy. (p.1434)

11:20

14H31 **MODEL CALCULATIONS AND CHARACTERISATION OF THE FAST ICE NUCLEUS COUNTER FINCH.** BJÖRN NILLIUS, Ruprecht Jaenicke, Johannes Gutenberg University, Mainz, Germany; Heinz Bingemer, Thomas Wetter, Ulrich Bundke, Wolfgang Goethe University, Frankfurt, Germany (p.1436)

11:20

14H32 **THE FRIDGE (FRANKFURT ICE-NUCLEI DEPOSITION FREEZING EXPERIMENT) COUNTER NEW DEVELOPMENTS AND FIRST MEASUREMENTS.** ULRICH BUNDKE, Heinz Bingemer, Holger Klein, Thomas Wetter, University of Frankfurt, Frankfurt, Germany (p.1437)

11:20

14H33 **CLOUD MODEL STUDIES ON THE EFFECT OF HUMIC-LIKE SUBSTANCES ON CLOUD DROPLET ACTIVATION.** HARRI KOKKOLA, Finnish Meteorological Institute, Kuopio Unit, Finland; Riikka Sorjamaa, Anu Peräniemi, Tomi Raatikainen, Ari Laaksonen, University of Kuopio, Finland (p.1438)

11:20

14H34 **ACTIVITIES AT A NEW URBAN AEROSOL-CLOUD INTERACTION MEASUREMENT SITE IN PUIJO TOWER.** ARI LESKINEN, Kari Lehtinen, Harri Portin, Heikki Lihavainen, Mika Komppula, Yrjö Viisanen, Finnish Meteorological Institute, Finland; Kari Lehtinen, Ari Laaksonen, Pasi Miettinen, University of Kuopio, Finland (p.1439)

11:20

14H35 **INHERENT CONTAMINATION OF NEWBORN CLOUD DROPLET CAUSED BY ASSIMILATARY DISSOLUTION OF KERNEL CCN IN ITS BODY WATER.** SADATAKA SHIBA, Osaka University, Toyonaka, Japan; Shunsaku Yagi, Setsunan University, Neyagawa, Japan (p.1441)

11:20

14H36 **AIRBORNE MEASUREMENTS OF THE EVOLUTION AND CLOUD INTERACTIONS OF AEROSOLS IN POLLUTED PLUMES.** KEITH BOWER, James Allan, Jonathan Crosier, Gerard Capes, Hugh Coe, Martin Gallagher, Gordon McFiggans, David Topping, Tom Choularton, University of Manchester, UK; Phil Brown, The Met Office, UK; Alastair Lewis, University of York, UK; Claire Reeves, University of East Anglia, UK (p.1443)

11:20

14H37 **AIRCRAFT CLOUD CONDENSATION NUCLEI (CCN) MEASUREMENTS IN DIVERSE ENVIRONMENTS.** James G. Hudson, Desert Research Institute (p.1445)

11:20

14H38 **METHODS FOR THE ANALYSIS OF CARBONACEOUS AEROSOL MOLECULAR MARKERS IN RAIN AND SNOW.** ERIKA VON SCHNEIDEMESSER, James J. Schauer, University of Wisconsin-Madison, Madison, WI (p.1447)

11:20

14H39 **CCN STUDIES AT DIFFERENT LOCATIONS.** Barbara Ervens, Graham Feingold, Elisabeth Andrews, John A. Ogren, NOAA Earth Systems Laboratory, Boulder, CO; MICHAEL J. CUBISON, Kenneth Docherty, Ingrid Ulbrich, Jose L. Jimenez, University of Colorado, CO; Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA. (p.1448)

11:20

14H40 **STABILITY OF PARTICULATE WOOD SMOKE MARKER SPECIES TOWARDS CLOUD PROCESSING.** HEIDE MCILWRAITH, Pierre Herckes, Arizona State University, Tempe, AZ (p.1450)

11:20

14H42 **TRACKING THE FATE AND RADIATIVE FORCING POTENTIAL OF ANTHROPOGENIC AEROSOL IN A GLOBAL 3D AEROSOL MICROPHYSICS MODEL.** PAUL MANKTELOW, Dominick Spracklen, Kirsty Pringle, Ken Carslaw, Graham Mann, Martyn Chipperfield, University of Leeds, Leeds, UK (p.1451)

11:20

14H43 **PRELIMINARY ANALYSIS OF THE AEROSOL PARTICLE SIZE DISTRIBUTION IN AIR MASSES ARRIVED AT HYYTIÄLÄ, SOUTHERN FINLAND, FROM THE EAST USING BACK TRAJECTORY ANALYSIS.** Larisa Sogacheva, Miikka Dal Maso, Markku Kulmala, Department of Physical Sciences, University of Helsinki (p.1453)

11:20

14H44 **PROPERTIES OF AGED FOREST FIRE PLUMES AFTER INTERCONTINENTAL TRANSPORT.** Bernadett Weinzierl, ANDREAS PETZOLD, Markus Fiebig, Heidi Huntrieser, Andreas Minikin, Deutsches Zentrum für Luft- und Raumfahrt, Wessling, Germany, Andreas Stohl, Norwegian Institute for Air Research, Kjeller, Norway, Elsa Real, Kathy Law, CNRS Service Aeronomie, Paris, France, Julie Cozic, Ernest Weingartner, Paul Scherrer Institute, Villigen PSI, Switzerland (p.1455)

11:20

14H45 **QUANTIFYING THE LONG-RANGE TRANSPORT OF NORTH AFRICAN MINERAL DUST TO THE EASTERN UNITED STATES USING POSITIVE MATRIX FACTORIZATION.** KEVIN D. PERRY, Scott A. Robertson, University of Utah, Salt Lake City, UT (p.1457)

11:20

14H46 **OBSERVATIONS OF PROCESSED ASIAN POLLUTION WITH A HIGH RESOLUTION AERODYNE AEROSOL MASS SPECTROMETER FROM THE C-130 AIRCRAFT DURING THE INTEX-B FIELD CAMPAIGN.** EDWARD DUNLEA, Peter DeCarlo, Joel Kimmel, Allison Aiken, Jose Jimenez, Cooperative Institute for Research in Environmnetal Science, University of Colorado, Boulder, CO (p.1458)

11:20

14H47 **MASS ACCOMMODATION OF H2SO4 AND CH3SO3H.** DAVID HANSON, Augsburg College, Minneapolis, MN and NCAR, Boulder, CO (p.1460)

11:20

14H48 **DETECTING NEUTRAL ATMOSPHERIC CLUSTERS WITH A CPC PAIR: FIRST RESULTS.** ILONA RIIPINEN, Genrik Mordas, Tuukka Petäjä, Anne Hirsikko, Mikko Sipilä, Kaarle Hämeri, Markku Kulmala, Department of Physical Sciences, University of Helsinki, Finland (p.1462)

11:20

14H49 **FAST AIRBORNE AEROSOL SIZE AND COMPOSITION MEASUREMENTS FROM THE C-130 DURING THE MIRAGE-MEX 2006 FIELD CAMPAIGN.** PETER DECARLO, Ed Dunlea, Joel Kimmel, Jose-Luis Jimenez, University of Colorado, Boulder, CO (p.1464)

11:20

14H50 **PREDICTED SECONDARY ORGANIC AEROSOL CONCENTRATIONS FROM THE OXIDATION OF ISOPRENE IN THE EASTERN UNITED STATES.** TIMOTHY LANE and Spyros Pandis, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA (p.1465)

11:20

14H51 **PARTICLE EMISSIONS FROM BIOMASS BURNING.** ARINTO WARDOYO, Lidia Morawska, Zoran Ristovski, Jack Marsh, International Laboratory for Air Quality and Health, Queensland University of Technology, Brisbane, Australia (p.1467)

11:20

14H53 **SIMULATING SECONDARY ORGANIC AEROSOL FORMATION FROM THE OXIDATION OF BIOGENIC HYDORCARBONS IN THE EASTERN UNITED STATES.** TIMOTHY LANE, Ravi Pathak, Neil Donahue, Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA (p.1469)

11:20

14H54 **ATMOSPHERIC PROCESSING OF BIOGENIC EMISSIONS: AN IMPORTANT PATHWAY FOR THE FORMATION OF SECONDARY ORGANIC AEROSOL AND SOME HULIS COMPONENTS.** Song Gao, The Hong Kong University of Science and Technology, Kowloon, Hong Kong; Jason D. Surratt, Mona Shahgholi, John H. Seinfeld, California Institute of Technology, Pasadena, CA, USA; Eladio M. Knipping, Electric Power Research Institute, Plo

Alto, CA, USA; Eric S. Edgerton, Atmospheric Research and Analysis, Inc., Cary, NC, USA. (p.1470)

11:20

14H55 **CONTRIBUTION OF FUNGAL SPORES TO ORGANIC CARBON IN URBAN AND URBAN-FRINGE AEROSOLS.** HEIDI BAUER, gert Weinke, Elisabeth Schueller, Anne Kasper-Giebl, Hans Puxbaum, Vienna University of Technology, Vienna, Austria (p.1471)

11:20

14H56 **ON MEASURING THE CRITICAL DIAMETER OF CLOUD CONDENSATION NUCLEI USING MOBILITY SELECTED AEROSOL.** MARKUS D. PETTERS, Anthony J. Prenni, Sonia M. Kreidenweis, Paul J. DeMott. Department of Atmospheric Science, Colorado State University, Fort Collins, USA

Friday 12:40 PM – 2:00 PM
Lunch (on your own)

Friday 2:00 PM – 3:40 PM
Session 15
15A Long Range Transport (Platform)
Minnesota Ballroom
Alexander Laskin, S. Kreidenweis, Chairs

2:00

15A1 **A PROBABILISTIC MODEL FOR THE RESUSPENSION OF SOIL LEAD INTO THE BOUNDARY LAYER.** ALLISON HARRIS, Cliff Davidson, Carnegie Mellon University, Pittsburgh, PA (p.1245)

2:20

15A2 **MODELING THE LONG-RANGE TRANSPORT OF LARGE, AIRBORNE PARTICLES USING SIZE-RESOLVED DEPOSITION AND SUSPENSION VELOCITIES.** KENNETH E. NOLL and Obatosin O. Aluko, Dept. of Chemical and Environmental Engineering, Illinois Institute of Technology, Chicago, IL (p.1246)

2:40

15A3 **A COMPARISON OF THE NAVY AEROSOL ANALYSIS AND PREDICTION SYSTEM (NAAPS) TO IN-SITU AEROSOL MEASUREMENTS IN THE CONTINENTAL U.S.: TRANSPORT VS. LOCAL PRODUCTION OF SOIL DUST AEROSOL.** KELLEY C. JOHNSON, Sonia M. Kreidenweis, Department of Atmospheric Science, Colorado State University, Fort Collins, CO; Marcin Witek, Interdisciplinary Centre for Mathematical and Computational Modeling,

Warsaw University, Poland; Douglas L. Westphal, Piotr Flatau, Naval Research Laboratory, Marine Meteorology Division, Monterey, CA (p.1248)

3:00

15A4 **TRANSPORT OF MICROORGANISMS TO ISRAEL DURING SAHARAN DUST EVENTS.** Pnina Schlesinger, YAACOV MAMANE, Technion, Haifa, Israel; Isabella Grishkan, University of Haifa, Haifa, Israel (p.1250)

3:20

15A5 **THE ATMOSPHERIC COMPOSITION OF SUBMICRON AEROSOL MEASURED USING AN AIRBORNE AEROSOL MASS SPECTROMETER DURING ITOP.** Hugh Coe, Jonathan Crosier, Paul Williams, Keith Bower, JAMES ALLAN, University of Manchester, UK; Alastair Lewis, James Hopkins, University of York, UK; Doug Worsnop, John Jayne, Aerodyne Research Inc, MA; and Jose Jimenez, University of Colorado, CO (p.1252)

15B VOC/SVOC Aerosols-I (Platform)

Capitol Ballroom

K. Max. Zhang, S. Pandis, Chairs

2:00

15B1 **MODELING OF PHASE EQUILIBRIUM AND MASS TRANSFER FOR ORGANIC AEROSOL PARTICLES.** Neal R. Amundson, ALEXANDRE CABOUSSAT, Jiwen He, Department of Mathematics, University of Houston, Houston, TX; John H. Seinfeld, Department of Chemical Engineering, California Institute of Technology, Pasadena, CA (p.1577)

2:20

15B2 **GASES, VAPORS, PARTICLES: THE CARBON MASS BALANCE IN SECONDARY ORGANIC AEROSOL FORMATION.** THOMAS F. MENTEL, Ralf Tillmann, Astrid Kiendler-Scharr, Andreas Wahner, ICG-II, Forschungszentrum Juelich, Juelich, Germany; Harald Saathoff, IMK-AAF, Forschungszentrum Karlsruhe, Karlsruhe, Germany (p.1579)

2:40

15B3 **USING THE SEMI-VOLATILE BASIS SET: PRACTICAL APPLICATIONS.** NEIL M. DONAHUE, Center for Atmospheric Particle Studies, Carnegie Mellon University, Pittsburgh, PA (p.1581)

3:00

15B4 **ATMOSPHERIC SECONDARY ORGANIC AEROSOL YIELDS: PARAMETER ESTIMATION FROM SMOG CHAMBER RESULTS.** CHARLES STANIER, University of Iowa, Iowa City, IA; Neil Donahue, Carnegie Mellon University, Pittsburgh, PA; Spyros Pandis, University of Patras, Patra, Greece (p.1583)

15C Physics of Nanoparticles (Platform)

Governors 1 and 5

Brian Henz, M. Kulmala, Chairs

2:00

15C1 **SINTERING KINETICS OF SILICA NANOPARTICLES: COMPARISON OF THEORY AND EXPERIMENT.** Martin J. Kirchhof, HANS-JOACHIM SCHMID, Henning Förster, Wolfgang Peukert, Univ. Erlangen-Nuremberg, Particle Technology Group, Erlangen, Germany (p.104)

2:20

15C2 **PARALLEL MOLECULAR DYNAMICS SIMULATIONS OF AEROSOL GOLD NANOPARTICLES WITH SELF-ASSEMBLED ALKYLTHIOLATE MONOLAYERS.** BRIAN HENZ, U.S. Army Research Laboratory, Aberdeen Proving Ground, MD; Michael Zachariah, University of Maryland, College Park, MD (p.106)

2:40

15C3 **MULTIPLE THERMAL FRAGMENTATION OF NANOPARTICLES: EVOLUTION OF PARTICLE TOTAL NUMBER CONCENTRATION.** DMITRI K. GRAMOTNEV, Galina Gramotnev , Applied Optics Program, School of Physical and Chemical Science, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia (p.107)

3:00

15C4 **EXPERIMENTAL OBSERVATION OF TWO–PHOTON PHOTOEFFECT FROM SILVER NANOPARTICLES.** Alex Lushnikov, MIKKO SIPILÄ, Leonid Khriachtchev, Markku Räsänen, Markku Kulmala (p.109)

3:20

15C5 **COMPARISON OF TWO DIFFERENT METHODS FOR THE DETERMINATION OF THE FRACTAL DIMENSION OF SOOT AGGREGATES: TEM MEASUREMENT AND SERIAL ANALYSIS OF THE AERODYNAMIC AND ELECTRICAL MOBILITY DIAMETERS.** FRANCOIS-XAVIER OUF, Jacques Vendel, Institut de

Radioprotection et de Sûreté Nucléaire, Laboratoire de Physique et Métrologie des Aérosols, Gif-sur-Yvette Cedex, France; Alexis Coppalle, Marc-Emmanuel Weill, Jérôme Yon, Complexe de Recherche Interprofessionnelle en Aérothermochimie, UMR 6614, Saint-Etienne du Rouvray Cedex, France (p.111)

15D Bioaerosol Detection and Identification-I (Platform)
Govenors 2 – 4
Reinhard Nießner, Jim Davis, Chairs
2:00

15D1 **BIOAEROSOL AND BIOMOLECULE CHARACTERIZATION BY SURFACE-ENHANCED RAMAN SPECTROSCOPY.** E. JAMES DAVIS, Atanu Sengupta, C. Brant Wilson, Michael Volny, Frantisek Turecek, University of Washington, Seattle, WA (p.986)

2:20

15D2 **AN AEROSOL MASS SPECTROMETER FOR BIOAEROSOLS.** A.L. VAN WUIJCKHUIJSE, Ch.E. Kientz, O. Kievit, TNO Defence, Security and Safety, Rijswijk, The Netherlands; M.A. Stowers, W.A. Kleefsman and J.C.M. Marijnissen, Delft University of Technology, Delft, The Netherlands (p.988)

2:40

15D3 **PERFORMANCE OF AN AEROSOL MASS SPECTROMETER.** INEKE KLEEFSMAN, Michael A. Stowers, Jan .C.M. Marijnissen, Delft University of Technology, Faculty of Applied Physics, Delft, The Netherlands, Arjan L. van Wuijckhuijse, Charles E. Kientz, TNO Prins Maurits Laboratory, Rijswijk, The Netherlands (p.990)

3:00

15D4 **SINGLE PARTICLE FLUORESCENCE AND MASS SPECTROMETRY IN VARIOUS ENVIRONMENTS AS OBSERVED BY BIOLOGICAL AEROSOL MASS SPECTROMETRY (BAMS).** KEITH R. COFFEE, George R. Farquar, Herbert J. Tobias, David P. Fergenson, Vincent J. Riot, Bruce W. Woods, Paul T. Steele, Matthias Frank, Eric E. Gard, Lawrence Livermore National Laboratory, Livermore Ca, United States (p.991)

15E Control Technology-IV (Platform)
Wabasha Suite
Chung-Te Lee, Dibyendu Mukherjee, Chairs
2:00

15E1 **EVALUATION OF CHARGING STATE OF RESIN WOOL FILTER BY DEPOSITION OF CHARGED PARTICLES.** Jin-Cheol Kim, Yoshio Otani, University of Kanazawa, Kanazawa city, JAPAN (p.325)

2:20

15E2 **INFLUENCES ON COLLECTION OF AIRBORNE BACTERIAL SPORES BY CHARGED FILTER MEDIA.** PETER C. RAYNOR, Jo Anne Brock, Monika Vadali, University of Minnesota, Minneapolis, MN (p.326)

2:40

15E3 **FILTRATION OF PARTICLES WITH DIFFERENT SHAPES ON FIBROUS FILTERS.** IGOR AGRANOVSKI, Lucija Boskovic, Igor S. Altman, Roger D. Braddock, Griffith University, Brisbane, QLD, Australia; Toshihiko Myojo, National Institute of Industrial Health, Kawasaki, Japan; Mansoo Choi, National CRI Center for Nano Particle Control, Seoul, Korea (p.328)

3:00

15E4 **NUMERICAL DETERMINATION OF COLLISION EFFICIENCIES FOR THE ELECTROSCAVENGING OF AEROSOL PARTICLES BY DROPLETS.** Meng Zhang, THOMAS KUEHN, Particle Technology Laboratory, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN (p.330)

3:20

15E5 **CFD MODELLING OF NANOPARTICLES REMOVAL IN AN AXIAL FLOW CYCLONE OPERATING IN VACUUM CONDITIONS.** Rafal Przekop, Sheng-Chieh Chen ,Chuen-Jinn Tsai, National Chiao Tung University, Hsinchu, Taiwan, ARKADIUSZ MOSKAL, Warsaw University of Technology, Warsaw, Poland (p.332)

15F Deposition and Resuspension (Platform)
Kellogg Suite
Jonathan Allen, H. Fissan, Chairs
2:00

15F1 **PREDICTION AND VALIDATION OF AEROSOL DEPOSITION FROM TURBULENT FLOWS IN STRAIGHT AND CURVED PIPES USING COMPUTATIONAL FLUID DYNAMICS.** SIMON PARKER, Timothy Foat, Steve Preston, Dstl, Salisbury, United Kingdom (p.762)

2:20

15F2 **PARTICLE DEPOSITION ON TWO PARALLEL, HORIZONTAL PLATES UNDER THE INFLUENCE OF THERMOPHORESIS AND ELECTROPHORESIS.** CHRISTOF ASBACH, Till van der Zwaag, Thomas Engelke, Institute of Energy and Environmental Technology (IUTA), Se-Jin Yook, University of Minnesota, Jung Hyeun Kim, University of Seoul, Heinz Fissan, Institute of Energy and Environmental Technology (IUTA), David Y.H. Pui, University of Minnesota (p.764)

2:40

15F3 **DRY DEPOSITION OF FINE PARTICLES TO AN AGRICULTURAL FIELD MEASURED BY EDDY-CORRELATION MASS SPECTROMETRY.** DANIEL A. GONZALES, Jonathan O. Allen, Arizona State University, Tempe, AZ, USA (p.766)

3:00

15F4 **SINGLE-MICROSPHERE TO MULTI-LAYER AGGLOMERATE DETACHMENT FROM SURFACES.** PATRICK DUNN, University of Notre Dame, Notre Dame, IN; Abdelmaged Ibrahim, Cairo University, Giza, Egypt (p.768)

3:20

15F5 **AEROSOL RESUSPENSION IN TURBULENT TUBE FLOW – MEASUREMENTS AND MODELING.** ARI S.J. AUVINEN, Teemu Kärkelä, VTT Technical Research Centre of Finland – Fine Particles, Espoo, Finland; Johannes Roine, VTT Technical Research Centre of Finland – Analyser Development, Espoo, Finland; Jorma J.K. Jokiniemi; University of Kuopio, Department of Environmental Sciences, Fine Particle and Aerosol Technology Laboratory, Kuopio, Finland (p.769)

Friday 3:40 PM – 4:00 PM
Coffee Break
Garden Courts East and West

Friday 4:00 PM – 5:20 PM
Session 16
16A Atmospheric Particle Concentrations and Composition (Platform)
Minnesota Ballroom
Anthony Strawa, P. Tsai, Chairs
4:00

16A1 **SIZE DISTRIBUTIONS OF WATER-SOLUBLE ORGANIC CARBON AND OXALATE IN AEROSOLS AT A COASTAL URBAN SITE IN CHINA: CHARACTERISTICS, SOURCES AND FORMATION MECHANISMS.** Xiao-Feng Huang, JIAN ZHEN YU, Zibing Yuan, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China; Ling-Yan He, Shenzhen Graduate School, Peking University, Shenzhen, China (p.1254)

4:20

16A2 **PM10, PM2.5, PM1 AND PARTICLE NUMBER CONCENTRATIONS IN AMBIENT AIR – A COMPARATIVE STUDY FROM LONG TERM PARALLEL MEASUREMENTS AT DIFFERENT SITES IN SWITZERLAND.** ROBERT GEHRIG, Christoph Hüglin, Brigitte Buchmann, Empa Materials Science and Technology, Duebendorf, Switzerland (p.1256)

4:40

16A3 **ASSESSING AEROSOL CONCENTRATIONS AND TRANSFORMATIONS OVER THE UK USING AIRCRAFT MEASUREMENTS AND A CMAQ MODELS3 MADRID.** HUGH COE, James Allan, Keith Bower, Michael Bane, Gerard Capes, Jonathan Crosier, Martin Gallagher, Gordon McFiggans, Paul Williams, University of Manchester, Manchester, UK; Eiko Nemitz, Debbie Poulsen, David Fowler. Centre for Ecology and Hydrology, Bush Estate, Edinburgh, UK (p.1258)

5:00

16A4 **CHARACTERISTICS OF POLYCYCLIC AROMATIC HYDROCARBON (PAH) EMISSIONS FROM A UH-1H HELICOPTER ENGINE.** PERNG-JY TSAI, Yue-Cheng Chen, Department of Environmental and Occupational Health, Medical College, National Cheng Kung University, Taiwan; Shi-Neng Uang, Institute of Occupational Safety and Health, Council of Labor Affairs, Executive Yuan, Taiwan; Wen-Jhy Lee, Department of Environmental Engineering, National Cheng Kung University, Taiwan (p.1260)

16B VOC/SVOC Aerosols-II (Platform)
Capitol Ballroom
Neil Donahue, S. Shih/W. Lee, Chairs
4:00

16B1 **COMPARISONS OF POLYCHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS IN THE AMBIENT AIR OF AN INDUSTRIALIZED AREA AND TWO AREAS NEAR MUNICIPAL SOLID WASTE INCINERATION PLANTS.** SHUN-I SHIH, Department of Environmental Engineering, Kun Shan University of Technology, Tainan County, Taiwan; Wen-Jhy Lee, Chun-Chi Chen, Hung-Chieh Chen, Department of Environmental Engineering, Sustainable Environment Research Centre, National Cheng Kung University, Tainan City, Taiwan; Lin-Chi Wang, Guo-Ping Chang-Chien, Department of Chemical and Material Engineering, Cheng-Shiu University, Kaohsiung City, Taiwan. (p.1585)

4:20

16B2 **SEMI VOLATILE ORGANIC COMPOUNDS IN AMBIENT PM2.5. SEASONAL TRENDS AND DAILY RESOLVED SOURCE CONTRIBUTIONS.** JÜRGEN SCHNELLE_KREIS, Martin Sklorz, Jürgen Orasche, Matthias Stölzel, Anette Peters, Ralf Zimmermann, BIfA GmbH – Bavarian Institute of Applied Environmental Research and Technology, and GSF – National Research Centre for Environment and Health, and University of Augsburg, Germany (p.1587)

4:40

16B3 **REAL TIME ENVIRONMENTAL SVC AND CHEMICAL COMPOSITION MONITORING.** Thomas Petry, HANS GRIMM, Thomas Rettenmoser, Grimm Aerosol Technik GmbH, Ainring, Germany, Gerhard Spindler, Leibniz-Institut für Troposphärenforschung, Leipzig, Germany (p.1589)

5:00

16B4 **PHOTOCHEMICAL OXIDATION OF DIESEL EXHAUST: SECONDARY ORGANIC AEROSOL FORMATION AND CHANGES IN AEROSOL COMPOSITION.** ALLEN L. ROBINSON, Emily A. Weitkamp, Amy M. Sage, Neil M. Donahue , Center for Atmospheric Particle Studies, Carnegie Mellon University,Pittsburgh,USA (p.1590)

16C Chemistry of Carbonaceous and Metal Nanoparticles (Platform)
Governors 1 and 5
Henry Ajo, Jeffrey Roberts, Chairs
4:00

16C1 **OXIDE THIN FILM GROWTH KINETICS ON AEROSOLIZED SILICON NANOPARTICLE SURFACES.** JASON HOLM, Jeffrey Roberts, University of Minnesota, Minneapolis, MN (p.113)

4:20

16C2 **QUANTITATIVE LASER-INDUCED BREAKDOWN SPECTROSCOPY FOR AEROSOLS VIA INTERNAL CALIBRATION: APPLICATION TO THE OXIDATIVE COATING OF ALUMINUM NANOPARTICLES.** DIBYENDU MUKHERJEE, Michael R. Zachariah, University of Maryland, College Park, MD. (p.114)

4:40

16C3 **PHOTOINDUCED COATING OF ALUMINUM NANOPARTICLES.** BIN ZHANG, Ying-Chih Liao, Bo Liu, J. T. Roberts, S. L. Girshick, University of Minnesota, Minneapolis, MN (p.116)

5:00

16C4 **SYNTHESIS OF HOLLOW ALUMINUM OXIDE NANOPARTICLES VIA AEROSOL ROUTE.** ASHISH RAI, Lei Zhou and Michael R. Zachariah, Department of Mechanical Engineering and Department of Chemistry and Biochemistry, University of Maryland, College Park, 20742, USA (p.118)

16D Bioaerosol Detection and Identification-II (Platform)
Govenors 2 – 4
Dr.Ir. A.L. van Wuijckhuijse, Keith Coffee, Chairs
4:00

16D1 **UV LASER INDUCED FLUORESCENCE OF INDIVIDUAL BIOAEROSOL PARTICLES.** Matti Putkiranta, Albert Manninen, Antti Rostedt, Toni Laurila, Jaakko Saarela, Marko Marjamäki, JORMA KESKINEN and Rolf Hernberg, Tampere University of Technology, Tampere, Finland (p.992)

4:20

16D2 **COMBINING A LIQUID FLOW CYTOMETER WITH AN OPTICAL BIOAEROSOL DETECTOR.** HERMES HUANG, Yong-Le Pan, Richard K. Chang, Yale University, New Haven, CT, Steven C. Hill, Army Research Laboratory, Adelphi, MD (p.993)

4:40

16D3 **LONG-TERM MONITORING OF RELEASE OF AVIAN INFLUENZA VIRUS FROM INFECTED BIRDS.** IGOR AGRANOVSKI, Griffith University, Brisbane, Australia; Alexander Safatov, Sergei Kiselev, Valentina Petrshchenko, Maxim Scarnovich, Alexander Sergeev, State Research Center of Virology and Biotechnology «Vector», Koltsovo, Russia; Oleg Pyankov, Griffith University, Brisbane, Australia (p.994)

5:00

16D4 **SINGLE PARTICLE ANALYSIS BY AUTOMATED MICROSCOPY AND PATTERN RECOGNITION: APPLICATION TO ENVIRONMENTAL ALLERGENS.** WOLFGANG KOCH, Wilhelm Dunkhorst, Hubert Lödding, Fraunhofer ITEM; Hannover, Germany, Hans Burkhardt, Olaf Ronneberger, Qing Wang, University of Freiburg, Freiburg, Germany, Eckart Schultz, Ulrich Heimann, Stefan Scharring, German Weather Service, Freiburg, Germany, Albrecht Brandenburg, Markus v. Ehr, Gerd Sulz, Fraunhofer IPM, Freiburg, Germany, Werner Müller, Helmut Hund GmbH, Wetzlar, Germany, Gernot Breitfuss, Breitfuss Messtechnik GmbH, Harpstedt, Germany (p.995)

16E Control Technology-V (Platform)

Wabasha Suite

Meng-Dawn Cheng, Chair

4:00

16E1 **PRODUCTION OF SMALL PARTICLES BY DETONATION OF ENERGETIC MATERIALS.** Meng-Dawn Cheng, Oak Ridge National Laboratory, Oak Ridge, TN, USA, Charles M. Jenkins, Air Force Research Laboratory, Eglin, FL, USA , Andy W. A. Chang, and Doh-Won Lee, Oak Ridge Institute for Science and Education, Oak Ridge, TN, USA (p.334)

4:20

16E2 **SUBMICROMETER AND ULTRAFINE PARTICLE CHARGING AND COLLECTION DURING O2-CO2 COAL COMBUSTION.** ACHARIYA SURIYAWONG, Christopher J. Hogan Jr., and Pratim Biswas, Aerosoland Air Quality Research Laboratory, Environmental Engineering Science Program, Washington University, Saint Louis, MO, USA (p.336)

4:40

16E3 **FILTRATION OF OIL MISTS – REALTIME MEASUREMENT OF FILTER SATURATION AND DRAINAGE.** BENJAMIN J. MULLINS and gerhard kasper, Institut fuer Mechanische Verfahrenstechnik und Mechanik, Universitaet Karlsruhe (TH), Karlsruhe, Germany. (p.338)

5:00

16E4 **SEGREGATION AND COLLECTION OF FIND AND ULTRAFINE ZINC OXIDE POWDER USING MULTICYCLONE.** Yu-Du Hsu, HUNGMIN CHEIN, Environmental Health Technology Division, Energy and Environment Research Laboratories, Industrial Technology Research Institute, TW (p.342)

16F Urban and Regional Aerosol-III (Platform)

Kellogg Suite

Kenneth Noll, K. Baker, Chairs

4:00

16F1 **CHEMICAL CHARACTERISTICS AND SOURCE APPORTIONMENT OF FINE PARTICULATE ORGANIC CARBON IN HONG KONG DURING LOCAL, REGIONAL AND LONG-RANGE TRANSPORT EPISODES.** YUN-CHUN LI, Jian Zhen Yu, Steven S. H. Ho, Zibing Yuan, Alexis K. H. Lau, The Hong Kong University of Science and Technology, Hong Kong; James J. Schauer, University of Wisconsin, Madison, WI, USA; Peter K. K. Louie, Environment Protection Department, Hong Kong. (p.1837)

4:20

16F2 **ASSIMILATION OF AEROSOL OPTICAL DEPTH OVER EUROPE IN A REGIONAL CHEMISTRY TRANSPORT MODEL.** MARTIJN SCHAAP, Peter Builtjes, TNO Built Environment and Geosciences, Apeldoorn, The Netherlands; Gerrit de Leeuw, TNO Defence, Security and Safety, The Hague, The Netherlands; Bas Henzing, KNMI, de Bilt, The Netherlands (p.1839)

4:40

16F3 **PHOTOCHEMICAL MODEL PERFORMANCE FOR PM2.5 SULFATE, NITRATE, AMMONIUM, AND PRECURSOR SPECIES SO2, HNO3, AND NH3 AT BACKGROUND MONITOR LOCATIONS IN THE CENTRAL AND EASTERN UNITED STATES.** Kirk R. Baker, Lake Michigan Air Directors Consortium, Des Plaines, Illinois, USA (p.1841)

5:00

16F4 **DEVELOPMENT AND APPLICATION OF A COMPUTATIONALLY EFFICIENT APPORTIONMENT ALGORITHM IN A THREE-DIMENSIONAL CHEMICAL TRANSPORT MODEL.** KRISTINA WAGSTROM, Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA; Greg Yarwood, Gary Wilson and Ralph Morris, ENVIRON International Corporation, Novato, CA (p.1843)

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AWARDS PRESENTATION SCHEDULE

TUESDAY

Marian Smoluchowski Award . . . . . 9:00 a.m.
Kenneth T. Whitby Award . . . . . 9:00 a.m.

WEDNESDAY

Thomas Mercer Award . . . . . 9:00 a.m.
David Sinclair Award . . . . . 9:00 a.m.

THURSDAY

S.K. Friedlander Award . . . . . 9:00 a.m.
B.Y.H. Liu Award . . . . . 9:00 a.m.
Fuchs Award . . . . . 3:45 p.m.
IARA Awards . . . . . 3:45 p.m.

AAAR FUTURE MEETINGS

2007 AAAR Annual Meeting
Grand Sierra Resort
Reno, NV
September 24-28, 2007

2008 AAAR Annual Meeting
Rosen Shingle Creek Resort & Golf Club
Orlando, FL
October 20-24, 2008

2009 AAAR Annual Meeting
Hyatt Regency Minneapolis
Minneapolis, MN
October 26-30, 2009