Atlanta, Georgia
AAAR 04

Final Program

23rd Annual AAAR Conference

October 4-8, 2004

Hyatt Regency Atlanta

Atlanta, Georgia

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American Association for Aerosol Research

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Scanning Mobility Particle Sizer

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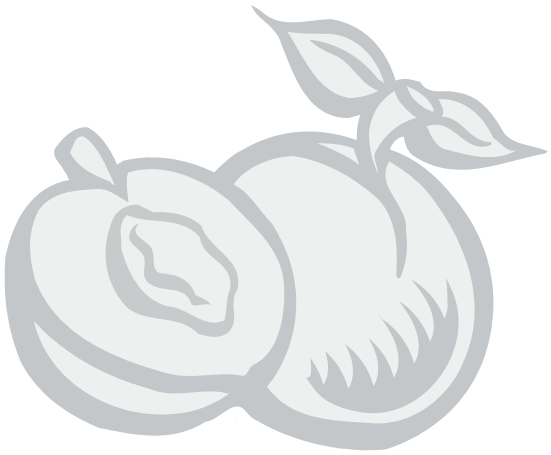
WELCOME

On behalf of the Technical Program Committee, welcome to the 23rd Annual Conference of the American Association for Aerosol Research (AAAR). During the next few days recent advances in aerosol science will be featured in plenary lectures, platform sessions, and poster presentations. This year, special symposia highlight the relationship between aerosols and climate change, microdosimetry of inhaled particles and drug aerosols, aerosols in the Southeastern U.S., and heterogeneous aerosol chemistry.

This meeting holds a special place in my heart. As a graduate student, attending for the first time in 1992, I was exposed to cutting edge science across the field, and I met many wonderful people who are now colleagues, collaborators and friends. That experience, and my experience at subsequent AAAR conferences, helped me decide on a career in aerosol research. This year's meeting promises more of the mix of excellent science and collegiality we have all come to expect. I hope many students and other newcomers to this conference will decide to become AAAR members and keep coming back. We thank everyone attending this week, whether first time attendees, returning members, international members or local participants, for your contribution to the success of AAAR 2004!

Sincerely,
Sheryl Ehrman
2004 Conference Chair



IMPORTANT INFORMATION

REGISTRATION HOURS

Sunday, October 3	5:00 PM - 9:00 PM
Monday, October 4	7:00 AM - 8:00 PM
Tuesday, October 5	7:00 AM - 6:30 PM
Wednesday, October 6	7:00 AM - 8:00 PM
Thursday, October 7	7:00 AM - 6:00 PM
Friday, October 8	7:00 AM - 2:00 PM

EXHIBIT HALL HOURS

Monday, October 4	6:00 PM - 8:00 PM
Tuesday, October 5	9:00 AM - 6:30 PM
Wednesday, October 6	9:00 AM - 8:00 PM
Thursday, October 7	9:00 AM - 3:00 PM
	6:00 PM - 8:00 PM (Posters Only)

PLATFORM SESSIONS

A platform session is based on a submitted and approved abstract. Each oral presentation has been assigned a chronological program number. This number corresponds with the number in the official AAAR abstract book. Each oral presentation is limited to 20 minutes, including 5 minutes for questions.

POSTERS and POSTER SESSIONS

All posters are based on a submitted and approved abstract. All posters have been assigned a chronological program number for reference when locating a printed abstract. Board numbers for poster presentations are identified with a P before the number. Please refer to the program for the appropriate board number when locating a poster for viewing. The posters are located in Grand Hall East, located on the Exhibit Level of the Hyatt Regency Atlanta Hotel. This year, the posters have been divided into two poster sessions. The posters are available for viewing at all times during their corresponding poster session during exhibit hall hours.

Viewing times for each session are as follows:

Posters in Session #1 are available from Monday, October 4 at 6:00 PM to Tuesday, October 5 at 6:30 PM.
Posters in Session #2 are available from Wednesday, October 6 at 6:00 PM to Thursday, October 7 at 8:00 PM.

Additionally, authors have been assigned specific days to present their posters and be available for discussions as follows:

Poster Session #1 & Refreshment Break:
Tuesday, October 5 from 4:30 PM – 6:30 PM

Poster Session #2 & Box Lunch:
Thursday, October 7 from 12:40 PM – 2:40 PM

WELCOME RECEPTION
Monday, October 4
6:00 PM –8:00 PM
Join fellow colleagues for a special networking experience. This is your opportunity to meet and greet the exhibitors. Representatives from well-known and respected vendors will be happy to tell you about their product and talk with you about the latest in technology and advances in the field.

AAAR ANNUAL BUSINESS MEETING
Tuesday, October 5
3:45 PM –4:30 PM
This year the Annual Business Meeting takes place on Tuesday, October 5 from 3:45 PM to 4:30 PM. Refreshments provided. This important session provides an overview of the highlights of AAAR today and tomorrow. There is a special tribute to the current Conference Chair, Sheryl Ehrman, and her committee, as well as others who have served AAAR during the year. At the annual meeting, you will find out more about the upcoming PM Supersites Conference, the 2005 Annual Conference and the 2006 International Conference. Members will be voting on an important bylaw revision. During this meeting, the ceremonial passing of the gavel marks the transfer of leadership responsibility from Philip K. Hopke to incoming president, Sonia Kreidenweis.

WORKING GROUP MEETINGS
Wednesday, October 6
3:45 PM – 5:45 PM
All AAAR members are encouraged to attend the Working Group Meeting corresponding to their research interest. Please refer to the Schedule at a Glance for topics and specific meeting times.

EXHIBITOR RECEPTION
Wednesday, October 6
6:00 PM – 8:00 PM
The exhibitor reception, a AAAR tradition, is a time to visit with the exhibitors and all conference attendees in an informal, relaxed atmosphere. This also allows attendees additional time to view the posters.

ADA CLAUSE
The American Association for Aerosol Research 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 point per 1/2 day, 4.5 total

Industrial Hygiene CM points – approval #: 04-1325.

All participants of the AAAR 2004 Annual Conference are encouraged to contact their respective professional certifying agency for the applicability of the AAAR Conference program toward additional CM points and CEU credits.

AWARDS PRESENTATION

Awards will be presented during 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: Kenneth T. Whitby Award, David Sinclair Award, Sheldon K. Friedlander Award, Benjamin Y.H. Liu Award, Thomas T. Mercer Joint Prize.

SPEAKER READY ROOM

There will be a presentation preview/speaker ready room for presenters located at the Hyatt Regency Atlanta Hotel. It is required that all speakers visit the speaker ready room the day prior to your presentation. There will be technicians in the room to assist you with your presentation preparation. ***Please note: LCD projectors are the only form of visual equipment that will be provided this year. Overhead and slide projectors will not be available. You will be asked to transform any slides or transparencies to a Power Point presentation.***

Speaker Ready Room Hours:

Sunday, October 3	5:00 PM - 9:00 PM
Monday, October 4	7:00 AM - 8:00 PM
Tuesday, October 5	7:00 AM - 6:30 PM
Wednesday, October 6	7:00 AM - 8:00 PM
Thursday, October 7	7:00 AM - 6:00 PM
Friday, October 8	7:00 AM - 2:00 PM

HOTEL INFORMATION

The Hyatt Regency Atlanta is designed to meet every need of the business traveler. The hotel has several features such as a fitness center and swimming pool which is open between 5:00 AM - 11:00 PM. The Hyatt's Business Center is equipped to handle all your needs such as copying and printing, faxing, shipping, computer workstations, design services and much more. The Business Center's hours are 7:00 AM - 7:00 PM. Hungry? The Hyatt Regency is home to 3 full service restaurants, a coffee bar and a lobby bar. Room service is also available between the hours of 6:30 AM - 12:30 AM. If you need assistance with shopping, babysitting or finding a spa the concierge will be happy to assist you.

THANK YOU TO OUR VOLUNTEERS AND STUDENT ASSISTANTS

This Conference would not be possible without the hard-work and dedication of the AAAR Student Assistants and all of the volunteers of each AAAR Committee.

NEW FOR 2004!

The AAAR Staff and Conference Committee continually strive to improve the Annual Conference each year. The following are some of the new improvements for the 2004 Annual Conference:

International/ Alumni Dinner

In addition to the informal Alumni Dinners, a longstanding AAAR tradition, the Membership Committee has planned an International themed dinner (self pay), to coincide with the Alumni Dinners on Tuesday night. All conference attendees are invited, and a special welcome is extended to our international participants. Look for a sign up sheet at the registration desk and please sign up by noon on Tuesday so an accurate head count can be made.

Awards Donation Booth

Please stop by the Awards Booth in the registration area to learn more about AAAR's Award program, particularly this year's highlighted David Sinclair Award. Contributions will be accepted at the booth for each of the AAAR awards. Your donation to the Sinclair Award will be doubly effective, as several matching contribution offers have been made for this award. Please stop by the booth to learn more and make a donation.

New Opportunities for Sponsorship and Advertising

AAAR offers opportunities to promote and demonstrate commitment to the science of aerosol by becoming a sponsor of the Annual Conference. Companies not able to sign on as sponsors can still support AAAR and increase their exposure by advertising in the Final Program and/ or Abstract Book. Those interested in either of these opportunities for 2005 should contact Deanna Bright at (856) 439- 9080 or email info@aaar.org.

AAAR would like to thank TSI for sponsoring the Conference bags and NOAA for sponsoring the boxed lunch.

CONFERENCE COMMITTEE

Sheryl Ehrman
Conference Chair

Michael Bergin
Tutorial Chair

Thomas Merrifield
Exhibits Chair

Allen L. Robinson
Student Liaison

Michael Bergin & Roby Greenwald
Local Liaisons

Philip Hopke & Sonia Kreidenweis
Conference Outreach

Donald Dabdub, Rick Flagan, Susanne Hering
Abstract Committee

Spyros N. Pandis
Conference Chair 2005

David Y.H. Pui
Conference Co-Chair 2006

Gilmore J. Sem
Conference Co-Chair 2006

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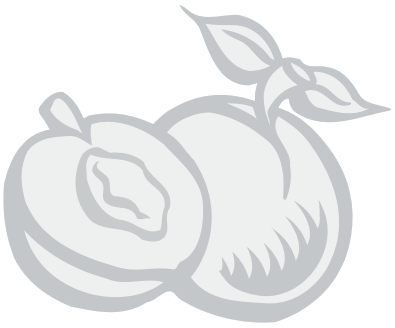
David P. Fergenson
Andrea R. Ferro
Robert J. Griffin
Jose-Luis Jimenez
Richard B. McClurg
Lupita D. Montoya
Cary Presser
Jonathan Thornburg



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Deanna Bright
Executive Assistant

Rebecca Storti
Senior Meeting Manager

Sohini Mitra
Exhibits Coordinator

Victoria White
Registration Coordinator

2004 STUDENT ASSISTANTS

AAAR would like to acknowledge our 2004 Student Assistant Volunteers.

Keith J. Bein
SunHee Cho
Charity K. Coury
Esther Coz
Peter F. DeCarlo
Kenneth Docherty
Matthew J. Dunn
Roby Greenwald
Gayle Hagler
Davyda M. Hammond
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Manish Ranjan
Shanna A. Ratnesar-Shumate
Lynn R. Rinehart
Jason M. Rodrigue
Thomas D. Saul
David J. Silver
Thomas R. Szarek
Zuocheng Wang
Jian Wen
Wenli Yang

SCHEDULE AT A GLANCE

SUNDAY, OCTOBER 3
5:00 PM - 9:00 PM
Registration - Grand Hall East Foyer
Speaker Ready Room - Williams

8:30 PM - 9:30 PM
Student Assistants Orientation- Edgewood

MONDAY, OCTOBER 4
7:00 AM - 8:00 PM
Registration- Grand Hall East Foyer
Speaker Ready Room- Williams

7:00 AM - 8:00 AM
Coffee Service - Hanover Foyer

8:00 AM – 9:40 AM
Tutorial Session 1

1. Intro to Aerosol Mechanics I - Hanover C
Dr. William C. Hinds

2. PM2.5 Measurement and Characterization - Hanover D
Dr. Jay R. Turner

3. CANCELLED: Understanding and Predicting the Gas/Particle Partitioning of Organic Compounds Using Elementary Theoretical Concepts - Hanover E
Dr. James Pankow

4. Aerosols and Climate Change - Hanover F
Dr. Stephen E. Schwartz

9:40 AM - 10:00 AM
Refreshment Break - Hanover Foyer

10:00 AM – 11:40 AM
Tutorial Session 2

5. Intro to Aerosol Mechanics II - Hanover C
Dr. William C. Hinds

6. Semicontinuous Measurement of Aerosol Chemical Composition - Hanover D
Dr. Rodney Weber

7. Secondary Organic Aerosol Formation - Hanover E
Dr. Richard Kamens

8. Bioaerosols: Extending Non -Culture Based Methods for Characterizing Microorganisms and Primary Biological Materials in Air - Hanover F
Dr. Mark Hernandez

11:40 - 1:00 PM
Lunch On Own

12:00 PM - 5:00 PM
Exhibitor Set Up - Grand Hall East
Poster #1 Set Up - Grand Hall East

1:00 PM - 2:40 PM
Tutorial Session 3

9. Aerosol Mass Spectrometry, Part 1: Laser Ablation Techniques - Hanover C
Dr. Daniel J. Cziczo

10. Heterogeneous Chemistry - Hanover D
Dr. Michael Mozurkewich

11. Inside Out: Factors Affecting the Indoor Concentration of Outdoor Aerosols - Hanover E
Melissa Lunden

12. Particles from Engines: Formation and Measurement - Hanover F
Dr. David Kittelson

2:40 PM - 3:00 PM
Refreshment Break - Hanover Foyer

2:00 PM - 5:00 PM
Executive Committee Meeting - Hanover A

3:00 PM - 4:40 PM
Tutorial Session 4

13. Aerosol Mass Spectrometry, Part 2: Thermal Desorption Techniques - Hanover C
Prof. Jose-Luis Jimenez

14. Respiratory Dose Assessment of Inhaled Particles in the Human Lungs - Hanover D
Dr. Chong Kim

15. Regional Modeling of Aerosols - Hanover E
Dr. Betty K. Pun

16. Aerosols in Nanotechnology - Hanover F
Dr. Richard C. Flagan

5:00 PM - 6:00 PM
Development Committee Meeting - Hanover B

6:00 PM - 8:00 PM
Welcome Reception, Exhibits Open & Poster #1
Advanced Poster Viewing - Grand Hall East

TUESDAY, OCTOBER 5
7:00 AM – 6:30 PM
Registration - Grand Hall East Foyer
Speaker Ready Room - Williams

7:00 AM – 8:00 AM
Coffee Service - Centennial III Foyer

7:00 AM – 8:00 AM
Newsletter Committee Meeting - Edgewood
Finance Committee Meeting - Greenbriar

8:00 AM - 9:00 AM
Plenary Session #1 - Centennial III

8:00 AM – 8:05 AM
Welcome Announcements

8:05 AM – 8:15 AM
Presentation of the Thomas T. Mercer Joint Prize Winner

8:15 AM – 9:00 AM
Recent Aspects of Inhaled Particles Dosimetry, Wolfgang G. Kreyling

9:00 AM – 9:20 AM
Refreshment Break - Baker and Hanover Foyers

9:00 AM – 6:30 PM
Exhibits & Posters #1 Open - Grand Hall East

9:20 AM – 10:50 AM
Platform Session #1
1A Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Mathematical and Computational Models - Dunwoody
1B Instrumentation - Courtland
1C Aerosol Chemistry I - Hanover FG
1D Special Symposium: Aerosols and Climate Change/Indirect Effects, Cloud Droplet Interactions - Hanover DE
1E Source/Emissions Characterization 1 - Baker

11:10 AM – 12:40 PM
Platform Session #2

2A Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Novel Experiments - Dunwoody
2B Mobility Sizing Instrumentation - Courtland
2C Aerosol Chemistry II - Hanover FG
2D Special Symposium: Aerosols and Climate Change/Indirect Effects, Modeling of Indirect Effects - Hanover DE
2E Source/Emissions Characterization II - Baker

12:30 PM – 2:00 PM
Board of Directors Lunch Meeting - Greenbriar

12:40 PM – 2:00 PM
Lunch on Own

2:00 PM – 3:30 PM
Platform Session #3

3A Drug Delivery - Dunwoody
3B Aerosol Sampling Techniques - Courtland
3C Vehicular Exhaust and PM Analyzers - Hanover FG
3D Special Symposium: Aerosols and Climate Change/Indirect Effects, Aerosol Optical Properties - Hanover DE
3E Particle Transport - Baker

3:30 PM – 3:45 PM
Refreshment Break - Baker and Hanover Foyers

3:45 PM – 4:30 PM
AAAR Annual Business Meeting - Hanover FG

4:30 PM – 6:30 PM
Poster Session #1 & Refreshment Break - Grand Hall East

7:00 PM
International (NEW!) and Alumni Dinners
(Self-Organized/Sign-Up at Registration Desk)

WEDNESDAY, OCTOBER 6
7:00 AM – 8:00 PM
Registration - Grand Hall East Foyer
Speaker Ready Room - Williams

7:00 AM – 8:00 AM
Coffee Service - Centennial III Foyer

7:00 AM – 8:00 AM
Publications Committee Breakfast Meeting - Marietta
Working Group Chair Strategic Breakfast Meeting - Hanover C

8:00 AM – 9:00 AM
Plenary Session #2 - Centennial III

8:00 AM – 8:05 AM
Announcements

8:05 AM – 8:15 AM
Presentation of the David Sinclair Award

8:15 AM – 9:00 AM
Particulate Matter Modeling and Reconciling PM Source Apportionment Methods, A.G. (Ted) Russell

9:00 AM – 9:20 AM
Refreshment Break - Dunwoody and Hanover Foyers

9:00 AM – 2:00 PM
Poster #1 Move Out - Grand Hall East

9:00 AM – 8:00 PM
Exhibits Open - Grand Hall East

9:20 AM – 10:50 AM
Platform Session #4

- 4A Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdose -Response Relationship - Dunwoody
- 4B Combustion and Environmental Particle Formation I - Courtland
- 4C Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol I - Hanover FG
- 4D Carbonaceous Aerosols I - Hanover DE
- 4E Cloud Condensation Nuclei/Hygroscopicity - Hanover AB

11:10 AM – 12:40 PM
Platform Session #5

- 5A Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Targeted Delivery of Aerosol Drugs - Dunwoody
- 5B Filtration - Courtland
- 5C Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol II - Hanover FG
- 5D Carbonaceous Aerosols II - Hanover DE
- 5E Chemical Characterization of Atmospheric Aerosols 1 - Hanover AB

12:40 PM – 2:00 PM
Lunch on Own

12:45 PM – 2:00 PM
AS&T Editorial Luncheon - Hanover C

1:00 PM – 2:00 PM
Awards Committee Meeting - Harris
Internet Committee Meeting - Marietta

2:00 PM – 3:30 PM
Platform Session #6
- 6A Deposition in the Lung - Dunwoody
- 6B Combustion and Environmental Particle Formation II - Courtland
- 6C Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol III - Hanover FG
- 6D Carbonaceous Aerosol Analysis Instrumentation - Hanover DE
- 6E Aerosol Physical Properties - Hanover AB

2:30 PM – 5:30 PM
Poster #2 Set Up - Grand Hall East

3:30 PM – 3:45 PM
Refreshment Break - Hanover Foyer, Dunwoody & Courtland

3:45 PM – 4:45 PM
Working Group Meetings #1
Aerosol Physics - Harris
Atmospheric Aerosol - Hanover C
Indoor Aerosol - Marietta
Control Technology - Piedmont
History of Aerosol Science -Spring

4:45 PM – 5:45 PM
Working Group Meetings #2
Instrumentation – Hanover C
Combustion/ Materials – Marietta
Health Related Aerosols – Piedmont
Fundamental Aerosol Chemistry –Spring

6:00 PM – 8:00 PM
Exhibitor Reception & Posters #2 Advanced Poster Viewing - Grand Hall East

THURSDAY, OCTOBER 7
7:00 AM – 6:00 PM
Registration - Grand Hall East Foyer
Speaker Ready Room - Williams

7:00 AM - 8:00 AM
Coffee Service - International Ballroom Foyer

7:00 AM – 8:00 AM
Long Range Planning Committee Breakfast Meeting- Baker
Membership Committee Meeting - Edgewood
2006 Planning Committee Meeting - Fairlie

8:00 AM – 9:00 AM
Plenary Session #3 - International Ballroom

8:00 AM – 8:05 AM
Announcements

8:05 AM – 8:15 AM
Presentation of the Kenneth T. Whitby Award

8:15 AM – 9:00 AM
Studying the Reactivity of Nanoaerosols, Michael R. Zachariah

9:00 AM – 9:20 AM
Refreshment Break - Baker and Hanover Foyer

9:00 AM – 3:00 PM
Exhibits Open - Grand Hall East
Posters #2 Open - Grand Hall East

9:20 AM – 10:50 AM
Platform Session #7
- 7A Atmospheric Aerosol Modeling I - Courtland
- 7B Special Symposium: Heterogeneous & Multiphase Chemistry I - Hanover DE
- 7C Health Related Aerosol Characterization I - Hanover FG
- 7D Aerosol Synthesis of Nanomaterials I - Hanover AB
- 7E Indoor Aerosols I - Dunwoody

11:00 AM – 12:40 PM
Platform Session #8
- 8A Urban/Regional PM I - Courtland
- 8B Special Symposium: Heterogeneous & Multiphase Chemistry II - Hanover DE
- 8C Indoor Aerosols II - Hanover FG
- 8D Aerosol Synthesis of Nanomaterials II - Hanover AB
- 8E Chemical Characterization of Atmospheric Aerosols II - Dunwoody

12:40 PM – 2:40 PM
Poster Session #2 & Boxed Lunch - Grand Hall East

1:00 PM - 2:00 PM
Bylaws Committee Meeting - Edgewood

2:50 PM – 4:10 PM
Platform Session #9
- 9A Combustion Aerosol Control- Courtland
- 9B Special Symposium: Heterogeneous & Multiphase Chemistry III- Hanover DE
- 9C Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol IV- Hanover FG
- 9D Aerosol Aggregates- Hanover AB
- 9E Nucleation/Ultrafine Aerosols- Dunwoody

3:00 PM – 6:00 PM
Exhibitor Move - Out - Grand Hall East

4:10 PM – 4:30 PM
Refreshment Break - Dunwoody & Hanover Foyers

4:30 PM – 5:50 PM
Platform Session #10
- 10A Bioaerosol Analysis Instrumentation - Courtland
- 10B Toxicology - Hanover DE
- 10C Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol V - Hanover FG
- 10D Particle Formation Processes - Hanover AB
- 10E Carbonaceous Aerosols III - Dunwoody

6:00 PM – 7:00 PM
2005 Planning Committee Meeting - Hanover C

6:00 PM – 8:00 PM
Posters #2 Open - Grand Hall East

7:00 PM - 8:00 PM
Abstract Committee Meeting - Baker

FRIDAY, OCTOBER 8
7:00 AM – 2:00 PM
Registration - Grand Hall East Foyer
Speaker Ready Room - Williams

7:00 AM – 8:00 AM
Coffee Service - Centennial III Foyer

7:00 AM – 8:00 AM
Incoming Committee Chair Breakfast Meeting - Piedmont

8:00 AM – 9:15 AM
Plenary Session #4 - Centennial III

8:00 AM – 8:10 AM
Announcements and recognition of Board Members and Committee Chairs

8:10 AM – 8:30 AM
Presentation of the Benjamin Y.H. Liu Award and the Sheldon K. Freidlander Award

8:30AM – 9:15 AM
Characterization of Atmospheric Aerosols: Yesterday and Today, Susanne Hering

9:15 AM – 9:30 AM
Refreshment Break - Hanover & Dunwoody Foyers

9:15 AM – 2:00 PM
Poster #2 Move Out - Grand Hall East

9:30 AM – 10:50 AM
Platform Session #11
- 11A Personal Aerosol Samplers – Courtland
- 11B Special Symposium: Heterogeneous & Multiphase Chemistry IV - Hanover DE
- 11C Bioaerosols - Hanover FG
- 11D Soot Formation and Characterization - Hanover AB
- 11E Atmospheric Aerosol Modeling II - Dunwoody

10:50 AM – 11:10 AM
Refreshment Break - Hanover and Dunwoody Foyers

11:10 AM – 12:30 PM
Platform Session #12
- 12A New Concepts in Instrumentation - Courtland
- 12B Special Symposium: Heterogeneous & Multiphase Chemistry V - Hanover DE
- 12C Health Related Aerosol Characterization II - Hanover FG
- 12D Biological and Coarse PM - Hanover AB
- 12E Urban/Regional PM II - Dunwoody

12:30 PM – 5:00 PM
Board of Directors Meeting - Baker

TUTORIALS

Monday, October 4
Session One: 8:00 AM -9:40 AM

1. Intro to Aerosol Mechanics I - ***Hanover C***
Dr. William C. Hinds, UCLA School of Public Health, Center for Occupational and Environmental Health, Department of Environmental Health Science, Los Angeles, California.

Abstract: 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. PM2.5 Measurement and Characterization -
Hanover D

Dr. Jay R. Turner, Chemical Engineering Department and Environmental Engineering Program, Washington University, St. Louis, MO

Abstract: Data quality objectives are inherently linked to the intended use of the data (e.g., compliance monitoring, health studies, source apportionment studies) and these objectives guide the measurement strategy. This course will provide an overview of measurement methods to characterize the mass concentration of ambient fine particulate matter within the context of data quality objectives. Substrate and semicontinuous methods will be discussed with emphasis on commercially-available instruments to characterize PM-2.5 mass. Advantages and disadvantages of the various methods will be highlighted. This course is suitable for those seeking a primer on PM-2.5 measurement strategies and hardware.

Jay Turner is an Associate Professor at Washington University in St. Louis. His research interests include measurement methods and field studies to characterize ambient particulate matter and air toxics. He is the

Principal Investigator for the St. Louis – Midwest Supersite. Turner received bachelor's and master's degrees in Chemical Engineering from UCLA and a doctorate in Chemical Engineering from Washington University in St. Louis.

3. CANCELLED: Understanding and Predicting the Gas/Particle Partitioning of Organic Compounds Using Elementary Theoretical Concepts - *Hanover E*
Dr. James Pankow, Oregon Health and Science University, Department of Environmental and Biomolecular Systems, Beaverton, OR

Abstract: Organic compounds can partition to particulate phase material by both absorption into aerosol phase material and adsorption onto aerosol surfaces. The equations governing both of these mechanisms will be discussed. The evidence that suggests that absorptive partitioning into a primarily-organic phase frequently dominates partitioning in the atmosphere will be reviewed. For example, absorptive partitioning certainly plays a very important role during the formation of secondary organic aerosol driven by photochemical smog events, and is also likely very important in partitioning to general urban particulate material. If the partitioning compound exhibits acid/base properties, then its G/P partitioning can depend very strongly on the pH of the aerosol particulate matter phase, as with organic amines and ammonia. The course will emphasize the use of basic theoretical principles to provide the framework for understanding the gas/particle partitioning process.

James Pankow received his Ph.D. in Environmental Engineering Science from the California Institute of Technology in 1979. He is interested in understanding the fundamental mechanisms according to which organic and inorganic compounds partition between the gas and aerosol phases, and in developing tools for predicting that distribution as a function of the chemical and physical properties of the partitioning compounds and the aerosol phase.

4. Aerosols and Climate Change - *Hanover F*
Dr. Stephen E. Schwartz, Brookhaven National Laboratory, Upton NY, 11973.

Abstract: Atmospheric aerosol particles scatter and absorb shortwave (solar) radiation and, by serving as nuclei for cloud droplet formation, affect the number concentration of cloud droplets, in turn influencing cloud reflectance and precipitation formation. The influences of anthropogenic aerosols on Earth's radiation

budget are substantial locally and globally. At present radiative forcing of climate change by anthropogenic aerosols is considered the most uncertain component of forcing of climate change over the industrial period, largely on account of uncertainties in the amount and properties of these aerosols. This tutorial presents an overview of these phenomena and identifies the aerosol properties that must be known to quantify their radiative influences, permitting calculations of the aerosol perturbations to shortwave irradiance and of their sensitivity to controlling variables.

Stephen E. Schwartz is a senior scientist at Brookhaven National Laboratory. He received his bachelor's degree from Harvard and his Ph.D. from the University of California (Berkeley), both in chemistry.

Monday, October 4
Session Two: 10:00 AM - 11:40 AM

5. Intro to Aerosol Mechanics II - ***Hanover C***
Dr. William C. Hinds, UCLA School of Public Health, Center for Occupational and Environmental Health, Department of Environmental Health Science, Los Angeles, California.

Abstract: 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. Semicontinuous Measurement of Aerosol Chemical Composition - ***Hanover D***
Dr. Rodney Weber, Georgia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA

Abstract: In the past few years there has been a proliferation of methods for automated on-line measurements of particle chemical composition in real, or near real-time. These techniques collect ambient particles in a manner that permits them to be directly coupled to existing analytical devices. Although these approaches generally only provide measurements of

bulk chemical composition, they often have unique advantages. Some are highly quantitative and are capable of measuring a wide range of chemical compounds. Others are relatively low in cost and can operate unattended for extended periods. A review conveying the wide breadth of these types of approaches will be presented. Highlights from a variety of both ground and airborne experiments will also be discussed to demonstrate the capabilities of these instruments for measuring both inorganic and organic components of ambient particles.

Rodney Weber is an Associate Professor in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. He received a Bachelor's degree in Mechanical Engineering from the University of Waterloo, and Masters and Doctorate degrees Mechanical Engineering from the University of Minnesota.

7. Secondary Organic Aerosol Formation - ***Hanover E***
Dr. Richard Kamens, University of North Carolina, Department of Environmental Sciences and Engineering, School of Public Health, Chapel Hill, NC

Abstract: The session will begin with a historical review of SOA formation. Ambient observations relating ambient SOA contributions to organic carbon will then be presented. Semi-volatile gas-particle partitioning theory will be reviewed as it applies to SOA formation and two different types of SOA models that are used by the technical community will be developed. Some discussion of analytical techniques commonly used to measure SOA compounds will also be presented.

For most of his research career Professor Kamens has focused on the chemical transformations that occur on atmospheric particles and more than two decades ago, he pioneered the use of outdoor environmental smog chambers to study these systems. During the past decade his research group has focused on organic semi-volatile gas-particle partitioning. Over the past 5 years, they have developed kinetics models to predict secondary aerosol formation from biogenic hydrocarbons and most recently, aromatics.

8. Bioaerosols: Extending Non-Culture Based Methods for Characterizing Microorganisms and Primary Biological Materials in Air - ***Hanover F***
Dr. Mark Hernandez, Associate Professor, Department of Civil, Environmental and Architectural Engineering, University of Colorado, Boulder

Abstract: This presentation will provide an overview of technical considerations for adapting modern aerosol sampling protocols for the direct microscopic and molecular characterization of airborne viruses, bacteria, fungi, and their spores. The presentation will include a synopsis of recent research, where culture-based bioaerosol investigations were complemented with other microbiological characterization methods employing selective biological stains and modern molecular techniques including genetic probes, immunochemical assays, and genetic libraries. Molecular and microscopic enumeration methods will be compared to traditional culture-based methods in terms of detection limits, bias and recovery factors, and interpretations of results. Molecular developments for bioaerosol characterization have been predominantly applied to indoor environments, and the challenges of extending current bioaerosol characterization technology to outdoor environments, and disinfection assessments will be addressed.

Mark Hernandez is an associate professor of environmental engineering at the University of Colorado at Boulder. His research interfaces classical industrial hygiene and sanitary engineering with recent advances in molecular biology to study airborne primary biological materials and the microbial ecology of aerosols under in situ conditions. Dr. Hernandez teaches courses on introductory environmental engineering, wastewater engineering, and applied environmental microbiology.

Monday, October 4
Session Three: 1:00 PM - 2:40 PM

9. Aerosol Mass Spectrometry, Part 1: Laser Ablation Techniques - ***Hanover C***
Dr. Daniel J. Cziczo, NOAA Aeronomy Laboratory and CIRES, University of Colorado

Abstract: The past decade has seen the emergence of several methods capable of determining the size and chemical composition of aerosol particles in real-time using mass spectrometry. Advances in inlet design, detection, and spectrometric techniques during this period have led to high-resolution sizing information, single particle analysis, and quantitative analysis of aerosol components. This tutorial, Part 1, will summarize the current state of laser-ablation mass spectrometry techniques, which have generally been implemented at the single particle level. An emphasis will be placed on studies of atmospheric particles. Recent and future applications of these techniques, such as studies of

cloud formation and heterogeneous chemistry, will be discussed. The next tutorial (Part 2) will cover thermal-desorption techniques that typically analyze a small ensemble of aerosols.

Dan Cziczo is a Research Scientist at the NOAA Aeronomy Lab in Boulder, Colorado. He received a bachelor's degree in Aeronautical and Astronautical Engineering from the University of Illinois and a doctorate in Geophysical Sciences from the University of Chicago.

10. Heterogeneous Chemistry - ***Hanover D***
Dr. Michael Mozurkewich, York University, Department of Chemistry, North York, CA

Abstract: Heterogeneous reactions alter the composition of both the gas and particle phases in the atmosphere. This presentation will provide an overview these reactions as they apply to atmospheric chemistry. The presentation will begin with a physical description of the various processes that affect the rates of heterogeneous reactions and how they vary in relative importance as a function of particle size. The add-as-resistance model, used to account for these processes, will be descibed (equations will be provided in a handout). A brief overview of experimental techniques will be given. The major heterogeneous reactions that may be of importance in the troposphere will be reviewed.

Michael Mozurkewich is Professor of Chemistry at York University. He received a BS degree from Albright college and a Ph.D. from the University of Chicago. He teaches courses in Atmospheric Chemistry, Heterogeneous Processes, and Chemical Thermodynamics. His research focuses on gas-particle reactions and gas-to-particle conversion.

11. Inside Out: Factors Affecting the Indoor Concentration of Outdoor Aerosols - ***Hanover E***
Melissa Lunden, Lawrence Berkeley National Laboratory, Atmospheric Sciences Department, Berkeley, CA

Abstract: People spend the majority of their time indoors in residences, offices, schools, and other public buildings while measurements used to assess exposure to particulate matter are often performed outdoors. Buildings can be considered small chemical reaction chambers embedded in the larger outdoor atmosphere with different surface to volume ratios, temperatures, and residence times, which interact with and are influenced by the outside. This tutorial will provide an overview of the processes that affect the transport and

fate of outdoor PM into the indoor environment. The physical processes that govern particle transport into and within buildings, including building ventilation, penetration losses, and particle deposition, will be illustrated. The importance of particle chemical composition will be emphasized, including descriptions of interactions between the particle and gas phase that can affect indoor concentrations. The presentation will also cover the role of indoor sources and surfaces. This tutorial will address both basic principles and the latest research findings.

Melissa Lunden is a scientist in the Atmospheric Sciences Department at Lawrence Berkeley National Laboratory. She received her Ph.D. in Mechanical Engineering from the California Institute of Technology. Her research interests involve atmospheric applications of aerosol science, with recent focus on the link between ambient and indoor air quality.

12. Particles from Engines: Formation and Measurement - ***Hanover F***

Dr. David Kittelson, University of Minnesota, Department of Civil and Environmental Engineering, Minneapolis, MN

Abstract: Formation and measurement of particles by Diesel and spark ignition engines will be reviewed. The basic engine cycle and combustion regimes leading to particle formation will be described. Current Diesel engines produce a bimodal size distribution in the submicron range with a nuclei mode containing most of the particle number in the 3-30 nm diameter range and an accumulation mode containing most of the particle mass in the 30-500 nm range. Nuclei mode particles form mainly from heavy hydrocarbons and sulfuric acid and their formation is strongly influenced by dilution and sampling conditions. Solid nuclei mode particles may form from metals in the lube oil or fuel. The accumulation mode consists primarily of solid carbonaceous agglomerates and adsorbed hydrocarbons and sulfates. Solid particles may be nearly completely eliminated by filters but filters may not remove the gas phase precursors that lead to the formation of volatile particles. Particle formation by spark ignition engines is much more dependent upon operating conditions than in Diesel engines and takes place mainly under cold start and high load conditions. Worn engines are also a significant particle source. The particles formed by these engines are typically smaller than those from Diesel engines. When measuring engine particles, the correct sampling and dilution conditions are at least as important as appropriate selection and use of instruments. Modest changes in sampling and

dilution conditions can change measured number concentrations by 1 – 2 orders of magnitude. Sampling and dilution issues will be described and typical measurements of number, surface area and size distribution will be shown.

Prof. David B. Kittelson is the Frank B. Rowley Distinguished Professor of Mechanical Engineering and Director, Center for Diesel Research, University of Minnesota. He received his B.S. and M.S. in Mechanical Engineering from the University of Minnesota and his Ph.D. in Chemical Engineering from the University of Cambridge. Research interests lie in the areas of energy conversion and particle technology with a focus on the formation of pollutants and contaminants, especially particulate matter, by energy conversion and manufacturing processes. He has worked on the measurement of particle emissions from Diesel engines for nearly 30 years.

Monday, October 4
Session Four: 3:00 PM - 4:40 PM

13. Aerosol Mass Spectrometry, Part 2: Thermal Desorption Techniques - ***Hanover C***
Prof. Jose-Luis Jimenez, Department of Chemistry and Biochemistry, and Cooperative Institute for Research on the Environmental Sciences (CIRES), University of Colorado-Boulder

Abstract: The past decade has seen the emergence of several methods capable of determining the size and chemical composition of aerosol particles in real-time using mass spectrometry. Advances in inlet design, detection, and spectrometric techniques during this period have led to high-resolution sizing information, single particle analysis, and quantitative analysis of aerosol components. This tutorial (Part 2) covers the current state of thermal desorption (TD) techniques, including the Aerodyne Aerosol Mass Spectrometer (AMS). TD instruments generally report composition for the aerosol ensemble but are typically more quantifiable than laser-ablation techniques (the latter are the focus of Part 1). Instrumentation, the possibilities and limitations for quantification, and applications of TD techniques to laboratory and field studies will be discussed. Some directions for future research in this area will be outlined.

Prof. Jimenez received a double MS in Mechanical Engineering from the Universities of Zaragoza (Spain) and Compiegne (France) in 1993; and a PhD from MIT in 1998. From 1999 to mid-2002, he was a Research Scientist, first at Aerodyne Research & MIT, and later at

Caltech. His current research interests center on aerosol mass spectrometry instrument development and ground and aircraft field studies.

14. Respiratory Dose Assessment of Inhaled Particles in the Human Lungs - *Hanover D*
Dr. Chong Kim, National Health and Environmental Effects Research Laboratory
U.S. Environmental Protection Agency, Human Studies Division, Research Triangle Park, NC

Abstract: Deposition dose and site within the lung vary widely depending on particle size, breathing pattern, and lung morphology. Total and regional lung deposition may vary with age and gender. In persons with obstructive lung disease, deposition tends to localize in small regions within the lung resulting in a marked increase in local or regional dose. All of these are crucial factors for effective delivery of aerosolized drugs on the one hand and accurate assessment of health risk to exposure to pollutant aerosols on the other hand. This course will review the current status of lung deposition data, discuss the role of each of the critical deposition factors, and discuss about new approaches in measuring respiratory deposition and analyzing the data.

Chong S. Kim is a senior research scientist and a project leader of human dosimetry program at the National Health and Environmental Effects Research Laboratory of the US EPA. He is an Adjunct Professor of Environmental Science and Engineering at the University of North Carolina-Chapel Hill and of Mechanical & Aerospace Engineering at the North Carolina State University. He received his BS, MS and Ph.D. (Particle Technology) in Mechanical Engineering from Seoul National University, South Korea, University of Wisconsin-Madison, and University of Minnesota-Minneapolis, respectively. He has nearly 30 years of experience in aerosol research, mostly in the area of respiratory dose assessment of inhaled particles.

15. Regional Modeling of Aerosols - *Hanover E*
Dr. Betty K. Pun, Atmospheric and Environmental Research, San Ramon, CA

Abstract: Aerosol modeling is an important tool for understanding particulate matter and regional haze and the response to control strategies that may be placed on precursor emissions. Regional chemical transport models are complex in formulation because they represent a wide range of processes that affect the aerosol mass, composition, and size distribution. These processes include emissions of aerosols and precursors,

advection and diffusion, gas-phase chemistry, nucleation, condensation/evaporation, coagulation, cloud processing, heterogeneous chemistry, and wet and dry deposition. Current regional models differ in the representation of particulate matter size distribution and composition and details in the gas-phase and aerosol-phase processes. Different modeling approaches will be presented, using examples of current models (e.g., CMAQ, CMAQ/MADRID, CAMx) and their applications. Current challenges of regional modeling of aerosols will also be discussed.

Betty Pun is a Senior Scientist in the Air Quality Division at Atmospheric and Environmental Research, Inc. She received a Bachelor's degree in Chemical Engineering from the California Institute of Technology and her Ph.D. in Chemical Engineering from the Massachusetts Institute of Technology. Her research interests include secondary organic aerosols and regional modeling of particulate matter and regional haze.

16. Aerosols in Nanotechnology - ***Hanover F***

Dr. Richard C. Flagan, California Institute of Technology, Department of Chemical Engineering, Pasadena, California

Abstract: Aerosols play an important role in advancing nanotechnology, enabling synthesis of highly structured nanoparticles, control of phase and composition, and a wide range of materials. Nanocomposites incorporating aerosol nanoparticles have a long history. Nanoparticle-based static and optically-addressable memories have been demonstrated, and a wide range of other applications are being explored. An increasing variety of aerosol nanoparticle synthesis reactors are being employed to address needs for flexibility in laboratory application and scale-up for technological developments. This tutorial will examine recent advances in both synthesis of aerosol nanoparticles and their applications.

Rick Flagan is the Irma and Ross McCollum Professor of Chemical Engineering at the California Institute of Technology, and the Editor-in-Chief of Aerosol Science and Technology. He has been researching aerosol processing of materials for over two decades. His current research in this area focuses on the fabrication of nanostructured electronic and photonic devices from aerosol nanoparticles, and new approaches to aerosol nanoparticle measurement.

PLENARY LECTURES

Tuesday, October 5
8:15 AM - 9:00 AM, Centennial III
Recent Aspects of Inhaled Particles of Dosimetry
Dosimetry of inhaled particles comprises of (1) their deposition on the wall surface of the respiratory tract, (2) their retention and redistribution in the lung tissues and (3) either their clearance out of the body or their translocation towards secondary target organs within the organism. Deposition will depend on the dynamics of aerosol particles, fluid dynamics during breathing, and the geometry of the branching airways and the alveolar structure of the gas exchange region. On the walls of the respiratory tract particles contact first with the mucous or serous lining fluid. Therefore, the fate of particle compounds soluble in this lining fluid needs to be distinguished from slowly dissolving or even insoluble compounds.

While insoluble particles are retained in the lungs they are likely to be redistributed by mechanisms which are currently understood only in part. In contrast to text book teaching particles deposited in the airways are not completely transported by mucociliary action to the larynx but a certain fraction stays in and beyond the airway walls. This fraction increases with decreasing particle size yielding >80% of ultrafine particles deposited in the airways. In the alveolar region particles will be transported across the epithelial barrier. This holds not only for ultrafine but also for micron-sized particles. While the latter are less likely to enter blood circulation – as long as they are not cytotoxic - debate is going on about the fraction of how many ultrafine particles will translocate into blood circulation to reach secondary target organs such as liver, heart, and even brain. There is growing evidence that access of ultrafine particles to secondary organs may affect heart functions, blood viscosity and clotting with an increasing risk for arrhythmic, ischemic and pro-thrombotic responses.

Most important clearance mechanisms are (1) particle transport to the larynx and subsequent passage through the gastro-intestinal-tract and (2) particle digestion and dissolution/absorption by body fluids. The latter may lead to accumulation in secondary target organs. While only a third of all insoluble particles deposited in the alveolar region will be cleared out of the lungs the rest stays in the lungs resulting in an ever increasing load of particulate matter in the lungs and continuous blackening those with increasing age.

Extrapolation of deposition patterns from most healthy animal models can be performed since the differences in anatomy and breathing conditions are widely known but may differ in diseased lungs. In addition, particle retention, redistribution within the lungs and translocation / clearance are based on not fully understood complex mechanisms and differ consistently between rodent models and man such that extrapolation will be limited to specific conditions. These mechanisms may be altered in the susceptible individual such as infants or elderly and diseased or genetically predisposed persons.

Wolfgang G. Kreyling

GSF-National Research Center for Environment & Health, Institute for Inhalation Biology, Network Focus Aerosols and Health, Neuherberg- Munich, Germany

Biography: Dr. Kreyling is a biophysicist at the Institute of Inhalation Biology of the GSF - National Research Center for Health & Environment co-chairing the R&D program on "Dosimetry of ultrafine aerosol particles, molecular mechanisms of interaction with primary target cells of the respiratory tract and pathophysiology of chronic inflammatory lung diseases". In addition, he coordinates all aerosol-related research within the GSF Focus-Network Aerosols + Health. His research interests ranges from aerosol sciences to the biophysics of the lungs reaching from the characterization of ambient aerosols to dosimetry and particle lung interactions on the level of the entire organism, cells like alveolar macrophages, and molecular compounds. Dr. Kreyling received his B.A. (Pre-diploma) in physics at the University of Frankfurt, his M.S. (diploma) in physics at the Ludwig-Maximillian-University of Munich and his Ph.D. at the Technical University of Munich. Dr. Kreyling is currently President of the International Society for Aerosols in Medicine (ISAM) an international not-for-profit society that strives to stimulate and further the interdisciplinary cooperation and exchange of information in all aspects of aerosol research in medicine.

Wednesday, October 6
8:15 AM- 9:00 AM, Centennial III

Particulate Matter Modeling and Reconciling PM Source Apportionment Methods

There are two general classes of particulate matter source apportionment methods, one using receptor-based and the other using emissions-based models. Their strengths and weaknesses are complimentary. This has two implications. First, if one can develop hybrid

methods (taking the best of both, let's hope), one can make a major step towards developing source apportionments with greater confidence. Second, if results of the two can be compared and reconciled, the results should also be more robust. Here, emissions-based modeling will be the focus, emphasizing the current state of the models, recent performance evaluations, and source apportionment methods. Analyses of recent studies suggest that the performance of emissions-based PM models are improving significantly. However, significant uncertainties still remain due to emissions and meteorological inputs. A second aspect will be comparison of emissions-based and receptor modeling source apportionments, and the implications. In this regard, CMAQ, PMF and CMB (with and without using molecular markers) have been applied to receptors in Atlanta using detailed data from the Atlanta Supersite, SEARCH and ASACA. The comparisons of the results suggest that there are significant uncertainties left to resolve. Future source apportionment studies should concentrate on understanding and reconciling the differences. As part of this, more uncertainty analysis is needed for the various methods.

Armisted G. (Ted) Russell
Georgia Institute of Technology

Biography: Armistead G. Russell is the Georgia Power Professor and Coordinator of Environmental Engineering at the Georgia Institute of Technology. Professor Russell arrived at Georgia Tech in 1996, from Carnegie Mellon University, and has expertise in air quality engineering, with particular emphasis in air quality modeling, air quality monitoring and analysis. He earned his M.S. and Ph.D. degrees in Mechanical Engineering at the California Institute of Technology in 1980 and 1985, conducting his research at Caltech's Environmental Quality Laboratory. His B.S. is from Washington State University (1979). Dr. Russell has been a member of a number of the National Research Council's committees, including chairing the Committee to Review EPA's Mobile Model and chairing the committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas, and serving on the committee on Tropospheric Ozone Formation and Measurement, the committee on ozone forming potential of reformulated fuels and the committee on Risk Assessment of Hazardous Air Pollutants. Recently, he served on two EPA SAB subcommittees: the CASAC subcommittee on the National Ambient Air Monitoring Strategy and the subcommittee on Air Quality Modeling Subcommittee of the Advisory Council on Clean Air Compliance Analysis.

He was also a member of the EPA FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the North American Research Strategy for Tropospheric Ozone and California's Reactivity Science Advisory Committee.

Thursday, October 7
8:15 AM - 9:00 AM, International Ballroom
Studying the Reactivity of Nanoaerosols
This talk will discuss experimental and computational tools for characterizing the reactivity of aerosols. The first method involves the uses of a tandem differential mobility analyzer to extract surface reaction rates, and has been applied to the problem of reactivity of soot aerosols. From such a measurement we can extract Arrhenius type parameters for various sized and sources of soot particles. The second tool to be discussed is the application of single particle mass spectrometry (SPMS) to measure the elemental composition, size and reactivity of aerosols. We have developed an SPMS which can obtain quantitative elemental composition of single aerosol particles. In turn this approach can be used to measure the change in composition of an aerosol under a reactive condition. We show that reaction rates obtained by conventional thermogravimetric analysis were several orders of magnitude lower, than with the SPMS. We believe these differences are associated with heat and mass transfer limitations associated with bulk methods. Finally we show how atomistic computations (molecular dynamics) can be use to assess particle-particle and gas-particle reactivity. More specifically we look at the oxidation of aluminum nanoparticles and the surface passivition of silicon.

Michael R. Zachariah
University of Maryland, Mechanical Engineering and Chemistry

Biography: Michael R. Zachariah is on the faculty at the University of Maryland in the departments of Mechanical Engineering and Chemistry. He holds a B.S in Biochemistry and received the PhD in Chemical Engineering from UCLA in 1986. Prior to his arrival at the University of Maryland, in 2003, he was a faculty member at the University of Minnesota for 6 years and at the National Institute of Standards and Technology (NIST) for 12 years as a research scientist and leader of the Reacting Flows Group. His research interests include, nanoparticle and aerosol science, and high temperature chemistry in combustion and materials processing.

Friday, October 8
8:30 AM - 9:15 AM, Centennial III

Characterization of Atmospheric Aerosols: Yesterday and Today

The last several years has witnessed many advances in the automated measurement of aerosol chemical composition. Examples include the assay of chemical composition through in-situ thermal desorption, on-line ion chromatographic techniques, and a variety of particle beam mass spectrometry methods. This paper will address the first of these, that is those automated methods that examine bulk aerosol, rather than single-particle composition.

Atmospheric air quality studies have traditionally served as a testing ground for new methods. The first of the EPA Supersite experiments, conducted in Atlanta, placed an emphasis on automated measurements, bringing many of them together in an intensive 4-week field campaign in the summer of 2000. All of the EPA Supersites – Fresno, Houston, Los Angeles, New York, Baltimore and St. Louis – have used automated methods for aerosol chemical characterization. The data have elucidated differences in the diurnal patterns among constituents, differences with season, and differences among geographic regions. Yet continuous particle chemistry measurements are not new. The 1970s was a period of intensive development of the continuous methods for measuring aerosol sulfate concentrations, with application in field studies in St. Louis and elsewhere. The 1980s saw the utilization of in-situ carbon analyses as part of the air quality studies in southern California. Many of the current advances build on these earlier methods. This presentation will examine current advances from this historic perspective. It will examine emerging methods, and address areas of future advances.

Susanne Hering
Aerosol Dynamics, Inc

Biography: Susanne Hering is the founder and head of Aerosol Dynamics Inc., a small company specializing in the measurement of airborne particles. She has been an active participant in air quality field studies since the mid-1970s, and is a co-inventor of several methods for the measurement of airborne particles. She holds a doctorate in Physics from the University of Washington, and conducted postdoctoral studies in atmospheric aerosols at California Institute of Technology. She has served on the AAAR Board of Directors and as President of AAAR.

SPECIAL SYMPOSIA

1. Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols
Organized by Chong Kim and James Blanchard
Sponsored by ISAM, EPA and Eli Lilly



Tuesday, October 5 - Dunwoody

9:20 AM – 10:50 AM
Platform 1A: Microdosimetry Assessment: Mathematical and Computational Models

11:10 AM – 12:40 PM
Platform 2A: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Mathematical and Computational Models

Wednesday, October 6 - Dunwoody

9:20 AM – 10:50 AM
Platform 4A: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdose-Response Relationship

11:10 AM – 12:40 PM
Platform 5A: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Targeted Delivery of Aerosol Drugs

2. Aerosols and Climate Change/Indirect Effects, Cloud Droplet Interactions
Organized by Tymon Effects

Tuesday, October 5 - Hanover DE

9:20 AM – 10:50 AM
Platform 1D: Aerosols and Climate Change/Indirect Effects, Cloud Droplet Interactions

11:10 AM – 12:40 PM
Platform 2D: Aerosols and Climate Change/Indirect Effects, Modeling of Indirect Effects

2:00 PM – 3:30 PM
Platform 3D: Aerosols and Climate Change/Indirect Effects, Aerosol Optical Properties

3. Characterization and Health Effects of Ambient Southeastern U.S. Aerosol I
Organized by Eladio M. Knipping
Sponsored by EPRI and Southern Company

Tuesday, October 5- Hanover FG

9:20 AM – 10:50 AM
Platform 4C: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol I

11:10 AM – 12:40 PM
Platform 5C: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol II

2:00 PM – 3:30 PM
Platform 6C: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol III

2:50 PM – 4:10 PM
Platform 9C: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol IV

4:30 PM – 5:50 PM
Platform 10C: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol V

4. Heterogeneous & Multiphase Chemistry I
Organized by Cort Anastasio and Paul Maker

Thursday, October 7- Hanover DE

9:20 AM – 10:50 AM
Platform 7B: Heterogeneous & Multiphase Chemistry I

11:10 AM – 12:40 PM
Platform 8B: Heterogeneous & Multiphase Chemistry II

2:50 PM – 4:10 PM
Platform 9B: Heterogeneous & Multiphase Chemistry III

Friday, October 8- Hanover DE

9:30 AM – 10:50 AM
Platform 11B: Heterogeneous & Multiphase Chemistry IV

11:10 AM – 12:30 PM
Platform 12B: Heterogeneous & Multiphase Chemistry V

EXHIBITORS

2004 AAAR Annual Conference

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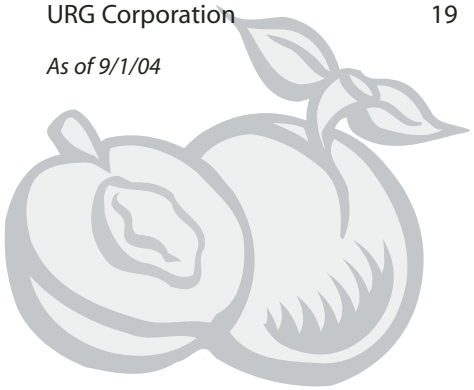

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TECHNICAL PROGRAM

TUESDAY, OCTOBER 05, 2004

8:00 AM – 9:00 AM **Plenary Session #1**
Centenial III

8:00 AM Welcome, Sheryl Ehrman, Conference Chair, University of Maryland

8:05 AM Presentation of the Thomas T. Mercer Joint Prize Award, George Mulholland, Awards Committee Chair

8:15 AM RECENT ASPECTS OF INHALED PARTICLES DOSIMETRY, Wolfgang G. Kreyling, GSF- National Research Center for Environment & Health, Institute for Inhalation Biology, Network Focus Aerosols and Health, Neuherberg-Munich, Germany

9:00 AM – 6:30PM **Exhibits and Posters #1 Open**
Grand Hall East

TUESDAY, OCTOBER 05, 2004

9:20 AM – 10:50 AM Platform Session 1

9:20 AM – 10:50 AM **Dunwoody**

1A. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Novel Experiments

Chair: Chong Kim, Co-chair: Warren Finlay

9:20 AM 1A1 MICRODOSIMETRIC COMPARISONS FOR PARTICLES IN ANIMALS AND HUMANS: AN OVERVIEW OF CURRENT KNOWLEDGE AND FUTURE NEEDS, F. MILLER, CIIT Centers for Health Research

9:40 AM 1A2 MICRODOSIMETERY IN A RHYTHMICALLY EXPANDING 3-DIMENSIONAL ALVEOLAR MODEL, AKIRA TSUDA, Physiology Program, Harvard School of Public Health, Boston, MA; Shimon Haber, Department of Mechanical Engineering, Technion, Haifa, Israel

10:00 AM 1A3 COMPUTATIONAL ANALYSIS OF MICRO- AND NANO- PARTICLE DEPOSITION IN HUMAN TRACHEOBRONCHIAL AIRWAYS, ZHE ZHANG, Clement Kleinstreuer, Department of Mechanical and Aerospace Engineering, North Carolina State University, Raleigh, NC; Chong S. Kim, National Health and Environmental Effects Research Laboratory, US EPA, Research Triangle Park, NC

10:20 AM 1A4 A COMPUTATIONAL MODEL OF PARTICLE DEPOSITION IN A HUMAN

		NOSE COMPARED WITH MEASUREMENTS IN A NASAL REPLICA, BRIAN WONG, Bahman Asgharian, Julia Kimbell, CIIT Centers for Health Resarch, Research Triangle Park, NC; James Kelly, UC Davis, Davis, CA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 1PA (one minute each).

9:20 AM – 10:50 AM **Courtland**
1B. Instrumentation
Chair: Mike Tolocka, Co-chair: Keith Coffee

9:20 AM	1B1	A LAMINAR-FLOW, WATER-BASED CONDENSATION PARTICLE COUNTER, SUSANNE V. HERING and Mark R. Stolzenburg, Aerosol Dynamics Inc., Frederick R. Quant and Derek Oberreit, Quant Technologies, LLC
9:40 AM	1B2	EXTERNAL TO THE TRAP VAPORIZATION AND IONIZATION FOR REAL-TIME QUANTITATIVE PARTICLE ANALYSIS, PETER T. A. REILLY, William A. Harris, Kenneth C. Wright, William B. Whitten, J. Michael Ramsey, Oak Ridge National Laboratory, Oak Ridge, TN
10:00 AM	1B3	PARTICLE DETECTION EFFICIENCIES OF AEROSOL TIME-OF-FLIGHT MASS SPECTROMETER DURING THE NORTH ATLANTIC MARINE BOUNDARY LAYER EXPERIMENT (NAMBLEX), MANUEL DALL'OSTO, Roy M. Harrison, David C. S. Beddows, Robert P. Kinnesley, Division of Environmental Health and Risk Management, University of Birmingham, Edgbaston, Birmingham, U.K.: Evelyn J. Freney, Mat R. Heal, Robert J. Donovan, School of Chemistry, University of Edinburgh,West Mains Road, Edinburgh, U.K.
10:20 AM	1B4	MAPPING THE PERFORMANCE OF A NEW CONTINUOUS-FLOW CCN COUNTER, SARA LANCE, Jeessy Medina, Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA; Gregory Roberts, Scripps Institution of Oceanography, La Jolla, CA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 1PB (one minute each).

9:20 AM – 10:50 AM **Hanover FG**
1C. Aerosol Chemistry I
Chair: Jose-Luis Jimenez, Co-Chair: Garnet Erdakos

9:20 AM	1C1	THE STRUCTURE OF BINARY NANODROPLETS FROM SMALL ANGLE NEUTRON SCATTERING EXPERIMENTS, BARBARA WYSLOUZIL, The Ohio State University, Columbus, OH; Gerald Wilemski, University of Missouri - Rolla, Rolla, MO; Reinhard Strey, Universitaet zu Koeln, Koeln, Germany
9:40 AM	1C2	A NEW TECHNIQUE FOR ESTIMATING THE PRIMARY AND OXYGENATED ORGANIC AEROSOL MASS CONCENTRATIONS AND SIZE DISTRIBUTIONS WITH HIGH TIME RESOLUTION BASED ON AEROSOL MASS SPECTROMETRY, QI ZHANG, Jose L. Jimenez, University of Colorado-Boulder, CO; M. Rami Alfarra, James D. Allan, Hugh Coe, The University of Manchester, UK; Douglas R. Worsnop, Manjula R. Canagaratna, Aerodyne Research Inc. MA
10:00 AM	1C3	EVIDENCE OF POLYMERISATION AND OXIDATION OF SECONDARY ORGANIC AEROSOLS FORMED FROM ANTHROPOGENIC AND BIOGENIC PRECURSORS IN A SMOG CHAMBER USING AN AERODYNE AEROSOL MASS SPECTROMETER, M. RAMI ALFARRA, Hugh Coe, School of Earth Atmospheric and Environmental Science; Manchester, UK; Dwane Paulsen, Josef Dommen, Andre S.H. Prevot, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institute, Villigen PSI; Switzerland
10:20 AM	1C4	VAPOR PRESSURES OF CARBOXYLIC ACIDS IN SOLID AND LIQUID MATRICES MEASURED USING A THERMAL DESORPTION PARTICLE BEAM MASS SPECTROMETER, SULEKHA CHATTOPADHYAY, Paul Ziemann, Air Pollution Research Center, University of California, Riverside, CA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 1PC (one minute each).

9:20 AM – 10:50 AM **Hanover DE**
1D. Special Symposium: Aerosols and Climate Change/Indirect Effects, Cloud Droplet Interactions
Chair: Cynthia Twohy, Co-Chair: Athanasios Nenes

9:20 AM	1D1	PARAMETERIZATION OF CLOUD DROPLET FORMATION IN GLOBAL CLIMATE MODELS: LINKING ACTIVATION WITH COLLISION-

		COALESCENCE PROCESSES, ATHANASIOS NENES, Georgia Institute of Technology
9:40 AM	1D2	SENSITIVITY OF CCN ACTIVATION TO KINETIC PARAMETERS, PATRICK CHUANG, UC Santa Cruz, Santa Cruz, CA
10:00 AM	1D3	EVALUATION OF A NEW CLOUD DROPLET FORMATION PARAMETERIZATION WITH IN-SITU DATA FROM NASA CRYSTAL-FACE AND CSTRIPE, NICHOLAS MESKHIDZE, Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA; Athanasios Nenes, Earth and Atmospheric Science and Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA; William C. Conant, John H. Seinfeld, Departments of Environmental Science and Engineering and Chemical Engineering, California Institute of Technology, Pasadena, CA
10:20 AM	1D4	MEASUREMENTS OF WINTERTIME CLOUD-AEROSOL INTERACTIONS AT THE JUNGFRAUJOCH MOUNTAIN-TOP SITE IN THE SWISS ALPS, KEITH BOWER,Michael Flynn,Martin Gallagher, James Allan, Jonathon Crosier,Thomas Choularton, Hugh Coe, Rachel Burgess, The Physics Department, UMIST, Manchester, United Kingdom; Urs Baltensperger, Ernerst Weingartner, Laboratory of Atmospheric Chemistry Paul Scherrer Institut (PSI), Switzerland; Stephan Mertes, Institut fur Tropospharenforschung (IFT), Leipzig, Germany; Johannes Schneider,Max-Plank-Institut fur Chemie (MPI),Mainz, Germany
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 1PD (one minute each).

9:20 AM – 10:50 AM **Baker**

1E. Source/Emissions Characterization 1

Chair: Phil Fine, Co-Chair: Natalie Pekney

9:20 AM	1E1	SOURCE CONTRIBUTIONS TO THE REGIONAL DISTRIBUTION OF SECONDARY PARTICULATE MATTER IN CALIFORNIA, QI YING, Anthony Held, Michael J. Kleeman, University of California, Davis CA

9:40 AM	1E2	SOURCE APPORTIONMENT OF PRIMARY ORGANIC CARBON IN THE PITTSBURGH REGION USING MOLECULAR MARKERS AND DIFFERENT RECEPTOR MODELS, R Subramanian, ALLEN ROBINSON, Carnegie Mellon University, Pittsburgh, PA; Anna Bernardo-Bricker, Wolfgang Rogge, Florida International University, Miami, FL
10:00 AM	1E3	ASSESSMENT OF SOURCE CONTRIBUTIONS TO URBAN AMBIENT PM2.5 IN DETROIT, MICHIGAN, MASAKO MORISHITA, Gerald J. Keeler, Frank J. Marsik, J. Timothy Dvonch, Li-Hao Young, Ali S. Kamal, The University of Michigan, Ann Arbor, MI; James G. Wagner, Jack R. Harkema, Michigan State University, East Lansing, MI
10:20 AM	1E4	TRANSPORT OF AIR POLLUTANTS TO TONTO NATIONAL MONUMENT: A 13 YEAR HISTORICAL STUDY OF AIR TRAJECTORY AND AEROSOL CLUSTER ANALYSIS, CHARITY COURY, Ann Dillner, Department of Chemical and Materials Engineering and Department of Civil and Environmental Engineering, Arizona State University, Tempe, AZ
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 1PE (one minute each).

TUESDAY, OCTOBER 05, 2004
11:10 AM – 12:40 PM Platform Session 2

11:10 AM – 12:40 PM Dunwoody
2A. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Novel Experiments
Chair: John Veranth, Co-Chair: Brian Wong

11:10 AM	2A1	DOSIMETRIC CONCEPTS OF PARTICLE LUNG INTERACTIONS,WOLFGANG G. KREYLING, Manuela Semmler, Winfried Möller, Francesca Alessandrini, Shinji Takenaka, Holger Schulz, GSF-National Research Center for Environment and Health, Neuherberg-Munich, Germany
11:30 AM	2A2	DEPOSITION OF SPHERICAL AND FIBER AEROSOLS IN HUMAN ORAL AND UPPER TRACHEOBRONCHIAL AIRWAYS, YUNG SUNG CHENG, Wei-Chung Su, Yue Zhou, Lovelace Respiratory Research Institute, Albuquerque, NM

11:50 AM	2A3	MICRODOSIMETRY OF METHACHOLINE REVEALS INTERPLAY OF MORPHOLOGY AND PHYSIOLOGY IN PULMONARY HYPERSENSITIVITY, OWEN MOSS, Earl Tewksbury, CIIT Centers for Health Research, Research Triangle Park, NC;, Michael
12:10 PM	2A4	SEQUENTIAL TARGETED BOLUS DELIVERY METHOD FOR ASSESSING REGIONAL DEPOSITION DOSE IN HUMAN LUNGS, CHONG S. KIM, US EPA National Health and Environmental Effects Research Laboratory, RTP, NC; Shu-Chieh Hu, IIT Research Institute, Chicago, IL
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 2PA (one minute each).

11:10 AM – 12:40 PM Courtland
2B. Mobility Sizing Instrumentation
Chair: Jon Volkwein, Co-Chair: Jian Wang

11:10 AM	2B1	DEVELOPMENT OF A MULTIPLE-STAGE DMA, Weiling Li and DA-REN CHEN, Department of Mechanical Engineering, Joint Program in Environmental Engineering Science, Washington University in St. Louis, St. Louis, MO
11:30 AM	2B2	NECESSITY OF AN CALIBRATION STANDARD FOR NANOPARTICLE (COUNTING) INSTRUMENTS, CHRISTIAN GERHART, Hans Grimm, Grimm Aerosol Technik GmbH, Ainring, Germany; Matthias Richter, GIP Messinstrumente GmbH, Pouch, Germany
11:50 AM	2B3	A FAST SCAN SMPS FOR TRANSIENT SIZE DISTRIBUTIONS OF PARTICULATE MATTER EMITTED FROM DIESEL VEHICLES, SANDIP SHAH, David Cocker, University of California, Riverside, CA
12:10 PM	2B4	CHARACTERIZING PARTICLE MORPHOLOGY AND DENSITY BY COMBINING MOBILITY AND AERODYNAMIC DIAMETER MEASUREMENTS WITH APPLICATION TO PITTSBURGH SUPERSITE DATA, PETER F. DECARLO, Qi Zhang, Jose L. Jimenez, University of Colorado at Boulder; Douglas R. Worsnop, Aerodyne Reseach Inc.; Jay Slowik, Paul Davidovits, Boston College
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters

from Session 2PB (one minute each).

11:10 AM – 12:40 PM Hanover FG
2C. Aerosol Chemistry II
Chair: Vicki Grassian, Co-Chair: Qi Zhang

11:10 AM	2C1	FORMATION OF SECONDARY ORGANIC AEROSOL FROM THE REACTION OF STYRENE WITH OZONE IN THE PRESENCE AND ABSENCE OF AMMONIA AND WATER, KWANGSAM NA, Chen Song, David Cocker, University of California, Riverside, CA
11:30 AM	2C2	A MODEL FOR PREDICTING ACTIVITY COEFFICIENTS OF NEUTRAL COMPOUNDS IN LIQUID PARTICULATE MATTER CONTAINING ORGANIC COMPOUNDS, WATER, AND DISSOLVED INORGANIC SALTS, GARNET B. ERDAKOS, James F. Pankow, OGI School of Science & Engineering at OHSU, Department of Environmental and Biomolecular Systems, Beaverton, OR; John H. Seinfeld, California Institute of Technology, Department of Chemical Engineering, Pasadena, CA
11:50 AM	2C3	HETEROGENEOUS CONVERSION OF CARBONATE AEROSOL IN THE ATMOSPHERE: EFFECTS ON CHEMICAL AND OPTICAL PROPERTIES, Amy Preszler Prince, Paul Kleiber, Vicki H. Grassian, MARK A. YOUNG Department of Chemistry, Department of Physics and Astronomy, Optical Science and Technology Center, Center for Global and Regional Environmental Research, University of Iowa, Iowa City, IA
12:10 PM	2C4	CHEMISTRY OF SECONDARY ORGANIC AEROSOL FORMATION FROM THE REACTIONS OF LINEAR ALKENES WITH OH RADICALS, KENNETH DOCHERTY, Paul Ziemann, Air Pollution Research Center, University of California, Riverside, CA
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 2PC (one minute each).

11:10 AM – 12:40 PM Hanover DE
2D. Special Symposium: Aerosols and Climate Change/Indirect Effects, Modeling of Indirect Effects
Chair: Anthony Strawa , Co-Chair: Darrel Baumgardner

11:10 AM	2D1	Paper withdrawn – replacement paper - CONTINUED DEVELOPMENT OF A CLOUD DROPLET FORMATION

		PARAMETERIZATION FOR GLOBAL CLIMATE MODELS, CHRISTOS FOUNTOUKIS, School of Chem.& Biom. Eng., Georgia Institute of Technology, Atlanta, GA
11:30 AM	2D2	GFDL GCM SIMULATIONS OF THE INDIRECT RADIATIVE EFFECTS OF AEROSOLS, YI MING, V. Ramaswamy, Geophysical Fluid Dynamics Laboratory, Princeton, NJ
11:50 AM	2D3	COMPARISON OF AEROSOL MEASUREMENTS DURING TEXAQS 2000 AND PREDICTIONS FROM A FULLY-COUPLED METEOROLOGY-CHEMISTRY-AEROSOL MODEL, JEROME D. FAST, James. C. Barnard, Elaine. G. Chapman, Richard C. Easter, William I. Gustafson Jr., and Rahul A. Zaveri, Pacific Northwest National Laboratory, Richland, WA
12:10 PM	2D4	A COMPARISON OF AEROSOL OPTICAL PROPERTY MEASUREMENTS MADE DURING THE DOE AEROSOL INTENSIVE OPERATING PERIOD AND THEIR EFFECTS ON REGIONAL CLIMATE, A. W. STRAWA, A.G. Hallar, NASA Ames Research Center, Moffett Field, CA; W.P. Arnott, Atmospheric Science Center,Desert Research Institute, Reno NV; D. Covert, R. Elleman,Department of Atmospheric Science, University of Washington, Seattle,WA; J. Ogren,NOAA Climate Monitoring and Diagnostics Laboratory, Boulder, CO; B. Schmid, A. Luu, Bay Area Environment Research Institute, Sonoma, CA
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 2PD (one minute each).

11:10 AM – 12:40 PM Baker
2E. Source/Emissions Characterization 2
Chair: Mike Kleeman, Co-Chair: Allen Robinson

11:10 AM	2E1	DETERMINING THE MAJOR SOURCES OF PM2.5 IN PITTSBURGH USING POSITIVE MATRIX FACTORIZATION AND UNMIX, NATALIE PEKNEY, Dept. of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA; Cliff Davidson, Dept. of Civil and Environmental Engineering and Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA

11:30 AM	2E2	ON-ROAD SIZE-RESOLVED ULTRAFINE PARTICULATE EMISSION FACTORS FOR DIESEL AND GASOLINE-POWERED VEHICLES, K. MAX ZHANG, Anthony S. Wexler, Debbie A. Niemeier, University of California, Davis, CA; Yifang Zhu, William C. Hinds, University of California, Los Angeles, CA; Constantinous Sioutas, University of Southern California, Los Angeles, CA
11:50 AM	2E3	SOURCES OF PM10 METAL EMISSIONS FROM MOTOR VEHICLE ROADWAYS, GLYNIS C. LOUGH, James J. Schauer, Martin M. Shafer, University of Wisconsin-Madison, Madison, WI
12:10 PM	2E4	AEROSOL AND GAS CHEMISTRY OF COMMERCIAL AIRCRAFT EMISSIONS MEASURED IN THE NASA EXCAVATE EXPERIMENT, T. B. ONASCH, H. Boudries, J. Wormhoudt, D. Worsnop, M. Canagaratna, R. Miake-Lye, Aerodyne Research, Inc., Billerica, MA, USA; B. Anderson, NASA Langley Research Center, Hampton, VA, USA;
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 2PE (one minute each).

TUESDAY, OCTOBER 05, 2004
2:00 PM – 3:30 PM **Platform Session 3**

2:00 PM – 3:30 PM **Dunwoody**
3A. Drug Delivery
Chair: Carlos Lange, Co-Chair: Michael Kleinman

2:00 PM	3A1	PARTICLE CHARGE OF INHALER AND NEBULISER DOSES, PIRITA MIKKANEN,Mikko Moisio, Dekati Ltd. Tampere, Finland; Jyrki Ristimäki, Topi Rönkkö, Jorma Keskinen, Tampere University ofTechnology, Institute of Physics/Aerosol Physics, Tampere, Finland
2:20 PM	3A2	TARGETED AEROSOL DRUG DELIVERY: IMAGINATIONS AND POSSIBILITIES, ZONGQIN ZHANG, University of Rhode Island
2:40PM	3A3	INVESTIGATING REDUCED DRUG DELIVERY FROM METERED-DOSE INHALERS DURING MECHANICAL VENTILATION, ANDREW R. MARTIN, Warren H. Finlay, Daniel Y. Kwok, University of Alberta, Edmonton, AB, Canada
3:00 PM	3A4	CASCADE IMPACTION COMBINED

		WITH RAMAN SPECTROSCOPY PROVES CHEMICAL HOMOGENEITY OF SPRAY DRIED AEROSOLS FOR PULMONARY DRUG DELIVERY, JENIFER LOBO, Reinhard Vehring, Nektar Therapeutics, San Carlos, CA.
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 3PA (one minute each).

2:00 PM – 3:30 PM **Courtland**
3B. Aerosol Sampling Techniques
Chair: Paul Baron, Co-Chair: Fred Brechtel

2:00 PM	3B1	COLLIMATED PARTICLE BEAM PRODUCTION USING SLITS, RAVI SANKAR CHAVALI, Goodarz Ahmadi, Suresh Dhaniyala, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY
2:20 PM	3B2	EXPERIMENTAL OBSERVATIONS OF PARTICLE FOCUSING IN AN OFVC-IMPACTOR, DANIEL RADER, Sandia National Laboratories, Albuquerque, NM
2:40 PM	3B3	A NEW AEROSOL MINI-CONCENTRATOR FOR USE IN CONJUNCTION WITH LOW FLOW-RATE CONTINUOUS AEROSOL INSTRUMENTATION, PHILIP FINE, Harish Phuleria, Subhasis Biswas, Michael Geller, Constantinos Sioutas, University of Southern California, Los Angeles, CA
3:00 PM	3B4	A COMPARATIVE STUDY OF AIRBORNE AEROSOL SAMPLE INLET PERFORMANCE, DAVID C. ROGERS, Allen Schanot, National Center for Atmospheric Research, Research Aviation Facility, Boulder, CO; Peter Liu, Jefferson R. Snider, University of Wyoming, Dept. Atmospheric Science, Laramie, WY
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 3PB (one minute each).

2:00 PM – 3:30 PM **Hanover FG**
3C. Vehicular Exhaust and PM Analyzers
Chair: Gilmore Sem, Co-Chair: Jose Jiminez

2:00 PM	3C1	PERFORMANCE OF AN ENGINE EXHAUST PARTICLE SIZER SPECTROMETER, ROBERT CALDOW, Jeremy J. Kolb, Larry S. Berkner,TSI Incorporated, Shoreview, MN; Aadu Mirme, University of Tartu, Tartu,

		Estonia
2:20 PM	3C2	ON-ROAD MEASUREMENT OF AUTOMOTIVE PM EMISSIONS WITH IN-PLUME AND CROSS-PLUME SYSTEMS, CLAUDIO MAZZOLENI, Hampden Kuhns, Hans Moosmüller, Nicholas Nussbaum, Oliver Chang, Djordje Nikolic, Peter Barber, Robert Keislar, and John Watson, Desert Research Institute, University of Nevada System, Reno, NV
2:40 PM	3C3	A CONTINUOUS MONITOR FOR THE DETERMINATION OF NONVOLATILE AND VOLATILE AMBIENT PARTICLE MASS, HARVEY PATASHNICK, Michael B. Meyer, Rupprecht & Patashnick Co., Inc., East Greenbush, NY
3:00 PM	3C4	CONTINUOUS VOLATILE FRACTION MEASUREMENT IN PM10 AND PM2.5, THOMAS PETRY, Hans Grimm, GRIMM Aerosol Technik GmbH & Co. KG, Ainring, Germany; Matthias Richter, GIP Messinstrumente, Pouch, Germany; Gerald Schindler, Leibniz-Institut für Troposphärenforschung e.V., Leipzig, Germany
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 3PC (one minute each).

2:00 PM – 3:30 PM **Hanover DE**
3D. Special Symposium: Aerosols and Climate Change/Indirect Effects, Aerosol Optical Properties
Chair: Tymon Zielinski, Co-Chair: Cynthia Twohy

2:00 PM	3D1	STUDIES OF AEROSOL PHYSICAL PROPERTIES IN THE ARCTIC REGION OF SPITSBERGEN,TYMON ZIELINSKI Institute of Oceanology, Polish Academy of Sciences, Warszawy, Poland
2:20 PM	3D2	DIRECT AND INDIRECT FORCING BY ANTHROPOGENIC AEROSOLS IN THE, GRACIELA RAGA Darrel Baumgardner Jose Carlos Jimenez, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico
2:40 PM	3D3	CONSEQUENCES FOR CLIMATE, C. A. RANDLES, Atmospheric and Oceanic Sciences Program Princeton University, Princeton, NJ;V. Ramaswamy, NOAA Geophysical Fluid Dynamics Laboratory, Princeton, NJ; L. M. Russell, Scripps Institution of Oceanography University of California San Diego, La Jolla, CA

3:00 PM	3D4	MEASUREMENTS OF THE INDIRECT EFFECT OF AEROSOL PARTICLES ON STRATIFORM CLOUDS, CYNTHIA TWOHY, William Tahnk, Oregon State University, Corvallis, OR; Markus Petters, Jefferson Snider, University of Wyoming, Laramie, WY; Bjorn Stevens, University of California, Los Angeles, CA; Melanie Wetzel, Desert Research Institute, Reno, NV; Lynn Russell, Scripps Institute of Oceanography, La Jolla, CA; Jean-Louis Brenguier, Meteo-France, Toulouse, France
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 3PD (one minute each).

2:00 PM – 3:30 PM **Baker**
3E. Particle Transport
Chair: Thomas Peters, Co-Chair: Goodarz Ahmadi

2:00 PM	3E1	THERMOPHORETIC FORCE AND VELOCITY OF NANOPARTICLES IN FREE MOLECULE REGIME, ZHIGANG LI, Hai Wang, Department of Mechanical Engineering, University of Delaware, DE
2:20 PM	3E2	SLIP CORRECTION MEASUREMENTS OF CERTIFIED PSL NANOPARTICLES USING A NANO-DMA FOR KNUDSEN NUMBER FROM 0.5 TO 83, JUNG KIM, David Pui, University of Minnesota, Minneapolis, MN; George Mulholland, National Institute of Standards and Technology, Gaithersburg, MD
2:40 PM	3E3	ASPIRATION EFFICIENCY OF A THIN-WALLED PROBE AT RIGHT ANGLES TO THE WIND, LAURIE BRIXEY, ManTech Environmental Technologies, Research Triangle Park, NC; Douglas Evans, James Vincent, University of Michigan, Ann Arbor, MI
3:00 PM	3E4	SUPPRESSION OF PARTICLE DEPOSITION IN TUBE FLOW BY THERMOPHORESIS, Jyh-Shyan Lin, CHUEN-JINN TSAI, National Chiao Tung University, Hsinchu, Taiwan
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 3PE (one minute each).

TUESDAY, OCTOBER 05, 2004
3:45 PM – 4:30 PM **AAAR Annual Business Meeting - Hanover FG**

TUESDAY, OCTOBER 05, 2004
4:30 PM – 6:30 PM Poster Session #1 & Refreshments
Grand Hall East

4:30 PM – 6:30 PM Grand Hall East
1PA. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Mathematical and Computational Models

1PA1 THEORETICAL ANALYSIS OF THE EFFECTS OF BREATHING PATTERNS ON PARTICLE DEPOSITION IN HUMAN LUNGS, JUNG-IL CHOI, CEMALB/UNC-CH, Chapel Hill, NC

1PA2 AIRFLOW AND PARTICLE DEPOSITION IN THE HUMAN LUNG, BAHMAN ASGHARIAN,Owen Price, CIIT Centers for Health Research, Research Triangle Park, NC

1PA3 ANALYSIS OF REGIONAL DEPOSITION PATTERNS OF COARSE PARTICLES IN HUMAN NASAL PASSAGES USING COMPUTATIONAL FLUID DYNAMICS MODELING, JEFFRY SCHROETER, Bahman Asgharian, Julia Kimbell, CIIT Centers for Health Research, Research Triangle Park, NC

1PA4 NUMERICAL SIMULATION OF INSPIRATORY AIRFLOW AND NANO-PARTICLE DEPOSITION IN A REPRESENTATIVE HUMAN NASAL CAVITY, HUAWEI SHI, Clement Kleinstreuer, Zhe Zhang, NC State University, Raleigh, NC; Chong Kim, National Health and Environmental Effects Research Laboratory, US EPA, Research Triangle Park, NC

4:30 PM – 6:30 PM Grand Hall East
1PB. Instrumentation

1PB1 APPARENT SIZE SHIFTS IN MEASUREMENTS OF DROPLETS WITH THE AERODYNAMIC PARTICLE SIZER AND THE AEROSIZER, PAUL BARON, Gregory Deye, Anthony Martinez and Erica Jones, National Institute for Occupational Safety and Health, Cincinnati, OH

1PB2 A TOOL TO DESIGN AND EVALUATE AERODYNAMIC LENS SYSTEMS, XIAOLIANG WANG, Peter H.McMurry,Department of Mechanical Engineering, University of Minnesota, Minneapolis,MN; Frank Einar Kruis, Process and Aerosol Measurement Technology, University Duisburg- Essen, Duisburg, Germany

1PB3 COMPRESSIBLE FLOW THROUGH AERODYNAMIC LENSES, RAVI SANKAR CHAVALI, Goodarz Ahmadi, Brian Helenbrook, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY

1PB4 MATCHED AERODYNAMICS LENSES, Prachi Middha,Department of Mechanical Engineering, University of Delaware, Newark,

DE; ANTHONY S.WEXLER, Departments of Mechanical and Aeronautical Engineering, Civil and Environmental Engineering, and Land, Air and Water Resources, University of California, Davis, CA

1PB5 COUNTING EFFICIENCY OF THE AERODYNAMIC PARTICLE SIZER, THOMAS PETERS, University of Iowa, Iowa City, IA; John Volckens, U.S. EPA, National Exposure Research Laboratory, Research Triangle Park, NC

1PB6 WIDE RANGE PARTICLE MEASUREMENT FROM 5 NM to 20 µM, HANS GRIMM, Thomas Petry, Grimm Aerosol Technik GmbH, Ainring, Germany

1PB7 MODELING, LABORATORY, AND FIELD RESULTS FOR A BEAM WIDTH PROBE DESIGNED FOR MEASURING PARTICLE COLLECTION EFFICIENCY IN THE AERODYNE AEROSOL MASS SPECTROMETER, J. ALEX HUFFMAN, Allison Aiken, Edward Dunlea, Alice Delia, and Jose L. Jimenez, Univeristy of Colorado, Boulder, CO; John T. Jayne, Timothy Onasch, and Doug R. Worsnop, Aerodyne Research, Billerica, MA; Dara Salcedo, Universidad Iberoamericana, Mexico City, Mexico; James Allan, The Univeristy of Manchester, Manchester, England

1PB8 FLOW DYNAMICS AND PARTICLE TRAJECTORIES IN AN ICE NUCLEATION CHAMBER, DEREK J. STRAUB, Susquehanna University, Department of Geological and Environmental Science, Selinsgrove, PA; David C. Rogers, National Center for Atmospheric Research, Boulder, CO 80307; Paul J.Demott, Anthony J. Prenni, Colorado State University, Department of Atmospheric Science, Fort Collins, CO

1PB9 CCN SPECTRAL COMPARISONS AT LOW SUPERSATURATIONS, JAMES G. HUDSON, Desert Research Institute, Reno, NV; Seong Soo Yum, Yonsei University, Seoul, Korea

1PB10 DESIGN AND EVALUATION OF A LARGE-SCALE PARTICLE GENERATOR FOR DIAL HEPA FILTER TEST FACILITY, R. Arun Kumar, John Etheridge, KRISTINA HOGANCAMP, John Luthe, Brian Nagel, Olin Perry Norton, Michael Parsons, Donna Rogers, Charles Waggoner, Diagnostic Instrumentation and Analysis Laboratory - Mississippi State University, Starkville, MS

1PB11 UNIVERSAL SIZE DISTRIBUTION AEROSOL GENERATION USING CONDENSATION MONODISPERSE AEROSOL GENERATOR, KUANG-NAN CHANG, Chih-Chieh Chen, National Taiwan University, Taipei, Taiwan; Sheng-Hsiu Huang, Institute of Occupational Safety and Health, Taipei, Taiwan

4:30 PM – 6:30 PM Grand Hall East
1PC. Aerosol Chemistry I

1PC1 DETERMINATION OF SECONDARY ORGANIC AEROSOL PRODUCTS FROM GAS AND PARTICLE PHASE REACTIONS OF TOLUENE, DI HU, Richard Kamens and Myoseon Jang Department of Environmental Sciences and Engineering, the University of North Carolina at Chapel Hill, Chapel Hill, NC

1PC3 MODELING THE INTERACTION OF A HIGH - INTENSITY PULSED LASER WITH NANOPARTICLES IN THE SINGLE PARTICLE MASS SPECTROMETRY, KIHONG PARK, Michael R. Zachariah, Co-laboratory on NanoParticle Based Manufacturing and Metrology, University of Maryland and National Institute of Standards and Technology, MD; Donggeun Lee, School of Mechanical Engineering, Pusan National University, Busan, Korea; Howard M. Milchberg, Institute for Physical Science and Technology, University of Maryland, MD

1PC4 CHARACTERISTICS OF PHOTOCHEMICAL OXIDATION OF AMBIENT DICARBOXYLIC ACIDS, Li-Ming Yang, Bhowmick Madhumita Ray, LIYA E. YU, National University of Singapore, Singapore

1PC5 THE EFFECTS OF LOAD ON ORGANIC SPECIES IN DIESEL PARTICULATE MATTER (DPM), FUYAN LIANG, Mingming Lu, Tim. C. Keener, Zifei Liu, University of Cincinnati, Cincinnati, OH

1PC6 KINETICS OF ATMOSPHERIC PROCESSING OF ORGANIC PARTICULATE MATTER: A RELATIVE RATES APPROACH, KARA E. HUFF HARTZ, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; Emily A. Weitkamp, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA; Amy M. Sage, Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA; Albert A. Presto, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; Allen L. Robinson, Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA; Neil M. Donahue, Department of Chemical Engineering and Chemistry, Carnegie Mellon University, Pittsburgh, PA

1PC7 NIGHTTIME LAGRANGIAN MEASUREMENTS OF AEROSOLS AND OXIDANTS IN THE BOSTON URBAN PLUME: POSSIBLE EVIDENCE OF HETEROGENEOUS LOSS OF OZONE, RAHUL A. ZAVERI, Carl M. Berkowitz, John M. Hubbe, Pacific Northwest National Laboratory, Richland, WA; Stephen R. Springston, Brookhaven National Laboratory, Upron, NY; Fred J. Brechtel, Brechtel Manufacturing Inc., Hayward, CA; Timothy B. Onasch, John T. Jayne, Aerodyne Research Inc., Billerica, MA

1PC8 REDUCING THE MASTER CHEMICAL MECHANISM FOR REGIONAL MODELLING OF SECONDARY ORGANIC AEROSOL FORMATION, ADAM G. XIA, Diane V. Michelangeli, Centre for Atmospheric Chemistry & Department of Earth and Space Science and Engineering, York University, Toronto, ON, Canada; Paul Makar, Air Quality Modelling and Integration Division, Meteorological Service of Canada, Toronto, ON, Canada

4:30 PM – 6:30 PM Grand Hall East
1PD. Special Symposium: Aerosols and Climate Change/Indirect Effects, Cloud Droplet Interactions

1PD1 EFFECTS OF FILM FORMING COMPOUNDS ON THE GROWTH OF GIANT CCN: IMPLICATIONS FOR CLOUD MICROPHYSICS AND THE AEROSOL INDIRECT EFFECT, JEESSY MEDINA, Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA

1PD2 THE EFFECTS OF DISSOLUTION KINETICS ON CLOUD DROPLET ACTIVATION, AKUA ASA-AWUKU, Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA

1PD4 STUDY ON FOUR TYPES OF NUCLEATION EVENTS AT REMOTE COASTAL ENVIRONMENT, JIAN WEN, Anthony S Wexler, University of California, Davis, CA

1PD5 THE CLIMATE RESPONSE OF ANTHROPOGENIC SOOT, ACCOUNTING FOR SOOTÆS FEEDBACK TO SNOW AND SEA ICE ALBEDO, Mark Jacobson, Stanford University, Stanford, CA

1PD6 STUDY OF CCN PROXY BASED ON OPTICALLY EFFECTIVE SIZES AND ITS RELATION TO A SATELLITE AEROSOL INDEX, VLADIMIR KAPUSTIN, Antony Clarke, Yohei Shinozuka, Steven Howell, Vera Brekhovskikh, School of Ocean and Earth Science and Technology, University of Hawaii, Honolulu, HI; Teruyuki Nakajima, Center for Climate System Research Center, University of Tokyo, Japan; Akiko Higurashi, National Institute for Environmental Studies, Ibaraki, Japan

1PD7 SEVERE WEATHER PHENOMENA WATERSPOUT AS A RESULT OF THE OCEAN'S SKELETAL STRUCTURES AND AS A SPECIAL TYPE OF AEROSOL-DUSTY PLASMA, VALENTIN A. RANTSEV-KARTINOV, Institute for Nuclear Fusion, Russia

4:30 PM – 6:30 PM Grand Hall East
1PE. Source/Emissions Characterization 1

1PE1 MEASUREMENT OF THE SIZE DISTRIBUTION AND CHEMICAL COMPOSITION OF RURAL ATMOSPHERIC NANOPARTICLES, MATTHEW J. DUNN, Katharine Moore, Fred L. Eisele, James N.

Smith, National Center for Atmospheric Research, Boulder, CO; Ajaya Ghimire, Mark Stolzenberg, Peter H. McMurry, University of Minnesota, Minneapolis, MN

1PE2 PARTICLE FORMATION AND GROWTH DOWNWIND OF POINT AND AREA SOURCES IN THE NORTHEASTERN U.S., CHARLES BROCK, National Oceanic and Atmospheric Administration Aeronomy Laboratory and University of Colorado Cooperative Institute for Research in Environmental Sciences, Boulder, CO

1PE3 ON THE ERRORS OF ATMOSPHERIC POLLUTANT SOURCE PARAMETER DEFINITION WITH THE USE OF THE EXPERIMENTAL DATA ON THE UNDERLYING SURFACE DEPOSIT DENSITY, Oxana Botalova, ALEXANDER BORODULIN, Svetlana Kotlyarova, SRC VB "Vector", Koltsovo, Novosibirsk region, Russia

1PE4 SOURCE IDENTIFICATION OF THE SECONDARY SULFATE AEROSOLS IN THE EASTERN U.S. UTILIZING TEMPERATURE RESOLVED CARBON FRACTIONS, EUGENE KIM, Philip K. Hopke, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY

1PE5 HOUSTON OZONE PRECURSOR STUDY: SOURCE IDENTIFICATION OF VOLATILE ORGANIC COMPOUND IN HOUSTON SHIP CHANNEL AREA, EUGENE KIM, Philip K. Hopke, Clarkson University, Potsdam, NY; Steve G. Brown, Hilary R. Hafner, Paul T. Roberts, Sonoma Technology, Inc., Petaluma, CA

1PE6 HOUSTON OZONE PRECURSOR STUDY: SPATIAL AND TEMPORAL ANALYSES AND RECONCILIATION OF VOLATILE ORGANIC COMPOUND SOURCES IN THE HOUSTON SHIP CHANNEL AREA, Steven G Brown, Hilary R. Hafner, PAUL T. ROBERTS, Sonoma Technology, Inc, Petaluma, CA; Eugene Kim, Department of Civil and Environmental Engineering, Clarkson University; Phillip K. Hopke, Department of Chemical Engineering, Clarkson University, Potsdam, NY

1PE7 APPLICATION OF WEIGHT ABSOLUTE PRINCIPAL COMPONENT ANALYSIS TO THE ANALYSIS OF ATMOSPHERIC AEROSOL SIZE DISTRIBUTION DATA, TAK-WAI CHAN, Michael Mozurkewich, Department of Chemistry and Centre of Atmospheric Chemistry, York University, Toronto, Ontario, CA

1PE8 SOURCE APPORTIONMENT OF AMBIENT FINE PARTICULATE MATTER IN CORPUS CHRISTI, TEXAS AND IDENTIFICATION OF SOURCE CONTRIBUTION LOCATION BY USING UNMIX AND POTENTIAL SOURCE CONTRIBUTION FUNCTION, RANJITH DANDANAYAKULA, Alvaro

Martinez, Kuruvilla John,Department of Environmental and Civil Engineering,Texas A&M University – Kingsville, Kingsville,TX

1PE9 INVESTIGATION OF THE RELATIONSHIP BETWEEN CHEMICAL COMPOSITION AND SIZE DISTRIBUTION OF AIRBORNE PARTICLES BY PARTIAL LEAST SQUARE (PLS) AND POSITIVE MATRIX FACTORIZATION (PMF), LIMING ZHOU, Philip K. Hopke, Center for Air Resources Engineering and Science and Department of Chemical Engineering, Clarkson University, Potsdam, NY; Charles O. Stanier, Spyros N. Pandis, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; John M. Ondov, J. Patrick Pancras, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD

1PE10 RECEPTOR MODELING FOR HIGHLY-TIME (HOURLY AND 24-HOURLY) RESOLVED SPECIES: THE BALTIMORE SUPER-SITE., DAVID OGULEI Philip Hopke, Liming Zhou, Clarkson University, Potsdam, NY; Pentti Paatero, University of Helsinki, Helsinki, Finland; Seung Shik Park, John M. Ondov, University of Maryland, College Park, MD

1PE11 INTER-COMPARISON OF SOURCE-ORIENTED AND RECEPTOR-ORIENTED MODELS FOR THE APPORTIONMENT OF AIRBORNE PARTICULATE MATTER, Anthony Held, Qi Ying, MICHAEL J. KLEEMAN, University of California, Davis, Davis, CA

1PE12 ASSESSMENT OF THE MAJOR CAUSES OF HAZE IN THE CLASS I AREAS OF THE WESTERN UNITED STATES, JIN XU, Dave DuBois, Mark Green, Dan Freeman, Vic Etyemezian, Desert Research Institute, Las Vegas, NV; Marc Pitchford, NOAA Air Resource Laboratory, Las Vegas, NV

4:30 PM – 6:30 PM Grand Hall East
2PA. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdosimetry Assessment: Mathematical and Computational Models

2PA1 POSSIBILITIES FOR HYPERTONIC SODIUM CHLORIDE SOLUTION USE TO TREAT AND IMPROVEMENT OF DIAGNOSTICS IN PATIENTS WITH RESPIRATORY ORGAN DISEASES, VYACHESLAV KOBYLYANSKY,Olga Bushkovskaya,Tatiana Petrova, Central Medical Unit N22 of the Ministry of Public health of Russia; Research Institute for Pulmonology of the State Medical University named after I.P.Pavlov, Saint-Petersburg, Russia

2PA2 EVALUATION OF FOUR MEDICAL NEBULIZERS UNDER LOW TEMPERATURE, YUE ZHOU, Lovelace Respiratory Research Institute, Albuquerque, NM; Amit Ahuja, University of New Mexico, Albuquerque, NM; Clinton M. Irvin, Dean Kracko, Jacob D. McDonald, Yung-Sung

Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM

2PA3 COMPARISON OF EXPERIMENTAL MEASUREMENTS WITH MODEL CALCULATIONS OF PARTICLE DEPOSITION EFFICIENCIES IN THE HUMAN,MONKEY AND RAT NASAL AIRWAYS, BRIAN WONG,Bahman Asgharian, Julia Kimbell, CIIT Centers for Health Research, Research Triangle Park, NC; James Kelly, UC Davis,Davis,CA

4:30 PM – 6:30 PM Grand Hall East
2PB. Mobility Sizing Instrumentation

2PB1 A NEW DECONVOLUTION SCHEME TO RECOVER THE TRUE DMA TRANSFER FUNCTION FROM TDMA CURVES, WEILING LI and Da-Ren Chen, Department of Mechanical Engineering, Joint Program in Environmental Engineering Science, Washington University in St. Louis, St. Louis, MO

2PB2 MEASUREMENTS OF ULTRAFINE AGGREGATE SURFACE AREA DISTRIBUTIONS BY ELECTRICAL MOBILITY ANALYSIS, ANSHUMAN AMIT LALL and Sheldon K. Friedlander, Department of Chemical Engineering, University of California, Los Angeles, CA

2PB3 ELECTRICAL AEROSOL SPECTROMETER, MANISH RANJAN, Clarkson University, Potsdam, NY

2PB4 PERFORMANCE OF A SCANNING MOBILITY PARTICLE SIZER AT PRESSURES BETWEEN 780 - 450 MB., PETER LIU, Terry Deshler, University of Wyoming, Laramie, WY

2PB5 AN EVALUATION OF A SCANNING MOBILITY PARTICLE SIZER WITH NIST-TRACEABLE PARTICLE SIZE STANDARDS, J. Vasiliou, Duke Scientific Corporation, Palo Alto, CA

2PB6 SIZE DETERMINATION OF AEROSOL NANOPARTICLES Û A COMPARISON BETWEEN ON-LINE DMA AND OFF-LINE TEM OBSERVATIONS, KNUT DEPPERT, Martin N.A. Karlsson, Solid State Physics, Lund University, Lund, Sweden; Lisa S. Karlsson, Jan-Olle Malm, National Center for High Resolution Electron Microscopy (nCHREM), Materials Chemistry, Lund University, Lund, Sweden

2PB7 PERFORMANCE EVALUATION OF THE NEW WIDE-RANGE PARTICLE SPECTROMETER, Suresh Dhaniyala, JASON RODRIGUE, Clarkson University Mechanical & Aeronautical Engineering Department, Potsdam, NY; Philip K. Hopke, Clarkson University Civil Engineering Department, Potsdam, NY

2PB8 CHARGE DISTRIBUTION PRODUCED BY UNIPOLAR DIFFUSION CHARGING OF FINE AEROSOLS, KINGSLEY REAVELL, Jonathan

Symonds, Cambustion Ltd, Cambridge, UK; George Biskos, Department of Engineering, University of Cambridge, UK

2PB9 DESIGN, PERFORMANCE AND APPLICATION OF THE WIDE-RANGE PARTICLE SPECTROMETER, William Dick, FRANCISCO ROMAY, Keung Woo, Jugal Agarwal, Benjamin Liu, MSP Corporation, Shoreview, MN

2PB10 RESEARCH OF GLASS FIBER BEHAVIOR IN FIBER LENGTH CLASSIFIER, Philip Hopke, ZUOCHENG WANG, Clarkson University, Potsdam, NY; Paul Baron, Gregory Deye, National Institute for Occupational Safety and Health, Cincinnati, OH; Yung-Sung Cheng, Lovelace Respiratory Research Institute Albuquerque, NM

2PB11 SIZE-DEPENDENT CHARGING EFFICIENCIES AND CHARGE DISTRIBUTIONS FOR NANOPARTICLES DOWNSTREAM OF A UNIPOLAR CHARGER: APPLICATION TO SIZE-DEPENDENT SAMPLING, AJAYA GHIMIRE, Mark Stolzenburg, Peter McMurry, University of Minnesota, Minneapolis, MN; Jim Smith, Katharine Moore, National Center for Atmospheric Research, Boulder, CO; Hiromu Sakurai, NMIJ/AIST, Tsukuba, Ibaraki, Japan

4:30 PM – 6:30 PM Grand Hall East
2PC. Aerosol Chemistry II

2PC1 SODIUM NITRATE PARTICLES: PHYSICAL AND CHEMICAL PROPERTIES DURING HYDRATION AND DEHYDRATION; IMPLICATIONS FOR AGED SEA SALT AEROSOLS., R.C. Hoffman and B.J. Finlayson-Pitts University of California, Irvine, Department of Chemistry, Irvine, CA; A. LASKIN, W.R. Wiley Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA

2PC2 EVALUATION OF THE OXIDATION KINETICS OF MOLECULAR MARKERS USED FOR SOURCE-APPORTIONMENT OF PRIMARY ORGANIC AEROSOL, EMILY WEITKAMP, Kara Huff-Hartz, Amy Sage, Allen Robinson, Neil Donahue, Carnegie Mellon University, Pittsburgh, PA; Wolfgang Rogge, Anna Bernardo-Bricker, Florida International University, Miami, FL

2PC3 NUCLEATION AND GROWTH MODES OF TITANIA NANOPARTICLES GENERATED BY A CVD METHOD, CHANSOO KIM, Okuyama Kikuo, Manabu Shimada, Hiroshima University, Higashi-Hiroshima, Japan; Koichi Nakaso, Kyushu University, Fukuoka, Japan

2PC5 IMPACT OF HYDROCARBON TO NOX RATIO (HC:NOX) ON SECONDARY ORGANIC AEROSOL FORMATION, CHEN SONG, Kwangsam Na, David Cocker, University of California, Riverside, CA

2PC6 INFLUENCE OF IRRADIATION SOURCE ON SOA FORMATION POTENTIAL, BETHANY WARREN, Chen Song, David Cocker, University of California, Riverside, CA

4:30 PM – 6:30 PM Grand Hall East
2PD. Special Symposium: Aerosols and Climate Change/Indirect Effects, Modeling of Indirect Effects

2PD1 RETRIEVAL OF THE SINGLE SCATTERING ALBEDO OF ATMOSPHERIC AEROSOLS, Bryan M. Karpowicz and Irina N. Sokolik, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA

2PD4 SPRINGTIME CLOUD CONDENSATION NUCLEI MEASUREMENTS IN THE WEST COAST OF KOREAN PENINSULA, SEONG SOO YUM, Yonsei University, Seoul, Korea James G. Hudson, Desert Research Institute, Reno, Nevada, USA

2PD6 SIMULATION OF GLOBAL SIZE DISTRIBUTION OF CARBONACEOUS AEROSOLS AND MINERAL DUST, KAIPING CHEN, Peter Adams, Department of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA

2PD7 MASS SPECTROMETRIC ANALYSIS OF ICE AND SUPERCOOLED CLOUD RESIDUALS DURING CLACE-3, JOHANNES SCHNEIDER, Saskia Walter, Nele Hock, Cloud Physics and Chemistry Department, Max Planck Institute for Chemistry, Mainz, Germany; Joachim Curtius, Stephan Borrmann, Institute for Atmospheric Physics, Johannes Gutenberg University, Mainz, Germany; Stephan Mertes, Institute for Tropospheric Research, Leipzig, Germany E. Weingartner, B. Verheggen, J. Cozic, and U. Baltensperger, Laboratory for Atmospheric Chemistry, Paul Scherrer Institute, Villigen, Switzerland;

4:30 PM – 6:30 PM Grand Hall East
2PE. Source/Emissions Characterization 2

2PE1 SOURCE IDENTIFICATION OF AMBIENT AEROSOLS THROUGH ATOFMS DATA,WEIXIANG ZHAO, Philip K. Hopke,Department of Chemical Engineering, and Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; Xueying Qin, Kimberly A. Prather, Department of Chemistry and Biochemistry, University of California, San Diego, La Jolla, CA

2PE2 IMPLICATIONS OF SOURCE AND METEOROLOGICAL EFFECTS ON AMBIENT ULTRAFINE PARTICLES IN DETROIT FROM CORRELATION AND PRINCIPLE COMPONENT ANALYSIS, LI-HAO YOUNG, Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI; Gerald J. Keeler, Department of Environmental Health Sciences and Department of Atmospheric, Oceanic, and

Space Sciences, University of Michigan, Ann Arbor, MI

2PE3 AEROSOL SOURCE APPORTIONMENT BY POSITIVE MATRIX FACTORIZATION BASED ON SINGLE PARTICLE MASS SPECTRAL DATA, JONG HOON LEE, Weixiang Zhao, Philip K. Hopke, Department of Chemical Engineering and Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; USA; Kimberly A. Prather, Department of Chemistry and Biochemistry, University of California at San Diego, La Jolla, CA, USA

2PE4 PM2.5 SOURCE AND SOURCES CONTRIBUTIONS IN NEW YORK CITY, YOUJUN QIN, Philip K. Hopke, Eugene Kim, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY, USA

2PE5 PM SOURCE ATTRIBUTION APPORTIONMENT USING ORGANIC SIGNATURES IN THE PASO DEL NORTE AIRSHED, CRISTINA JARAMILLO, JoAnn Lighty, Henk Meuzelaar, Department of Chemical Engineering, University of Utah, Salt Lake City, UT

2PE6 THE EFFECTS OF EMISSION REDUCTIONS ON THE ATMOSPHERIC BURDEN OF SO4,TOTAL SULFUR, SO2, AND TRACE ELEMENTS IN THE NORTHEASTERN UNITED STATES, LIAQUAT HUSAIN*, Pravin P. Parekh,Vincent A. Dutkiewicz*, Adil R. Khan, Karl Yang, Kamal Swami, New York State Department of Health, Albany,NY, 12201-0509; *School of Public Health, State University of New York, Albany, NY

2PE7 SOURCE IDENTIFICATION AND SPATIAL DISTRIBUTION OF FINE PARTICLES MEASURED AT THE SPECIATION TRENDS NETWORK SITES IN NEW YORK AND VERMONT, US, Eugene Kim, Philip K. Hopke, Youjun Qin, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY

2PE8 PI-SWERL: A NOVEL METHOD FOR QUANTIFYING WINDBLOWN DUST EMISSIONS, Djordje Nikolic, Hampden Kuhns, Hans Moosmuller, Jin Xu, John Gillies, Sean Ahonen, VIC ETYEMEZIAN, Division of Atmospheric Sciences, Desert Research Institute, Las Vegas, NV, USA; Marc Pitchford, NOAA, Las Vegas, NV

2PE9 SIZE DISTRIBUTIONS OF ELEMENTS AND CLUSTER ANALYSIS USED TO IDENTIFY SOURCES OF PARTICULATE MATTER, ANN M. DILLNER, Arizona State University, Tempe, AZ, James J. Schauer, University of Wisconsin, Madison, WI, Glen R. Cass, deceased

2PE10 THE POTENTIAL SOURCE-RECEPTOR RELATIONSHIP OF HG EVENT-BASED WET

DEPOSITION AT POTSDAM, NY, SOON-ONN LAI, Thomas M. Holsen, Philip K. Hopke, Clarkson University, Potsdam, NY

4:30 PM – 6:30 PM Grand Hall East
3PA. Drug Delivery

3PA1 DEVELOPMENT OF "CLUSTER BOMBS" FOR NANOPARTICLE LUNG DELIVERY, WARREN FINLAY, Zhaolin Wang, Leticia Ely, Raimar Loebenberger, Wilson Roa, Jeffrey Sham, Yu Zhang, University of Alberta, Edmonton, Canada

3PA2 PHARMACEUTICAL PARTICLE ENGINEERING ACHIEVES HIGHLY DISPERSIBLE POWDERS FOR PULMONARY DRUG DELIVERY, REINHARD VEHRING, Willard R. Foss, David Lechuga-Ballesteros, Mei-Chang Kuo, Nektar Therapeutics, San Carlos, CA

3PA3-1 DYNAMICS OF A MEDICAL AEROSOL HOOD INHALER, Tal Shakked, DAVID KATOSHEVSKI, Department of Biotechnology and Environmental Engineering, Institute for Applied Biosciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel; David M. Broday, Faculty of Civil and Environmental Engineering, Technion I.I.T., Haifa, Israel; Israel Amirav, Pediatric Department, Sieff Hospital, Sefad, Israel

3PA3-2 PRESERVING PROTEINS AND PEPTIDES DURING SPRAY DRYING OF INHALABLE PHARMACEUTICAL POWDERS, WILLARD R. FOSS, Reinhard Vehring, Nektar Therapeutics, San Carlos, CA

3PA4 NEW DATA ON AEROSOL PARTICLES DEPOSITION IN RESPIRATORY TRACTS OF LABORATORY ANIMALS, ALEXANDER S. SAFATOV, Oleg V. Pyankov, Alexander N. Sergeev, Sergei A. Kiselev, Elena I. Ryabchikova, Vladimir S. Toporkov, Victor A. Yashin, Nikolai M. Belyaev, Larissa N. Shishkina, Artem A. Sergeev, Alexander V. Zhukov, Vladimir A. Zhukov, Institute of Aerobiology, State Research Center of Virology and Biotechnology "Vector", Koltsovo, Novosibirsk Region, Russia.

3PA5 *IN VITRO* INHALER AEROSOL DEPOSITION IN A NEW HIGHLY IDEALIZED MOUTH-THROAT MODEL, Kyle Gilbertson, Warren Finlay, YU ZHANG, Edgar Matida, University of Alberta, Edmonton, Canada

3PA6-1 AIRFLOW AND PARTICLE DEPOSITION IN THE LUNG AT MICROGRAVITY AND HYPERGRAVITY ENVIRONMENTS, BAHMAN ASGHARIAN, Owen Price, CIIT Centers for Health Research, Research Triangle Park, NC

3PA6-2 DEVELOPMENT OF SOFTWARE TO ESTIMATE DEPOSITION FRACTIONS OF AEROSOLS IN

HUMAN RESPIRATORY TRACT USING ICRP'S MODEL, Kazutoshi Suzuki, National Institute for Environmental Studies, Tsukuba, Japan

3PA7 DISTRIBUTION OF AIRFLOW AND PARTICLE DEPOSITION IN MORPHOMETRIC MODELS OF AGE-SPECIFIC HUMAN LUNGS., OWEN PRICE, Bahman Asgharian, CIIT Centers for Health Research, Research Triangle Park, NC, USA

3PA8 COMPARISON OF CFD PREDICTED FLOW FIELD AND PARTICLE DEPOSITION WITH EXPERIMENTALLY MEASURED FLOW FIELD (PIV) AND PARTICLE DEPOSITION IN A THREE-GENERATION LUNG MODEL, Adam Pruyne, RISA ROBINSON, Department of Mechanical Engineering, Rochester Institute of Technology, Rochester, NY; Michael Oldham, Department of Community and Environmental Medicine, University of California, Irvine, CA

3PA9 AIRFLOW AND PARTICLE TRANSPORT IN A HUMAN NOSE, PARSA ZAMANKHAN, Goodarz Ahmadi, Philip K. Hopke, Clarkson University, Potsdam, NY; Y.S.Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM; P.A. Baron, NIOSH, Cincinnati, OH

4:30 PM – 6:30 PM Grand Hall East

3PB. Aerosol Sampling Techniques

3PB1 PERFORMANCE EVALUATION OF STANDARD AND NON-STANDARD SAMPLING SYSTEMS, Erkki Lamminen, PIRITA MIKKANEN, Johanna Ojanen, Dekati Ltd., Tampere, Finland

3PB2 PARTICULATE DISSEMINATION FLOW TUBE FOR QUANTIFYING BIOAEROSOL SAMPLER COLLECTION EFFICIENCY, DAVID ALBURTY, Andrew Page, Midwest Research Institute, Kansas City, MO; Freeman Swank, Sceptor, Kansas City, MO

3PB3 PERSONAL RESPIRABLE SAMPLER CONTAINING FOUR IMPACTORS ARRANGED IN PARALLEL, SAULIUS TRAKUMAS, Peter M. Hall, Donald L. Smith, SKC Inc., Eighty Four, PA

3PB4 DIRECT EVALUATION OF SOME TYPES OF STATIONARY AND PORTABLE ULTRASOUND INHALATORS FOR THE DETERMINATION OF THEIR PERSPECTIVES IN RUSSIAN MARKET, VYACHESLAV KOBYLYANSKY, Medical Sanitary Unit N122 of the Ministry of Public Health of Russia, Scientific-Practical Center on Introduction and Distribution of Medical Devices, Saint-Petersburg, Russia

3PB5 INCREASING THE SINGLE PARTICLE COUNTING RANGE OF A CONDENSATION PARTICLE COUNTER, FREDERICK R. QUANT, Derek R. Oberreit, Quant Technologies LLC, Blaine, MN; Mark R. Stolzenburg, University of Minnesota, Minneapolis, MN

3PB6 A LOW POWER CONSUMPTION AUTOMATIC AEROSOL MEASUREMENT SYSTEM AND ITS APPLICATION AT THE FINNISH ANTARCTIC MEASUREMENT STATION ABOA, AKI VIRKKULA, Risto Hillamo, Finnish Meteorological Institute, Air Quality Research, Helsinki, Finland; Pasi Aalto, Markku Kulmala, Aerosol and Environmental Physics Laboratory, University of Helsinki, Finland

3PB7 DESIGN AND EVALUATION OF THE LOVELACE QUAD-TRACK DIFFUSION DRYER, LARRY E. BOWEN, Lovelace Respiratory Research Institute, Albuquerque, NM

3PB8 AN IDEAL PRE-FILTER FOR GAS ANALYZERS, CHRISTOF ASBACH, University of Minnesota, Minneapolis; MN Thomas A.J. Kuhlbusch, Institut fuer Energie- und Umwelttechnik, Duisburg, Germany; Heinz Fissan, University Duisburg-Essen, Campus Duisburg, Germany

3PB9 SIZE CHANGE OF COLLOIDAL NANOPARTICLES DISPERSED BY ELECTROSPRAY IN A HEATED FLOW, Kikuo Okuyama, Wuled Lenggoro, HYE MOON LEE, Chan Soo Kim, Manabu Shimada, Hiroshima University, Japan

3PB10 AIR JET INDUCED RELEASE RATES OF SPHERICAL PARTICLES FROM CLOTH AND PLANAR SURFACES, ROBERT FLETCHER, Greg Gillen, National Institute of Standards and Technology, Gaithersburg, MD; Erin Ferguson, Clemson University, Chemistry Department, Clemson, SC

3PB11 DISTRIBUTION OF GAS HOLDUP IN A BUBBLE COLUMN,Wei Chen and Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY

4:30 PM – 6:30 PM Grand Hall East
3PC Vehicular Exhaust and PM Analyzers

3PC1 MEASUREMENT OF IN-USE VEHICLE PARTICULATE MATTER EXHAUST USING EXTRACTIVE IN-PLUME MONITORING, Hampden Kuhns, CLAUDIO MAZZOLENI, Hans Moosmuller, Nicholas Nussbaum, Oliver Chang, Judith Chow, Peter Barber, and John Watson, Desert Research Institute, Reno, NV

3PC2 ON-ROAD ENGINE EXHAUST MEASUREMENTS USING AN EEPS SPECTROMETER, ROBERT CALDOW and Jeremy J. Kolb, TSI Incorporated, Shoreview, MN

3PC3 PM MASS MEASUREMENT: AEROSOL INSTRUMENTS VERSUS FILTERS, MATTI MARICQ, Ning Xu, Richard Chase, Research, Ford Motor Company, Dearborn, MI

3PC4 CRUISER: A ROAD VEHICLE BASED MOBILE MEASUREMENT SYSTEM, GANG LU, Cris Mihele, Jeff Brook, Environment Canada, Toronto, Ontario

3PC5 AN ULTRAVIOLET LIDAR AND TRANSMISSOMETER FOR THE ON-ROAD MEASUREMENT OF AUTOMOTIVE PARTICLE EMISSIONS, Hans Moosmüller, CLAUDIO MAZZOLENI, Peter Barber, Hampden Kuhns, Robert Keislar, John Watson, Desert Research Institute, University of Nevada System, Reno, NV

3PC6 METHOD VALIDATION AND FIELD DEPLOYMENT OF THE THERMO MODEL 5020 CONTINUOUS SULFATE ANALYZER, GEORGE A. ALLEN, NESCAUM, Boston, MA; Bradley P. Goodwin, Jay R. Turner, Environmental Engineering Program, Washington University, St. Louis, MO

3PC7 INTERCOMPARISON OF SEMI-CONTINUOUS PARTICULATE SULFATE AND NITRATE MEASUREMENT TECHNOLOGIES IN NEW YORK CITY: SUMMER 2001 AND WINTER 2004 INTENSIVE STUDIES, OLGA HOGREFE, James J. Schwab, Frank Drewnick, Silke Weimer, Douglas Orsini, Kenneth L. Demerjian, Atmospheric Sciences Research Center, U-Albany, Albany, NY; Kevin Rhoads, Siena College, Loudonville, NY; Oliver V. Rattigan, NYS Department of Environmental Conservation, Albany, NY

3PC8 DESIGN AND PERFORMANCE OF LORI-10, A 10 LPM CASCADE IMPACTOR, ROBERT GUSSMAN, BGI Inc., Waltham MA; David Leith, Maryanne G. Boundy, University of North Carolina, Chapel Hill, NC

3PC9 RECENT IMPROVEMENTS AND LABORATORY/FIELD INVESTIGATIONS WITH THE MOBILE SINGLE PARTICLE ANALYSIS AND SIZING SYSTEM, SPASS, DANIEL MIRA SALAMA, Paolo Cavalli, Nicole Erdmann, Carsten Gruening, Jens Hjorth, Niels R. Jensen, Frank Raes, European Commission Joint Research Center, Institute for Environment and Sustainability, Ispra (VA), Italy

3PC10 LABORATORY AND FIELD EVALUATION OF CRYSTALLIZED DOW 704 OIL ON THE PERFORMANCE OF THE PM2.5 WINS FRACTIONATOR, ROBERT VANDERPOOL, Lee Byrd, Russell Wiener, Elizabeth Hunike, USEPA, RTP, NC; Mike Labickas, Alan Leston, State of CT Dept. of Environmental Protection, Hartford, CT, Christopher Noble, Sanjay Natarajan, Robert Murdoch, RTI International, RTP, NC

3PC11 COMPARISON OF PARTICULATE MEASUREMENT METHODS IN LABORATORY FLAMES, Yingwu Teng, Matthew F. Chandler, UMIT O. KOYLU, Donald E. Hagen, Philip D. Whitefield, University of Missouri - Rolla, Rolla,MO

4:30 PM – 6:30 PM Grand Hall East
3PD. Special Symposium: Aerosols and Climate Change/Indirect Effects, Aerosol Optical Properties

3PD1 DERIVED OPTICAL AND CLOUD NUCLEATING PROPERTIES OF BIOMASS BURNING AEROSOL FROM THE MAY, 2003 FIRES IN THE YUCATAN, YONG SEOB LEE, Don R. Collins, Texas A&M University, College Station, TX; Graham Feingold, NOAA Environmental Technology Laboratory, Boulder, CO

3PD2 THERMAL AND OPTICAL ANALYSES OF CARBONACEOUS PARTICLES, JONGMIN LEE, Tami C. Bond, University of Illinois at Urbana-Champaign, Urbana, IL

3PD4 ALOFT REGIONAL POLLUTION OVER THE WESTERN MEDITERRANEAN BASIN: PHOTOCHEMICAL MODELLING AND AEROSOL OPTICAL PROPERTIES THROUGH SCANNING LIDAR, Pedro Jiménez1, Carlos Pérez1,Michael Sicard2, Francesc Rocadenbosch2 and José M. Baldasano1, 1Environmental Modeling Laboratory. Universitat Politècnica de Catalunya (UPC). Barcelona, Spain; 2Department of Signal Theory and Communications, Lidar Group.Universitat Politècnica de Catalunya (UPC). Barcelona, Spain.

3PD5 TROPOSPHERE-TO-STRATOSPHERE TRANSPORT OF MATERIALS BY NATURAL AND FIREINDUCED DEEP CONVECTIVE STORMS, MIHAI CHIRUTA and Pao K. Wang, Department of Atmospheric and Oceanic Sciences University of Wisconsin-Madison, Madison, WI

3PD6 THE FIELD AEROSOL MEASUREMENTS NEEDED TO COMPLIMENT SATELLITE MULTI-ANGLE AEROSOL MEASUREMENTS, RALPH KAHN, and the MISR Team, Jet Propulsion Laboratory / Cal. Tech., Pasadena, CA

3PD7 FLUCTUATIONS OF AN AEROSOL MASS CONCENTRATION AND THEIR RELATION WITH MESOSCALE VARIATIONS IN BOTTOM ATMOSPHERIC LAYER, KHUTOROVA OLGA GERMANOVNA, KORCHAGIN GENNADY EVGENJEVICH, Kazan State University, Kazan, Russia

3PD8 ACID-CATALYSED ORGANIC REACTIONS CHANGE THE OPTICAL PROPERTIES OF ATMOSPHERIC SULPHURIC ACID AEROSOLS, BARBARA NOZIERE, William Esteve, University of Miami / RSMAS, Miami, FL

4:30 PM – 6:30 PM Grand Hall East
3PE. Particle Transport

3PE1 THE INFLUENCE OF THE RETARDED VAN DER WAALS FORCES ON THE DEPOSITION OF SUBMICRON AEROSOL PARTICLES IN

HEPAFILTERS, VASILY KIRSCH, Institute of Physical Chemistry of Russian Academy of Sciences, Moscow, Russia

3PE2 CFD SIMULATIONS OF INERTIAL BEHAVIOR IN VIRTUAL IMPACTORS AND AEROSOL REACTORS, Marwan Charrouf, Richard V. Calabrese, JAMES W. GENTRY, M.B. (Arun) Ranade, Lu Zhang, Department of Chemical Engineering, University of Maryland, College Park, MD

3PE3 DRAG FORCE, DIFFUSION COEFFICIENT, AND ELECTRIC MOBILITY OF NANOPARTICLES IN LOW-DENSITY GASES, HAI WANG, Zhigang Li, Department of Mechanical Engineering, University of Delaware, Newark, DE

3PE4 AERODYNAMIC PARTICLE FOCUSING SYSTEM ASSISTED BY RADIATION PRESSURE, SANGBOK KIM, Hyungho Park; Sangsoo Kim, KAIST, Deajon, Korea

3PE5 A MODEL FOR DROPLET DISTORTION EFFECTS IN AERODYNAMIC PARTICLE SIZING INSTRUMENTS, David J. Schmidt, ERIC GESSNER, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY; Paul A. Baron, National Institute for Occupational Safety and Health, Cincinnati, OH

3PE6 AN INTERACTIVE WEB-BASED COURSE-SEQUENCE FOR PARTICLE TRANSPORT Û A COMBINED RESEARCH AND CURRICULUM DEVELOPMENT PROJECT, GOODARZ AHMADI, David J. Schmidt, John McLaughlin, Cetin Cetinkaya, Stephen Doheny-Farina, Jeffrey Taylor, Suresh Dhaniyala, Clarkson University, Potsdam, NY; Fa-Gung Fan, Xerox Corporation, Rochester, NY

3PE7 FLOW AND ELECTRIC FIELDS IN CORONA DEVICES WITH MOVING BOUNDARY, PARSA ZAMANKHAN, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering Clarkson University, Potsdam, NY; Fa-Gung Fan, J.C. Wilson Center for Research and Technology Xerox Corporation,Webster, NY

3PE8 SAMPLING FROM MOBILE PLATFORMS: COMPUTATIONAL INVESTIGATIONS, Anita Natarajan, SURESH DHANIYALA, Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY

3PE9 CALIBRATION OF A MICROPARTICLE SAMPLING SYSTEM FOR INTERPLANETARY PROBES, THOMAS SZAREK and Patrick F. Dunn, Particle Dynamics Laboratory, University of Notre Dame, Notre Dame, IN; Francesca Esposito, Instituto Nazionala di Astrofisica, Osservatorio Astronomico di Capodimonte, Naples, Italy

WEDNESDAY, OCTOBER 06, 2004
8:00 AM – 9:00 AM Plenary Session #2
Centenial III

8:00 AM	Announcements
8:05 AM	Presentation of the David Sinclair Award, George Mulholland, Awards Committee Chair
8:15 AM	PARTICULATE MATTER MODELING AND RECONCILING PM SOURCE APPORTIONMENT METHODS, A.G. (Ted) Russell, School of Civil and Environmental Engineering, Georgia Institute of Technology

WEDNESDAY, OCTOBER 06, 2004
9:00 AM – 8:00PM Exhibits Open Grand Hall East

WEDNESDAY, OCTOBER 06, 2004
9:20 AM – 10:50 AM Platform Session 4

9:20 AM – 10:50 AM Dunwoody
4A. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Microdose-response Relationship
Chair: Chong Kim, Co-Chair: Owen Moss

9:20 AM	4A1	MICRODOSIMETRY OF INHALED PARTICLES: DOSE-RESPONSE RELATIONSHIPS DEFINED BY SITE-SPECIFIC LUNG CHANGES, KENT PINKERTON, Alan Buckpitt, Charles Plopper, School of Veterinary Medicine, University of California, Davis, CA
9:40 AM	4A2	DISTRIBUTION AND CLEARANCE OF INHALED PARTICLES AT THE ULTRASTRUCTURAL LEVEL, MARIANNE GEISER, Nadine Kapp, Peter Gehr, Institute of Anatomy, University of Bern, Bern, Switzerland; Samuel Schürch, Department of Physiology and Biophysics, The University of Calgary, Calgary, Canada
10:00 AM	4A3	LUNG CELL RESPONSES TO PM2.5 PARTICLES FROM DESERT SOILS, JOHN VERANTH, Garold Yost, University of Utah, Salt Lake City, UT
10:20 AM	4A4	THE RESPIRATORY TRACT AS PORTAL OF ENTRY FOR INHALED NANO-SIZED PARTICLES, GÜNTER OBERDÖRSTER, University of Rochester, Rochester, NY

9:20 AM – 10:50 AM Courtland
4B. Combustion and Environmental Particle Formation I
Chair: Chang-Yu Wu, Co-Chair: Corinne Lengsfeld

9:20 AM	4B1	CHARACTERIZATION OF THE FINE PARTICLE EMISSIONS FROM A CFM56 COMMERCIAL AIRCRAFT ENGINE, JOHN KINSEY, Lee Beck, Michael Hays, U. S. Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Research Triangle Park, NC, Craig Williams, Russell Logan, Tom Balicki, Yuanji Dong, ARCADIS-Geraghty & Miller, Durham, NC
9:40 AM	4B2	COMPREHENSIVE CHARACTERIZATION OF PARTICULATES SAMPLED FROM THE EXHAUSTS OF INTERNAL COMBUSTION ENGINES, Adam K. Neer, UMIT O. KOYLU, University of Missouri-Rolla, Rolla, MO
10:00 AM	4B3	PARTICULATE AND SPECIATED SEMI-VOLATILE ORGANIC COMPOUND (SVOC) EMISSIONS FROM ON-ROAD DIESEL VEHICLE OPERATION, SANDIP SHAH, Temitope Ogunyoku, David Cocker, University of California, Riverside, CA
10:20 AM	4B4	CHEMICAL AND PHYSICAL PROPERTIES OF SUB-MICRON PARTICLE EMISSION FORM A DIESEL ENGINE,MICHAEL ALEXANDER, Jian Wang,Yong Cai, Alla Zelenyuk, Pacific NW National Laboratory, Richland, WA; John Storey, Oak Ridge National Laboratory, Oak Ridge, TN; Jay Slowik, Boston College, Chestnut Hill, MA; Jay Slowik, Peter DeCarlo, Jose Jimenez, University of Colorado, Boulder, CO; Douglas Worsnop, Aerodyne Research, Inc., Billerica, MA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 4PB (one minute each).

9:20 AM – 10:50 AM Hanover FG

4C. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol I

Chair: Eric Edgerton, Co-Chair: George Hidy

9:20 AM	4C1	SEARCH: THE BEGINNING OF AN AEROSOL CLIMATOLOGY FOR THE SOUTHEASTERN U.S., ERIC EDGERTON, ARA, Inc.
9:40 AM	4C2	SEARCHING FOR SECONDARY CARBON IN SEMI-CONTINUOUS OBSERVATIONS, Charles Blanchard, Envair, Albany, CA; GEORGE HIDY, Envair/Aerochem, Placitas, NM

10:00 AM	4C3	SPATIAL AND TEMPORAL VARIATIONS OF THE MAJOR SOURCES OF PRIMARY FINE ORGANIC CARBON AND PM2.5 IN THE SOUTHEASTERN UNITED STATES, MEI ZHENG, Lin Ke, School of Earth and Atmospheric Science, Georgia Institute of Technology, Atlanta, GA; Sun-Kyoung Park, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA; Eric Edgerton, Atmospheric Research & Analysis, Inc., Cary, NC; Armistead Russell, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA
10:20 AM	4C4	CONTINUOUS MONITORING OF FINE MASS AND COMPOSITION IN THE SMOKIES: DIURNAL AND SEASONAL LEVELS OF MAJOR PM2.5 AEROSOL CONSTITUENTS, ROGER L. TANNER, Myra L. Valente, Solomon T. Bairai, Ralph J. Valente, Kenneth J. Olszyna, Tennessee Valley Authority, Muscle Shoals, AL; Jim Renfro, National Park Service, Gatlinburg, TN
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 4PC (one minute each).

9:20 AM – 10:50 AM **Hanover DE**
4D. Carbonaceous Aerosols I
Chair: Jay Turner, Co-Chair: Charity Coury

9:20 AM	4D1	CONCENTRATIONS, TIME VARIATIONS, SIZE DISTRIBUTIONS, AND MASS SPECTRA OF ESTIMATED PRIMARY AND OXYGENATED AEROSOLS IN MULTIPLE URBAN, RURAL, AND REMOTE LOCATIONS FROM AMS DATA, JOSE L. JIMENEZ, Qi Zhang, Katja Dzepina, and Alice Delia, University of Colorado-Boulder, Boulder, CO; Frank Drewnick, Max Plank Institute, Mainz, Germany; Silke Weimer, and Ken Demerjian, SUNY-Albany, Albany, NY; Rami Alfarra, James Allan, Hugh Coe, and Keith Bower, UMIST, Manchester, UK; Manjula R. Canagaratna, Douglas R. Worsnop. Timothy Onasch, Hacene Boudries, and John T. Jayne, Aerodyne Research, Billerica, MA
9:40 AM	4D2	ANALYSIS OF WATER SOLUBLE SHORT CHAIN ORGANIC ACIDS IN AMBIENT PARTICULATE MATTER, RAMYA SUNDER RAMAN and Philip K Hopke, Clarkson University, Potsdam, NY

10:00 AM	4D3	POLARITY AND MOLECULAR WEIGHT/CARBON WEIGHT OF THE PITTSBURGH ORGANIC AEROSOL, ANDREA POLIDORI, Barbara Turpin, Ho-Jin Lim, Lisa Totten, Rutgers University, Environmental Sciences, New Brunswick, NJ; Cliff Davidson, Carnegie Mellon University, Pittsburgh, PA
10:20 AM	4D4	IMPROVING ORGANIC AEROSOL MODELS BY COMBINING TRADITIONAL AND TEMPERATURE-RAMPED SMOG CHAMBER EXPERIMENTS: ALPHA PINENE OZONOLYSIS CASE STUDY, CHARLES STANIER, Carnegie Mellon University, Pittsburgh, PA (Currently at the University of Iowa, Iowa City, IA); Spyros Pandis, University of Patras, Patra, Greece, and Carnegie Mellon University, Pittsburgh, PA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 4PD (one minute each).

9:20 AM – 10:50 AM Hanover AB
4E. Cloud Condensation Nuclei/Hygroscopicity
Chair: Patrick Chuang, Co-Chair: Greg Roberts

9:20 AM	4E1	CCN ACTIVITY, WETTING, AND MORPHOLOGY OF AEROSOLS USING AN ENIVRONMENTAL SCANNING ELECTRON MICROSCOPE, TIMOTHY RAYMOND, Ryan Johngrass, Bucknell University, Lewisburg, PA
9:40 AM	4E2	CLOUD CONDENSATION NUCLEI ACTIVATION OF SINGLE-COMPONENT AND SECONDARY ORGANIC AEROSOL, KARA HUFF HARTZ, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; Thomas Rosenoern, Department of Chemistry, University of Copenhagen, Copenhagen, Denmark; Timothy M. Raymond, Department of Chemical Engineering, Bucknell University, Lewisburg, PA; Shaun R. Ferchak, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA; Merete Bilde, Department of Chemistry, University of Copenhagen, Copenhagen, Denmark; Spyros N. Pandis, Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA and Department of Chemical Engineering, University of Patras, Patra, Greece

10:00 AM	4E3	HYGROSCOPIC PROPERTIES OF THE AEROSOL MEASURED AT THE ATMOSPHERIC RADIATION MEASUREMENT SOUTHERN GREAT PLAINS SITE, ROBERTO GASPARINI, Runjun Li, Don R. Collins, Texas A&M University, College Station, TX; Richard A. Ferrare, National Aeronautics and Space Administration, Hampton, VA
10:20 AM	4E4	HYGROSCOPICITY OF SMOKE AEROSOLS FROM SEVERAL DIFFERENT FOREST FUELS, DEREK E. DAY, CIRA Colorado State Univ., Fort Collins, CO; William C. Malm, National Park Service; Christian Carrico, Guenter Engling, Atmospheric Science Dept Colorado State Univ., Fort Collins, CO
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 4PE (one minute each).

WEDNESDAY, OCTOBER 06, 2004
11:10 AM – 12:40 PM Platform Session 5

11:10 AM – 12:40 PM Dunwoody
5A. Special Symposium: Microdosimetry & Targeting of Inhaled Particles and Drug Aerosols, Targeted Delivery of Aerosol Drugs
Chair: James Blanchard, Co-Chair: Ronald Wolff

11:10 AM	5A1	POSSIBILITIES AND LIMITATIONS FOR TARGETING OF PHARMACEUTICAL AEROSOLS, ANDY R. CLARK, Nektar Inc., UK
11:30 AM	5A2	IN VITRO AND IN VIVO DOSE DELIVERY CHARACTERISTICS OF LARGE POROUS PARTICLES, Craig Dunbar, MARK DELONG, Alkermes, Inc., Cambridge, MA
11:50 AM	5A3	TARGETED NASAL DRUG DELIVERY USING A COMPUTATIONAL FLUID DYNAMICS MODEL OF THE HUMAN NASAL AIRWAYS, JEFFRY SCHROETER, Julia Kimbell, Bahman Asgharian, Owen Price, CIIT Centers for Health Research, Research Triangle Park, NC; Colin Dickens, Jeremy Southall, Bespak,Milton Keynes, UK
12:10 PM	5A4	TARGETING THE LUNGS: DEPOSITION AND FLUID MOTION MEASUREMENTS IN REALISTIC MOUTH-THROAT REPLICAS, WARREN H. FINLAY, Biljana Grgic, Anthony Heenan, University of Alberta, AB;

Andrew Pollard, Queen's University, ON; Patricia K. P. Burnell, GlaxoSmithKline, UK

11:10 AM – 12:40 PM **Courtland**
5B. Filtration
Chair: David Leith, Co-Chair: Jonathan Thornburg

11:10 AM	5B1	CFD MODELING OF FILTER FIBERS WITH NON-CIRCULAR CROSS SECTIONS, PETER C. RAYNOR, Seung Won Kim, University of Minnesota, Minneapolis, MN
11:30 AM	5B2	APPLICATION OF RESIN WOOL FILTERS TO DUST RESPIRATORS, Hisashi Yuasa, Kazushi Kimura, Koken Ltd, Saitama, Japan; YOSHIO OTANI and Hitoshi Emi, Kanazawa University, Kanazawa, Japan
11:50 AM	5B3	RETENTION OF BIOAEROSOLS AND DISINFECTION CAPABILITY OF A RELEASE-ON-DEMAND IODINE/RESIN PRODUCT, SHANNA RATNESAR-SHUMATE, Chang-Yu Wu, Dale Lundgren, Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL; Samuel Farrah, Department of Microbiology and Cell Sciences, University of Florida, Gainesville, FL; Prinda Wanakule, Department of Agricultural and Biological Engineering, University of Florida, Gainesville, FL; Joseph Wander, Air Force Research Laboratory, Tyndall Air Force Base, Panama City, FL
12:10 PM	5B4	EVALUATION OF EMISSION RATES FROM HEPA FILTERS AS A FUNCTION OF CHALLENGE CONDITIONS, R. Arunkumar, J. Etheridge, J. C. Luthe, B. A. Nagel, O. P. Norton, M. Parsons, D. Rogers, K. Umfress, and C. A. WAGGONER
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 5PB (one minute each).

11:10 AM – 12:40 PM **Hanover FG**
5C. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol II
Chair: Allen Hansen, Co-Chair: Charles Lewis

11:10 AM	5C1	EVIDENCE OF SECONDARY AEROSOL FORMATION FROM PHOTOOXIDATION OF MONOTERPENES IN THE SOUTHEASTERN UNITED STATES, MOHAMMED JAOUI, Eric Corse,

		ManTech Environmental Technology, Inc., Research Triangle Park, NC; Tadeusz Kleindienst, Michael Lewandowski, John Offenberg, Edward Edney, U.S. Environmental Protection Agency, Research Triangle Park, NC
11:30 AM	5C2	AEROSOL FLUXES ABOVE A PINE FOREST AS INFLUENCED BY THE FORMATION OF SECONDARY BIOGENIC AEROSOL, EIKO NEMITZ, David Anderson, Centre for Ecology and Hydrology (CEH), Edinburgh, U.K.; Brad Baker, Atmospheric Sciences, South Dakota School of Mines, Rapid City, SD; Thomas Karl, Craig Stroud, Alex B. Guenther, Atmospheric Chemistry Division, NCAR, Boulder, CO; Jose-Luis Jimenez, Alex Huffman, Alice Delia, University of Colorado / CIRES, Boulder, CO; Manjula Canagaratna, Douglas Worsnop, Aerodyne Research Inc., Billerica, MA
11:50 AM	5C3	RADIOCARBON MEASUREMENT OF THE BIOGENIC CARBON CONTRIBUTION TO PM-2.5 AMBIENT AEROSOL NEAR TAMPA FL, CHARLES LEWIS, U.S. EPA, Research Triangle Park, NC; David Stiles, ManTech Environmental Technology, Inc., Research Triangle Park, NC; Thomas Atkeson, Florida Dept. of Environmental Protection, Tallahassee, FL
12:10 PM	5C4	CHEMICAL CHARACTERIZATION OF ATMOSPHERIC AEROSOL IN SUPPORT OF ARIES HEALTH STUDY: PARTICLE AND MULTIPHASE ORGANICS, BARBARA ZIELINSKA, Hazem El-Zanan, Desert Research Institute, Reno, NV; D. Alan Hansen, EPRI, Palo Alto, CA
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 5PC (one minute each).

11:10 AM – 12:40 PM Hanover DE
5D. Carbonaceous Aerosols II
Chair: Tony Miguel, Co-Chair: Arantzazu Eiguren-Fernandez

11:10 AM	5D1	SPECIATION OF ORGANICS IN PM-2.5 FOR THE NEW YORK CITY AREA, MIN LI, Department of Civil & Environmental Engineering, Monica A. Mazurek, Department of Civil & Environmental Engineering, Center for Advanced Infrastructure and Transportation, Rutgers, The State

		University of New Jersey, Piscataway, NJ; Stephen R. McDow, Environmental Characterization and Apportionment Branch, U.S. EPA, Research Triangle Park, NC
11:30 AM	5D2	SYNTHESIS OF SOURCE APPORTIONMENT ESTIMATES OF ORGANIC AEROSOL IN THE PITTSBURGH REGION, ALLEN ROBINSON, R. Subramanian, Tim Gaydos, Spyros Pandis Carnegie Mellon University, Pittsburgh, PA; Anna Bernardo-Bricker and Wolfgang Rogge Florida International University,Miami, FL; Andrea Polidori and Barb Turpin Rutgers University, New Brunswick, NJ; Lisa Clarke and Mark Hernandez University of Colorado, Boulder, CO
11:50 AM	5D3	THERMAL DESORPTION-GCMS WITH SILYLATION DERIVATIZATION FOR ANALYSIS OF POLAR ORGANICS FOUND IN AMBIENT PM2.5 SAMPLES, REBECCA SHEESLEY, James Schauer, University of Wisconsin-Madison, Environmental Chemistry and Technology Program, Madison, WI; Mark Meiritz, Jeff DeMinter, University of Wisconsin-Madison, State Lab of Hygiene, Madison, WI
12:10 PM	5D4	SPECIATED ORGANIC COMPOSITION OF ATMOSPHERIC AEROSOLS: A NEW, IN-SITU INSTRUMENT, BRENT J. WILLIAMS, Allen H. Goldstein, University of California, Berkeley, CA; Nathan M. Kreisberg, Susanne V. Hering, Aerosol Dynamics Inc., Berkeley, CA
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 5PD (one minute each).

11:10 AM – 12:40 PM Hanover AB

5E. Chemical Characterization of Atmospheric Aerosols 1

Chair: Lynn Russell, Co-Chair: Carolyn Jordan

11:10 AM	5E1	AIR QUALITY IMPACTS OF THE OCTOBER 2003 SOUTHERN CALIFORNIA WILDFIRES, HARISH C. PHULERIA, Philip M. Fine, Yifang Zhu, and Constantinos Sioutas, University of Southern California, Los Angeles, CA
11:30 AM	5E2	PROGRAM POVA (POLLUTION DES VALLEES ALPINES) : GENERAL PRESENTATION AND SOME HIGHLIGHTS, Jean-Luc JAFFREZO, LGGE, Grenoble, France Didier Chapuis, AIR-APS, Chambéry, France

11:50 AM	5E3	FINE PARTICLE COMPOSITION AND CHEMISTRY DURING WINTERTIME INVERSIONS AND PM2.5 EXCEEDANCES IN LOGAN, UTAH, PHILIP J. SILVA, Mark Eurupe, Eric Vawdrey, Misty Corbett, Department of Chemistry and Biochemistry, Utah State University, Logan, UT
12:10 PM	5E4	GAS-PARTICLE PARTITIONING OF REACTIVE MERCURY, ANDREW RUTTER, James Schauer, University of Wiscsonsin-Madison, Madison, WI
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 5PE (one minute each).

WEDNESDAY, OCTOBER 06, 2004
2:00 PM – 3:30 PM Platform Session 6

2:00 PM – 3:30 PM Dunwoody
6A. Deposition in the Lung
Chair: Lupita Montoya, Co-Chair: Andrew Maynard

2:00 PM	6A1	MEASUREMENT OF THE EFFECT OF CARTILAGINOUS RINGS ON PARTICLE DEPOSITION IN A PROXIMAL LUNG BIFURCATION REPLICA, YU ZHANG Warren H. Finlay Dept. of Mechanical Engineering University of Alberta Edmonton, Alberta, Canada
2:20 PM	6A2	DEPOSITION OF CARBON FIBER IN A HUMAN AIRWAY CAST, WEI-CHUNG SU, Yue Zhou, Yung-Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM
2:40 PM	6A3	IMPROVING PREDICTIONS OF MOUTH DEPOSITION USING LARGE EDDY SIMULATION, Edgar A. Matida, WARREN H. FINLAY, Carlos. F. Lange, University of Alberta, Edmonton, AB, Canada; Michael Breuer, Institute of Fluid Mechanics, University of Erlangen-Nuremberg, Erlangen, Bavaria, Germany
3:00 PM	6A4	DEPOSITION OF ULTRAFINE PARTICLES AT CARINAL RIDGES OF THE UPPER AIRWAYS, DAVID M. BRODAY, Faculty of Civil and Environmental Engineering, Technion I.I.T, Haifa, Israel
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 6PA (one minute each).

2:00 PM – 3:30 PM Courtland
6B. Combustion and Environmental Particle Formation II
Chair: John Veranth, Co-Chair: Aura Davila

2:00 PM	6B1	THE INFLUENCE OF A CERIUM ADDITIVE ON ULTRAFINE DIESEL PARTICLES EMISSIONS AND KINETICS OF OXIDATION, HEEJUNG JUNG, University of California at Davis, Dept. of Mechanical & Aeronautical Engineering & Land, Air, Water Resources, Davis, CA; David B. Kittelson, University of Minnesota, Dept. of Mechanical Engineering, Minneapolis, MN; Michael R. Zachariah, University of Maryland, Dept. of Chemistry & Mechanical Engineering, College Park, MD
2:20 PM	6B2	ON-BOARD DIESEL AND HYBRID DIESEL-ELECTRIC TRANSIT BUS PM MASS, PARTICLE NUMBER DISTRIBUTIONS, AND SIZE-RESOLVED NUMBER CONCENTRATIONS, BRITT A. HOLMEN, Derek Vikara, , Zhong Chen, Ruben Mamani-Paco, University of Connecticut, Storrs, CT; John Warhola, CT TRANSIT, Hartford, CT
2:40 PM	6B3	EFFECTS OF DILUTION RATIO AND RESIDENCE TIME ON THE PARTITIONING OF SEMI-VOLATILE ORGANIC CARBON IN EMISSIONS FROM A WOOD STOVE AND DIESEL ENGINE, ERIC LIPSKY, Allen Robinson, Carnegie Mellon Univerisity, Pittsburgh, PA
3:00 PM	6B4	OAK RIDGE ENGINE AEROSOL CHARACTERIZATION (OREACH) 2004: OVERVIEW, ENGINE CHARACTERISTICS AND SUMMARY OF EFFORTS IN 2003, JOHN STOREY; Mike Kass, Oak Ridge National Laboratory, Oak Ridge, TN
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 6PB (one minute each).

2:00 PM – 3:30 PM **Hanover FG**

6C. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol III

Chair: Eladio Knipping, Co-Chair: Betty Pun

2:00 PM	6C1	OPTIMIZATION-BASED SOURCE APPORTIONMENT OF PM2.5 INCORPORATING GAS-TO-PARTICLE RATIOS, AMIT MARMUR, Alper Unal, Armistead G. Russell, James A. Mulholland School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia
2:20 PM	6C2	A COMPARISON OF MODEL PERFORMANCE OF CMAQ, MADRID-

		1, MADRID-2 AND REMSAD, ELIZABETH BAILEY, Larry Gautney, Mary Jacobs, Jimmie Kelsoe, Tennessee Valley Authority, Muscle Shoals, AL; Betty Pun, Christian Seigneur, Atmospheric and Environmental Research, Inc., San Ramon, CA; Sharon Douglas, Jay Haney, ICF Consulting/Systems Applications International, San Rafael, CA; Naresh Kumar, EPRI, Palo Alto, CA
2:40 PM	6C3	COMPARING THE RESPONSE OF CMAQ, MADRID-1, MADRID-2 AND REMSAD TO CHANGES IN PRECURSOR EMISSIONS, BETTY PUN, Christian Seigneur, Atmospheric & Environmental Research, Inc., San Ramon, CA; Elizabeth Bailey, Larry Gautney, Mary Jacobs, Jimmie Kelsoe, Tennessee Valley Authority, Muscle Shoals, AL; Sharon Douglas, Jay Haney, ICF Consulting/SAI, San Rafael, CA; Naresh Kumar, EPRI, Palo Alto, CA
3:00 PM	6C4	COMPARISON OF FRM EQUIVALENT AND BEST ESTIMATE METHODS FOR ESTIMATING FUTURE-YEAR PM2.5 DESIGN VALUES, SHARON DOUGLAS, Geoffrey Glass, ICF Consulting/SAI, San Rafael, CA; Eric Edgerton, Atmospheric Research & Analysis, Inc., Cary, NC; Ivar Tombach, Environmental Consulting, Camarillo, CA; John Jansen, Southern Company, Birmingham, AL
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 6PC (one minute each).

2:00 PM – 3:30 PM **Hanover DE**

6D. Carbonaceous Aerosol Analysis Instrumentation

Chair: Kimberly Prather, Co-Chair: Susanne Hering

2:00 PM	6D1	ON-LINE MEASUREMENTS OF AMBIENT PARTICLE HUMIC-LIKE SUBSTANCES (HULIS) USING A PARTICLE-INTO-LIQUID-SAMPLER (PILS) COUPLED TO A TOTAL ORGANIC CARBON (TOC) ANALYZER AND XAD-8 COLUMN, AMY SULLIVAN, Rodney Weber, Georgia Institute of Technology, Atlanta, GA; Andrea Clements, Jay Turner, Environmental Engineering Program, Washington University, St. Louis, MO; Min-suk Bae, James Schauer, University of Wisconsin-Madison, Madison, WI

2:20 PM	6D2	A SYSTEM FOR AUTOMATIC MEASUREMENTS OF TOTAL AND WATER SOLUBLE CARBONACEOUS AEROSOL, ANDREY KHLYSTOV, Duke University, Durham, NC
2:40 PM	6D2	FAST PORTABLE BLACK CARBON ANALYSER BASED ON RAMAN-SPECTROSCOPY, ALEXANDER STRATMANN, Gustav Schweiger, Laseranwendungstechnik & Messsysteme, Maschinenbau, Ruhr-Universität Bochum, Germany
3:00 PM	6D4	NITROGEN SPECIATION IN SIZE FRACTIONATED ATMOSPHERIC AEROSOLS COLLECTED IN SHORT TIME INTERVALL, S. TÖRÖK, J. Osán, KFKI Atomic Energy Research Institute, Budapest, Hungary; B. Beckhoff, Physikalisch-Technische Bundesanstalt, Berlin, Germany
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 6PD (one minute each).

2:00 PM – 3:30 PM **Hanover AB**

6E. Aerosol Physical Properties

Chair: Jon Thornburg, Co-Chair: John Volckens

2:00 PM	6E1	COMPOSITION AND STRUCTURE OF BINARY AEROSOL NANODROPLETS FROM DENSITY FUNCTIONAL THEORY, Jin-Song Li, GERALD WILEMSKI, University of Missouri-Rolla, Rolla, MO
2:20 PM	6E2	SURFACE VISCOSITY EFFECTS ON NA SALT PARTICLES FROM BUBBLE BURSTING, Elizabeth G. Singh, Dupont, Wilmington, DE; LYNN M. RUSSELL, Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA
2:40 PM	6E3	CHARGE LIMIT ON EVAPORATING DROPLETS DURING PRECIPITATION OF SOLUTES, Kuo-Yen Li, ASIT K. RAY, Department of Chemical Engineering, University of Kentucky, Lexington, KY
3:00 PM	6E4	ION BEAM CHARGING OF AEROSOL NANOPARTICLES, TAKAFUMI SETO, Takaaki Orii, Hiromu Sakurai, Makoto Hirasawa, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, JAPAN
3:20 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 6PE (one minute each).

WEDNESDAY, OCTOBER 06, 2004
3:45 PM – 4:45 PM **Working Group Meetings**
All AAAR members are invited to join the working group for their area of interest.

3:45 PM – 4:45 PM

Aerosol Physics	*Harris*
Atmospheric Aerosol	*Hanover C*
Indoor Aerosol	*Marietta*
Control Technology	*Piedmont*
History of Aerosol Science	*Spring*

4:45 PM – 5:45 PM

Combustion/Materials	*Marietta*
Instrumentation	*Hanover C*
Health Related Aerosols	*Piedmont*
Fundamental Aerosol Chemistry	*Spring*

WEDNESDAY, OCTOBER 06, 2004
6:00 PM – 8:00 PM **Exhibitor Reception & Posters #2 Advanced Poster Viewing**
Grand Hall East

THURSDAY, OCTOBER 07, 2004
8:00 AM – 9:00 AM **Plenary Session #3**
International Ballroom

8:00 AM Announcements

8:05 AM Presentation of the Kenneth T. Whitby Award, George Mulholland, *Awards Committee Chair*

8:15 AM STUDYING THE REACTIVITY OF NANOAEROSOLS,Michael R. Zachariah, Departments of Mechanical Engineering and Chemistry, University of Maryland, College Park

9:00 AM – 3:00 PM **Exhibits and Posters #2 Open**
Grand Hall East

THURSDAY, OCTOBER 07, 2004
9:20 AM – 10:50 AM **Platform Session 7**

9:20 AM – 10:50 AM **Courtland**
7A. Atmospheric Aerosol Modeling I
Chair: Yang Zhang, Co-Chair: Frank Bowman

9:20 AM 7A1 THERMODYNAMIC MODELING OF SINGLE- AND MULTI-PHASE AEROSOL PARTICLES CONTAINING NEUTRAL COMPOUNDS AND ELECTROLYTES, ELSA I. CHANG, James F. Pankow, Oregon Health & Science University, Department of Environmental & Biomolecular Systems, Beaverton, OR

9:40 AM 7A2 IMPACT OF RENOXIFICATION REACTIONS ON AEROSOL CONCENTRATIONS, ANGEL JIMENEZ-

		ARANDA, Donald Dabdub, University of California Irvine, Irvine, CA
10:00 AM	7A3	DETAILED MICROPHYSICAL MODELING STUDY OF PARTICLE SIZE DISTRIBUTIONS IN INDUSTRIAL PLUMES, SUNHEE CHO, Diane V. Michelangeli, York University, Toronto, ON; Cathy Banic, Meteorological Service of Canada,Toronto, ON
10:20 AM	7A4	APPLICATION OF A THREE-DIMENSIONAL CHEMICAL TRANSPORT MODEL (PMCAMX+) TO MODEL SUMMER AND WINTER PM IN THE EASTERN UNITED STATES, TIMOTHY M. GAYDOS, Rob Pinder, Bonyoung Koo, Kathleen M. Fahey, Spyros N. Pandis, Carnegie Mellon University, Pittsburgh PA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 7PA (one minute each).

9:20 AM – 10:50 AM Hanover DE
7B. Special Symposium: Heterogeneous & Multiphase Chemistry I
Chair: Cort Anastasio, Co-Chair: Geoffrey Smith

9:20 AM	7B1	ORGANIC AEROSOL AND THEIR EFFECT ON CLOUD DROPLET FORMATION, MARIA CRISTINA FACCHINI, Sandro Fuzzi, Institute of Atmospheric Science and Climate - CNR, Bologna, Italy
9:40 AM	7B2	WATER ACTIVITY AND CRITICAL SUPERSATURATIONS ESTIMATED FROM HYGROSCOPICITY MEASUREMENTS, KIRSTEN KOEHLER, Sonia Kreidenweis, Anthony Prenni, Paul DeMott, Christian Carrico, Colorado State University, Fort Collins, CO
10:00 AM	7B3	ISOPRENE AND IN-CLOUD FORMATION OF SECONDARY ORGANIC AEROSOL, Ho-Jin Lim, BARBARA TURPIN, Annmarie Carlton, Rutgers University, Environmental Sciences, New Brunswick, NJ
10:20 AM	7B4	STRUCTURE OF ORGANIC PARTICLES, LYNN M. RUSSELL, Scripps Institution of Oceanography, UCSD, La Jolla, CA; Mary K. Gilles, Lawrence Berkeley National Laboratories, Berkeley, CA; Steven F. Maria, Satish Myneni, Princeton University, Princeton, NJ

10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 7PB (one minute each).

9:20 AM – 10:50 AM Hanover FG
7C. Health Related Aerosol Characterization I
Chair: Andrew Maynard , Co-Chair: Liya Yu

9:20 AM	7C1	INVESTIGATION OF SOURCE-RELATED CHEMICAL SPECIATION OF SIZE-RESOLVED FINE AND ULTRAFINE PARTICLES IN THE SOUTH BRONX AREA OF NEW YORK CITY, DRITAN XHILLARI, Polina Maciejczyk, George Thurston, Lung Chi Chen, New York University School of Medicine, Tuxedo, NY; Yongjing Zhao, University of California, Davis, Davis, CA
9:40 AM	7C2	INDOOR AND OUTDOOR MEASUREMENTS OF PM2.5 AND DIESEL EXHAUST PARTICLES IN NEW YORK CITY, YAIR HAZI, Patrick Kinney, Juan Correa, Darrell Holmes, Frederica Perera, Columbia University, Mailman School of Public Health, Center for Children's Environmental Health, New York, NY
10:00 AM	7C3	EVALUATION OF AN AEROSOL TIME-OF-FLIGHT MASS SPECTROMETER FOR INDUSTRIAL MONITORING, STEPHEN CRISTY, BWXT Y-12, Oak Ridge, TN
10:20 AM	7C4	ON-ROAD EXPOSURE AND EMISSION MEASUREMENTS, David Kittelson, Winthrop Watts, Jason Johnson, University of Minnesota, Minneapolis, MN; Gunter Oberdorster, University of Rochester, Rochester, NY
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 7PC (one minute each).

9:20 AM – 10:50 AM Hanover AB
7D. Aerosol Synthesis of Nanomaterials I
Chair: Pratim Biswas, Co-Chair: Herek Clack

9:20 AM	7D1	FLAME SYNTHESIS OF COMPOSITE NANOPARTICLES, Sowon Sheen, Sowon Yang and MANSOO CHOI, National CRI Center for Nanoparticle Control, School of Mechanical and Aerospace Engineering, Seoul National University, Seoul, South Korea
9:40 AM	7D2	FLAME SYNTHESIS OF CERIA CONTAINING WATER-GAS SHIFT CATALYSTS FOR FUEL CELL

		APPLICATIONS, RANJAN KUMAR PATI, Sheryl H. Ehrman, University of Maryland, College Park, MD; Ivan C. Lee, Deryn Chu, US Army Research Laboratory, Adelphi, MD
10:00 AM	7D3	HIGH DENSITY PLASMA SYNTHESIS OF HIGHLY ORIENTED SINGLE CRYSTAL SILICON NANOPARTICLES FOR DEVICE APPLICATIONS, Ameya Bapat, UWE KORTSHAGEN, Mechanical Engineering, University of Minnesota, Minneapolis, MN; Ying Dong, Stephen A. Campbell, Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; Christopher Perrey, C. Barry Carter, Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN
10:20 AM	7D4	A PHENOMENOLOGICAL MODEL TO DESCRIBE OXIDATION OF ALUMINUM NANOPARTICLES, ASHISH RAI, Shekhar Sonwane, Kihong Park, Michael R. Zachariah, University of Maryland, College Park, MD
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 7PD (one minute each).

9:20 AM – 10:50 AM **Dunwoody**
7E. Indoor Aerosols I
Chair: Mark Sippola, Co-Chair: Tina Reponen

9:20 AM	7E1	PM RESUSPENSION AND SUBSEQUENT TRANSLOCATION IN A RESIDENTIAL SETTING, JACKY ROSATI, U.S. Environmental Protection Agency, Indoor Environment Management Branch, Research Triangle Park, NC; Jonathan Thornburg, Charles Rodes, RTI International, Research Triangle Park, NC
9:40 AM	7E2	HUMAN EXPOSURE TO PARTICULATE POLLUTANTS FOLLOWING A PULSE RELEASE AND REGULAR HUMAN ACTIVITY, Jing Qian, ANDREA FERRO, Clarkson University, Potsdam, NY
10:00 AM	7E3	A COMPUTATIONAL / EXPERIMENTAL STUDY OF PARTICULATE DISPERSION AND RESUSPENSION IN CONFINED CHAMBERS UNDER INFLUENCES OF HUMAN MOTION, Jack Edwards, ROSHAN OBEROI, North Carolina State University, Raleigh, NC; Jacky Rosati, U.S. Environmental Protection Agency, Research Triangle Park, NC;

		Jonathan Thornburg, Charles Rodes; RTI International, Research Triangle Park, NC
10:20 AM	7E4	SUPERMICRON PARTICLE DEPOSITION FROM TURBULENT FLOW ONTO SMOOTH AND ROUGH VERTICAL SURFACES: PART 2 SIMULATION STUDY, ALVIN LAI, School of Mechanical and Production Engineering, Nanyang Technological University, Singapore; William Nazaroff, Department of Civil and Environmental Engineering, University of California, Berkeley, CA
10:40 AM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 7PE (one minute each).

THURSDAY, OCTOBER 07, 2004
11:10 AM – 12:40 PM Platform Session 8

11:10 AM – 12:40 PM Courtland
8A. Urban/Regional PM I
Chair: Mei Zheng, Co-Chair: Rebecca Sheesley

11:10 AM	8A1	APPORTIONMENT OF AMBIENT PRIMARY AND SECONDARY PM2.5 DURING A 2001 SUMMER STUDY IN THE NETL PITTSBURGH SITE USING PMF2 AND EPA UNMIX, DELBERT J. EATOUGH, Brigham Young University, Provo, UT
11:30 AM	8A2	AIR QUALITY IMPACTS OF DISTRIBUTED GENERATION: MODEL UNCERTAINTY AND SENSITIVITY ANALYSIS OF PM2.5 AEROSOL, MARCO RODRIGUEZ, Donald Dabdub, University of California, Irvine, Irvine, CA
11:50 AM	8A3	INTEGRATED MODELLING OF PARTICULATE MATTER IN REGIONAL AIR QUALITY WITH SMASS, DIANE V. MICHELANGELI, Ray J. Yang, Adam G. Xia, Centre for Atmospheric Chemistry & Department of Earth and Space Science and Engineering, York University, Toronto, ON, Canada
12:10 PM	8A4	3-D MODEL EVALUATION: AEROSOL MASS AND NUMBER SIZE DISTRIBUTIONS, YANG ZHANG, Jonathan Bulau, North Carolina State University, Raleigh, NC; Betty Pun, Christian Seigneur, Atmospheric & Environmental Research, Inc., San Ramon, CA; Mark Z. Jacobson, Stanford University, Stanford, CA

12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 8PA (one minute each).

11:10 AM – 12:40 PM **Hanover DE**
8B. Special Symposium: Heterogeneous & Multiphase Chemistry II
Chair: Don Collins, Co-Chair: Cindy DeForest Hauser

11:10 AM	8B1	SEA SALT AEROSOL CHEMISTRY: BRIEF OVERVIEW AND RECENT MODELING RESULTS, ROLAND VON GLASOW, Institut fuer Umweltphysik, University of Heidelberg, Germany and Scripps Institution of Oceanography, UCSD, La Jolla, USA
11:30 AM	8B2	REAL-TIME MONITORING OF HETEROGENEOUS REACTIONS ON INDIVIDUAL ATMOSPHERIC DUST PARTICLES, KIMBERLY A. PRATHER, Sergio Guazzotti, John Holecek, David Sodeman, University of California, San Diego, CA
11:50 AM	8B3	HYDRATION REACTIVITY OF CALCIUM CONTAINING MINERAL DUST PARTICLES AGED WITH NITRIC ACID, B.J. Krueger and V.H. Grassian Department of Chemistry and the Center for Global and Regional Environmental Research, University of Iowa, Iowa City, Iowa; J.P. Cowin and A. LASKIN; William R. Wiley Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA
12:10 PM	8B4	COMPARISONS OF MODEL AEROSOL MASS AND CHEMICAL COMPOSITION WITH OBSERVATIONS FROM NEAQS 2002, G. J. FROST, S. A. McKeen, A. Middlebrook, J. deGouw, E. Williams, NOAA Aeronomy Laboratory, Boulder, CO, and CIRES, University of Colorado, Boulder, CO; S. E. Peckham, G. Grell, NOAA Forecast Systems Laboratory, Boulder, CO, and CIRES, University of Colorado, Boulder, CO; R. Schmitz, Department of Geophysics, University of Chile, Santiago, Chile, and IMK-IFU, Forschungszentrum Karlsruhe, Garmisch-Partenkirchen, Germany; R. Talbot, EOS, University of New Hampshire, Durham, NH
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 8PB (one minute each).

11:10 AM – 12:40 PM **Hanover FG**
8C. Indoor Aerosols II
Chair: Andrea Ferro, Co-Chair: Antonio Miguel

11:10 AM	8C1	PENETRATION OF FREEWAY ULTRAFINE PARTICLES INTO INDOOR ENVIRONMENTS, YIFANG ZHU, William C. Hinds, Thomas Kuhn, Margaret Krudysz, John Froines, University of California, Los Angeles, CA; Constantinos Sioutas, University of Southern California, Los Angeles, CA
11:30 AM	8C2	THE TRANSPORT AND FATE OF OUTDOOR CARBONACEOUS AEROSOLS IN THE INDOOR ENVIRONMENT, MELISSA LUNDEN, Thomas W. Kirchstetter, Tracy L. Thatcher, Nancy Brown, Lawrence Berkeley National Laboratory, Berkeley, CA; Susanne Herring, Aerosol Dynamics Inc. Berkeley, CA
11:50 AM	8C3	INSIGHT INTO THE SIZE-RESOLVED SOURCE AND PROPERTIES OF INDOOR AEROSOLS THROUGH COUPLED MEASUREMENTS OF SIZE DISTRIBUTIONS AND HYGROSCOPIC GROWTH, DON R. COLLINS, Chance Spencer, Texas A&M University, College Station, TX; Maria T. Morandi, Tom H. Stock, University of Texas School of Public Health, Houston, TX
12:10 PM	8C4	INDOOR-OUTDOOR RELATIONSHIPS OF ACCUMULATION MODE PARTICLES AT FIVE RESIDENCES IN SEATTLE, WA, RYAN ALLEN, Dave Covert, Tim Larson, and Sally Liu, University of Washington, Seattle, WA
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 8PC (one minute each).

11:10 AM – 12:40 PM Hanover AB

8D. Aerosol Synthesis of Nanomaterials II

Chair: Cathy Almquist, Co-Chair: Michael Zachariah

11:10 AM	8D1	PHOTOCATALYSIS EVALUATION OF NANOSTRUCTURED TIO2 POWDERS AND THIN FILMS PREPARED BY FLAME AEROSOL METHOD FOR PARTIAL OXIDATION OF HYDROCARBONS, ZHONG-MIN WANG, Department of Environmental Engineering, University of Cincinnati, Cincinnati, OH; Pratim Biswas, Departments of Chemical and Civil Engineering, Washington University in St. Louis, St. Louis, MO; Endalkachew Sahla-Demessie, USEPA National Risk Management Research Laboratory, Cincinnati, OH

11:30 AM	8D2	HYPERSONIC PLASMA PARTICLE DEPOSITION OF SILICON-TITANIUM-NITROGEN NANOPARTICLE FILMS, J. Hafiz, X. Wang, R. Mukherjee, P.H. McMurry, J.V.R. Heberlein, S.L. GIRSHICK, Dept. of Mechanical Engineering, University of Minnesota, Minneapolis, MN
11:50 AM	8D3	SYNTHESIS OF VERY LOW DENSITY, CARBONACEOUS AEROGEL MATERIALS, R. Dhaubhadel, C. Gerving, A. Chakrabarti and C.M. SORENSEN, Department of Physics, Kansas State University, Manhattan, KS
12:10 PM	8D4	NANOSTRUCTURED ZINC OXIDE THIN FILMS BY A HYBRID LASER-AEROSOL METHOD, MASASHI MATSUMURA, Renato P. Camata, University of Alabama at Birmingham, Department of Physics, Birmingham, AL
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 8PD (one minute each).

11:10 AM – 12:40 PM Dunwoody

8E. Chemical Characterization of Atmospheric Aerosols 2

Chair: Phil Silva, Co-Chair: Katharine Moore

11:10 AM	8E1	PM2.5 TECHNOLOGY ASSESSMENT AND CHARACTERIZATION STUDY IN NEW YORK - PMTACS-NY: AN OVERVIEW OF THE 2004 WINTER INTENSIVE IN QUEENS, NY, KENNETH L. DEMERJIAN, J. Schwab, G. Lala, O. Hogrefe, Y. Li, S. Weimer, D. Orsini, F. Drewnick, K. Rhoads, Atmospheric Sciences Research Center, University at Albany SUNY; D. Felton, G. Boynton, T. Lanni, B. Frank, New York State Department of Environmental Conservation; L. Husain, X. Zhou Department of Environmental Health and Toxicology, University at Albany, SUNY; W. Brune, X. Ren, Pennsylvania State University; D. Worsnop, Aerodyne Research, Inc.; P. Hopke, P. Venkatachari, Clarkson University; H. Patashnick, J. Ambs, Rupprecht & Patashnick Co., Inc.; J. Jimenez, Dept. of Chemistry & Biochemistry; and CIRES, University of Colorado
11:30 AM	8E2	MULTI-SITE COMPARISON OF MASS AND MAJOR CHEMICAL COMPONENTS OBTAINED BY COLLOCATED STN AND IMPROVE CHEMICAL SPECIATION NETWORK

		MONITORS, PAUL A. SOLOMON, Peter Egeghy, US EPA, ORD, Las Vegas, NV; Dennis Crumpler, Joann Rice, James Homolya, Neil Frank, OAQPS, RTP, NC; Tracy Klamser-Williams, US EPA, ORIA, Las Vegas, NV; Marc Pitchford, US EPA/NOAA, OAQPS, Las Vegas, NV; Lowell Ashbaugh, Charles McDade, UC Davis, Sacramento, CA; James Orourke, James Flanagan, Edward Rickman, Research Triangle Institute, RTP, NC
11:50 AM	8E3	DEPLOYMENT OF AN AEROSOL MASS SPECTROMETER ON THE G1 AIRCRAFT DURING THE NEW ENGLAND AIR QUALITY STUDY 2002/2004, JOHN T. JAYNE, Tim Onasch, Scott Herndon, Manjula Canagaratna, Douglas Worsnop. Aerodyne Research, Inc., Billerica, MA; Michael Alexander, Tom Jobson, Pacific Northwest National Laboratory, Richland, WA.
12:10 PM	8E4	THERMAL METHODS FOR CHEMICAL CHARACTERIZATION OF MERCURY-CONTAINING AEROSOLS, MARY LYNAM, Matthew Landis, National Exposure Research Laboratory, United States Environmental Protection Agency, Research Triangle Park, Durham, NC; Robert Stevens, FLDEP at USEPA, United States Environmental Protection Agency, Research Triangle Park, Durham, NC
12:30 PM		POSTER PREVIEW. This session ends with a brief presentation of posters from Session 8PE (one minute each).

THURSDAY, OCTOBER 07, 2004
12:40 PM – 2:40 PM Poster Session #2 with Box Lunch
Grand Hall East

12:40 PM – 2:40 PM Grand Hall East
4PB. Combustion and Environmental Particle Formation I

4PB1	ON THE SIZE DISTRIBUTIONS OF NEUTRAL AND CHARGED PARTICLES FORMED IN PREMIXED FLAMES, MATTI MARICQ, Research, Ford Motor Co., Dearborn, MI
4PB2	ON THE USE OF LASER-INDUCED IONIZATION TO DETECT SOOT INCEPTION IN PREMIXED FLAMES, SAMUEL L. MANZELLO, George W. Mulholland, National Institute of Standards and Technology, Gaithersburg, MD; Eui Ju Lee, Korea Institute of Construction and Technolgy, Il-San City, South Korea
4PB3	EFFECT OF FUEL TO OXYGEN RATIO ON PHYSICAL AND CHEMICAL PROPERTIES OF

SOOT PARTICLES, JAY G. SLOWIK, Katherine Stainken, Paul Davidovits, Boston College, Chestnut Hill, MA; Leah R. Williams, John T. Jayne, Charles E. Kolb, Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA; Yinon Rudich, Weizmann Institute, Rehovot, Israel; Peter DeCarlo, Jose L. Jimenez, University of Colorado at Boulder, Boulder, CO

4PB4 EMISSIONS OF PARTICULATE MATTER, SELECTED PAHS AND PHENOLS FROM AGRICULTURAL BURNING IN EASTERN WASHINGTON AND NORTH IDAHO, RANIL DHAMMAPALA, Candis Claiborn, Dept of Civil & Environmental Engineering, Washington State University, Pullman, WA; Jeff Corkill, Dept of Chemistry & Biochemistry, Eastern Washington University, Cheney, WA; Brian Gullett, US EPA, National Risk Management Research Laboratory, Research Triangle Park, NC

4PB5 COMPARISONS OF PM2.5 EMISSION OF EPA METHOD 201A/202 AND CONDITIONAL TEST METHOD 39 AT THE CASTING PROCESS, M.-C. OLIVER CHANG, Judith Chow, John Watson, Desert Research Institute, Reno, NV; Sue Anne Sheya, Cliff Glowacki, Anil Prabhu, Technikon, LLC, McClellan, CA

4PB6 MEASUREMENT OF DILUTION CHARACTERISTICS FOR TAILPIPE EMISSIONS FROM VEHICLES, VICTOR W. CHANG, Lynn M. Hildemann, Stanford University, Stanford, CA; Cheng-Hsin Chang, Kuang-Jung Cheng, Tamkang University, Tamsui, Taiwan

4PB7 CHEMICAL COMPOSITION AND RADIATION ABSORPTION OF AEROSOL EMISSIONS FROM BIOFUEL COMBUSTION: IMPLICATIONS FOR REGIONAL CLIMATE, GAZALA HABIB, Chandra Venkataraman, Department of Chemical Engineering, Indian Institute of Technology Bombay, Powai Mumbai, MH: Arantza Eiguren-Fernandez, Antonio H. Miguel, Southern California Particle Center and Supersite, Chemical Analysis Laboratory, University of California Los Angeles, CA; Sheldon K. Friedlander, Department of Chemical Engineering, University of California Los Angeles, CA; James J. Schauer, Environmental Chemistry and Technology Program, University of Wisconsin-Madison, Madison, WI; T. C. Bond, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL

4PB8 HIGH TEMPERATURE SORPTION OF CESIUM AND STRONTIUM ON KAOLINITE POWDERS IN COMBUSTORS, Jong-Ik Yoo, Takuya Shinagawa, Joseph P. Wood, WILLIAM P. LINAK, U.S. Environmental Protection Agency, Research Triangle Park, NC; Dawn A. Santoianni, Charles J. King, ARCADIS Geraghty & Miller, Inc., Durham,

NC; Yong-Chil Seo, Yonsei University, Wonju, Korea; Jost O.L. Wendt, University of Arizona, Tucson, AZ

4PB9 SIZE DISTRIBUTED CHEMICAL COMPOSITION OF FINE PARTICLES EMITTED FROM BURNING ASIAN COALS, ZOHIR CHOWDHURY, Glen R. Cass, Armistead G. Russell, Georgia Institute of Technology, Atlanta, GA; David Wagner, Adel F. Sarofim, JoAnn Lighty, Department of Chemical Engineering, University of Utah, Salt Lake City, UT; James J. Schauer, Environmental Chemistry and Technology Program, University of Wisconsin-Madison, Madison, WI; and Lynn G. Salmon, Environmental Science and Engineering, California Institute of Technology, Pasadena, CA

4PB10 INFLUENCE OF TRAFFIC DENSITY ON HEAVY-DUTY DIESEL VEHICLE EMISSIONS, ANIKET SAWANT, David Cocker, University of California, Riverside, CA

4PB11 CONCENTRATION AND SIZE DISTRIBUTION OF PARTICLES ARISING FROM PLASMA ARC CUTTING, ARI UKKONEN, Dekati ltd., Tampere, Finland; Heikki Kasurinen, Helsinki Univ. of Technology Lab. of Eng. Materials, Helsinki, Finland

12:40 PM – 2:40 PM Grand Hall East
4PC. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol I

4PC1 CLOUD ACTIVATING PROPERTIES OF AEROSOL OBSERVED DURING THE CELTIC FIELD STUDY, CRAIG STROUD, Roelof Bruintjes, Sreela Nandi, National Center for Atmospheric Research, Boulder, CO; Eiko Nemitz, Centre for Ecology and Hydrology, Edinburgh, U.K.; Alice Delia, Darin Toohey, Program in Atmospheric and Oceanic Sciences, University of Colorado, Boulder, CO; Jose Jimenez, Peter DeCarlo, Alex Huffman, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO; Athanasios Nenes, Department of Atmospheric Science, Georgia Institute of Technology, Atlanta, GA

4PC2 GROWTH OF THE ATMOSPHERIC NANOPARTICLE MODE: COMPARISON OF MEASUREMENTS AND THEORY, MARK R. STOLZENBURG, Peter H. McMurry, Melissa Fink, University of Minnesota, Minneapolis, MN; Charles F. Clement, Enviros-Quantisci, Wantage, Oxon, UK; Hiromu Sakurai, AIST, Tsukuba, Ibaraki, Japan; Fred L. Eisele, James N. Smith, Roy L. Mauldin, Edward Kosciuch, Katharine F. Moore, National Center for Atmospheric Research, Boulder, CO

4PC3 MACROMOLECULES IN AMBIENT AIR, MURRAY JOHNSTON, Ann Snellinger, Michael Tolocka,

Chemistry and Biochemistry Department, University of Delaware, Newark, DE

4PC4 PARTICLE SIZE DISTRIBUTION AND ATMOSPHERIC METALS MEASUREMENTS IN A RURAL AREA IN THE SE USA, Michael Goforth, CHRISTOS CHRISTOFOROU, School of the Environment, Clemson University, Clemson, SC

4PC5 SIZE SPECIFIC SPECIATION OF FINE PARTICULATE MATTER IN RURAL CENTRAL GEORGIA: RESULTS FROM THE GRASP PROGRAM, JAMES R PEARSON, Michael O. Rodgers, Avatar Environtech and Air Quality Laborotory, Civil and Environmental Engineering, Georgia Tech, Atlanta, GA

4PC6 SIZE-RESOLVED MEASUREMENT OF WATER-INSOLUBLE AEROSOL IN NEAR REAL-TIME IN URBAN ATLANTA, ROBY GREENWALD, Michael H. Bergin, Gayle S.W. Hagler, Rodney Weber, Georgia Institute of Technology, Atlanta, GA

4PC7 COMPOSITION OF PM2.5 DURING THE SUMMER OF 2003 IN RESEARCH TRIANGLE PARK, NORTH CAROLINA, USA, MICHAEL LEWANDOWSKI, Tadeusz Kleindienst, Edward Edney, U.S. Environmental Protection Agency, Research Triangle Park, NC; Mohammed Jaoui, ManTech Environmental Technology, Inc., Research Triangle Park, NC

12:40 PM – 2:40 PM Grand Hall East
4PD. Carbonaceous Aerosols I

4PD1 PERIODIC STRUCTURE OF CONCENTRATION FIELDS OF ATMOSPHERIC BIOAEROSOLS IN THE TROPOSPHERE OF THE SOUTH OF WESTERN SIBERIA, ALEXANDER BORODULIN, Alexander Safatov, SRC VB ''Vector'', Koltsovo, Novosibirsk region, Russia; Olga Khutorova, Kazan State University, Kazan, Russia; Boris Belan, Mikhail Pancenko, IAO SB RAS, Tomsk, Russia

4PD2 ACCUMULATED IN SNOW COVER BIOGENIC COMPONENT OF ATMOSPHERIC AEROSOL IN RURAL AND URBAN REGIONS, ALEXANDER S. SAFATOV, Galina A. Buryak, Irina S. Andreeva, Alexander I. Borodulin, Yurii V. Marchenko, Sergei E. Ol'kin, Irina K. Reznikova, State Research Center of Virology and Biotechnology "Vector", Koltsovo, Novosibirsk Region, Russia; Vladimir F. Raputa, Institute of Computation Mathematics and Mathematical Geophysics, SB RAS, Novosibirsk, Russia; Vasilij V. Kokovkin, Institute of Inorganic Chemistry, SB RAS, Novosibirsk, Russia

4PD3 REAL TIME ASSESSMENT OF WOOD SMOKE PM: A PILOT STUDY, GEORGE ALLEN, NESCAUM, Boston MA Peter Babich, Richard Poirot, VT APCD, Waterbury VT

4PD4 ESTIMATION OF ORGANIC CARBON BLANK VALUES AND ERROR STRUCTURES OF THE SPECIATION TRENDS NETWORK DATA, EUGENE KIM, Youjun Qin, Philip K. Hopke, Clarkson University, Potsdam, NY

4PD5 SEASONAL VARIATIONS OF EC AND OC CONCENTRATIONS IN TWO ALPINE VALLEYS, Gilles Aymoz, JEAN-LUC. JAFFREZO, LGGE, Grenoble, France; Didier Chapuis, AIR-APS, Chambéry, France

4PD6 LABORATORY MEASUREMENTS OF PARTICLE NUCLEATION IN MONOTERPENE OZONOLYSIS, JAMES B. BURKHOLDER, Tahllee Baynard, Edward R. Lovejoy, A.R. Ravishankara, Aeronomy Laboraory, National Oceanic and Atmospheric Administration, Boulder, CO

4PD7 ORGANIC SPECIATION SAMPLING ARTIFACTS, Tanasri Sihabut, Environmental Science Program, Drexel University, Philadelphia, PA; Joshua W. Ray, Bureau of Air Monitoring, New Jersey Department of Environmental Protection, Trenton, NJ; Amanda L. Northcross, Department of Environmental Science and Engineering, University of North Carolina, Chapel Hill, NC; STEPHEN R. MCDOW, EPA, Research Triangle Park, NC

4PD8 MEASUREMENTS OF PHYSICAL AND CHEMICAL PROPERTIES OF SECONDARY ORGANIC AEROSOLS (SOA) FROM CHAMBER STUDIES USING THE AERODYNE AEROSOL MASS SPECTROMETER (AMS), ROYA BAHREINI, Melita Keywood*, Nga Lee Ng , Varuntida Varutbangkul, Richard C. Flagan, John H. Seinfeld, California Institute of Technology, Pasadena, CA; *Now at CSIRO, Victoria, Australia; Douglas R. Worsnop, Manjula R. Canagaratna, Aerodyne Research Inc., Billerica, MA; Jose. L. Jimenez, University of Colorado, Boulder, CO

4PD9 CHARACTERISTICS OF POLYCYCLIC AROMATIC HYDROCARBONS IN URBAN AIR IN KOREA, YOUNG SUNG GHIM, Hyoung Seop Kim, Air Resources Research Center, Korea Institute of Science and Technology, Korea; Jong-Guk Kim, Department of Environmental Engineering, Chonbuk National University, Korea

4PD10 SMOKE PROPERTIES DERIVED FROM THE LABORATORY COMBUSTION OF FOREST FUELS, CHRISTIAN M. CARRICO, Sonia M. Kreidenweis, Jeffrey L. Collett, Jr., Guenter Engling, Gavin R. McMeeking, Department of Atmospheric Science, Colorado State University, Fort Collins, CO; Derek E. Day and William Malm, CIRA/National Park Service, Fort Collins, CO

12:40 PM – 2:40 PM Grand Hall East
4PE. Cloud Condensation Nuclei/Hygroscopicity

4PE1 RELATING PARTICLE HYGROSCOPICITY TO COMPOSITION USING AMBIENT MEASUREMENTS MADE AT EGBERT, ONTARIO, YAYNE-ABEBA AKLILU,Michael Mozurkewich, Centre for Atmospheric Chemistry, York University, Toronto, ON, Canada; Mahewar Rupakheti, Department of Physics and Atmospheric Science, Dalhousie University, Halifax, NS, Canada; Katherine Hayden, Richard Leaitch, Air Quality Research Branch, Meteorological Service of Canada, Toronto, ON, Canada

4PE2 HYGROSCOPICITY AND VOLATILITY OF ULTRAFINE PARTICLES FROM FILTERED DIESEL EXHAUST AEROSOLS, MELISSA FINK, David B. Kittelson, Peter H. McMurry, Jake Savstrom, Mark R. Stolzenburg, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN; Hiromu Sakurai, AIST, Tsukuba, Ibaraki, Japan

4PE3 DIRECT MEASUREMENTS OF THE HYDRATION STATE OF AMBIENT AEROSOL POPULATIONS, JOSHUA L. SANTARPIA; Runjun Li, Don R. Collins, Texas A&M University, College Station, TX

4PE4 DERIVATION OF CCN SPECTRA AND HUMIDITY-DEPENDENT AEROSOL OPTICAL PROPERTIES USING DMA SIZE DISTRIBUTIONS AND TDMA HYGROSCOPIC GROWTH MEASUREMENTS, ROBERTO GASPARINI, Don R. Collins, Texas A&M University, College Station, TX; James G. Hudson, Desert Research Institute, Reno, NV; John A. Ogren, Patrick Sheridan, National Oceanic and Atmospheric Administration, Boulder, CO; Richard A. Ferrare, National Aeronautics and Space Administration, Hampton, VA

4PE5 THE ALGORITHM OF ORGANIZING AN OPTIMAL NETWORK FOR MONITORING OF GAS AND AEROSOL ATMOSPHERIC POLLUTANTS OF ANTHROPOGENIC AND NATURAL ORIGINS, Boris Desyatkov, ALEXANDER BORODULN, Sergey Sarmanaev, Natalya Lapteva, Andrei Yarygin, SRC VB ''Vector'', Koltsovo, Novosibirsk region, Russia

4PE6 ASSOCIATIONS BETWEEN PARTICLE NUMBER AND GASEOUS CO-POLLUTANT CONCENTRATIONS IN THE LOS ANGELES BASIN, SATYA B. SARDAR, Philip M. Fine, Heesong Yoon, Constantinos Sioutas, University of Southern California, Los Angeles, CA

4PE7 OPTICAL REAL-TIME CONTINUOUS PARTICULATE MONITORS AND FEDERAL REFERENCE METHOD (FRM) PM2.5 AND PM10 AIR SAMPLERS: COMPARISON AT AMBIENT CONDITIONS, KRYSTYNA TRZEPLA-NABAGLO, Paul Wakabayashi, Robert Flocchini, Crocker Nuclear Laboratory, University of California, Davis, CA

4PE8 OPTIMIZATION OF A LOCAL AMBIENT AEROSOL MONITORING NETWORK BASED ON THE SPATIAL AND TEMPORAL VARIABILITY OF PM2.5, SERGEY A. GRINSHPUN, Dainius Martuzevicius, Tiina Reponen, Junxiang Luo, Rakesh Shukla, University of Cincinnati, Cincinnati, OH; Anna L. Kelley, Harry St. Clair, Hamilton County Department of Environmental Services, Cincinnati, OH

4PE9 SAMPLING DURATION DEPENDENCE OF SEMICONTINUOUS ORGANIC CARBON MEASUREMENTS ON STEADY STATE SECONDARY ORGANIC AEROSOLS, JOHN H. OFFENBERG, Michael Lewandowski, Tadeusz E. Kleindienst, Edward O. Edney, U.S. Environmental Protection Agency, Office of Research and Development, Human Exposure Atmospheric Sciences Division, Research Triangle Park, NC; Mohammed Jaoui, Eric Corse, ManTech Environmental Technology, Inc., Research Triangle Park, NC

4PE10 MEASUREMENTS PERFORMANCE OF CONTINUOUS PM2.5 MASS CONCENTRATION: EFFECTS OF AEROSOL COMPOSITION AND RELATIVE HUMIDITY, JONG HOON LEE, Philip K. Hopke, Thomas M. Holsen, Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY, USA; William E. Wilson, U.S. Environmental Protection Agency, Research Triangle Park, NC, USA

4PE11 THE BASIC PREPARATORY EXPERIMENT FOR THE DISTRIBUTION OF MERCURY IN AMBIENT AIR, RAIN, AND SOILS, HYUN-DEOK CHOI, Thomas M. Holsen, Clarkson University, Potsdam, NY

12:40 PM – 2:40 PM Grand Hall East
5PB. Filtration

5PB1 INVESTIGATIONS OF NANOPARTICLE GENERATION DURING THE LASER ABLATION DECONTAMINATION, DOH-WON LEE, Oak Ridge Institute for Science and Education, Oak Ridge, TN; Meng-Dawn Cheng, Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN

5PB2 AN INVESTIGATION OF NANOSTRUCTURED TUNGSTA/VANADIA/TITANIA CATALYSTS FOR THE OXIDATION OF METHANOL, NATHAN LEE, Vipul Kumar, Catherine Almquist, Paper Science and Engineering Department, Miami University, Oxford, OH

5PB3 SEPARATION OF SUBMICRON PARTICLES WITH SPRAY NOZZLES, STEFAN LAUB, Helmut Büttner, Fritz Ebert, Particle Technology & Fluid Mechanics, University of Kaiserslautern, Kaiserslautern, Germany

5PB4 REMOVAL OF AEROSOL POLLUTANTS VIA AN ELECTROSTATIC COAGULATION TECHNIQUE, YONG-JIN KIM, KOREA INSTITUTE OF MACHINERY AND MATERIALS (KIMM), Daejeon, Korea

5PB5 CHARACTERIZATION OF LASER-GENERATED AEROSOLS IN ND:YAG ABLATION OF PAINT FROM CONCRETE SURFACES, François Gensdarmes, Institute for Radioprotection and Nuclear Safety (IRSN), MARIE GELEOC, Eric Weisse, Commissariat à l'Energie Atomique (CEA)

5PB6 THE FILTRATION EFFICIENCY OF AN ELECTROSTATICALLY ENHANCED FIBROUS FILTER, MIHAI CHIRUTA, Pao K. Wang, University of Wisconsin-Madison, Madison, WI

5PB7 A HEPA FILTER/DIAGNOSTICS TEST FACILITY AT DIAL-MISSISSIPPI STATE UNIVERSITY, R. ARUN KUMAR, John A. Etheridge, John C. Luthe, Brian A. Nagel, Olin P. Norton, Michael S. Parsons, Larry Pearson, Donna M. Rogers, Kristina U. Hogancamp, and Charles A. Waggoner, Diagnostic Instrumentation and Analysis Laboratory (DIAL), Mississippi State University, Mississippi State, MS

5PB8 SINGLE-PHASE AND MULTI-PHASE FLUID FLOW THROUGH AN ARTIFICIALLY INDUCED, CT-SCANNED FRACTURE, KAMBIZ NAZRIDOUST, Zuleima Karpyn, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY; Abraham S. Grader, Phillip M. Halleck, Energy and Geo-Environmental Engineering, Pennsylvania State University, University Park, PA; Ali R. Mazaheri, Duane H. Smith, National Energy Technology Laboratory, U.S. Department of Energy, Morgantown, WV

5PB9 COMPUTATIONAL AND EXPERIMENTAL STUDY OF MULTI-PHASE FLUID FLOW THROUGH FLOW CELLS, WITH APPLICATION OF CO2 SEQUESTRATION, KAMBIZ NAZRIDOUST, Joshua Cook, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY; Duane H. Smith, National Energy Technology Laboratory, U.S. Department of Energy, Morgantown, WV

5PB10 INVESTIGATIONS OF IN-USE HEAVY-DUTY DIESEL VEHICLE EMISSIONS: EFFECT OF FUEL TYPE AND CONTROL TECHNOLOGY, ANIKET SAWANT, Sandip Shah, David Cocker, University of California, Riverside, CA

5PB11 TREATING WASTE WITH WASTE: A PRELIMINARY EVALUATION OF WELDING FUME AS A SOURCE OF IRON NANOPARTICLES FOR GROUNDWATER REMEDIATION, ANTHONY T. ZIMMER, Kevin E. Ashley, M. Eileen Birch, and Andrew D. Maynard,

National Institute for Occupational Safety and Heath, Cincinnati, OH

5PB12 CHARGE DENSITY MEASUREMENT OF MELTBLOWN TYPE ELECTRET FILTER BY ALPHA-RAY IRRADIATION, M.-H. LEE, D.-R. Chen and P. Biswas, Washington University in St. Louis, St.Louis, MO; Y. Otani, Kanazawa University, Kanazawa, Japan

12:40 PM – 2:40 PM Grand Hall East
5PC. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol II

5PC1 CONCENTRATION AND CHEMICAL COMPOSITION OF PM2.5 PARTICLES AT A RURAL SITE IN SOUTH CAROLINA, AND COMPARISON TO OTHER SE USA AEROSOL, CHRISTOS CHRISTOFOROU, Huzefa Husain, David Calhoun, School of the Environmentl, Clemson University, Anderson, SC; Lynn G. Salmon, EQL, Caltech, Pasadena, CA

5PC2 INVESTIGATION INTO THE ORGANIC COMPOSITION OF AMBIENT PM2.5 PARTICLES SOLUBLE IN WATER, AMY SULLIVAN, Rodney Weber, Georgia Institute of Technology, Atlanta, GA

5PC3 DEPENDENCE OF HYGROSCOPICITY ON COMPOSITION FOR ATMOSPHERIC PARTICLES: OBSERVATIONS MADE WITH AN AEROSOL TIME OF FLIGHT MASS SPECTROMETER-TANDEM DIFFERENTIAL MOBILITY ANALYSIS SYSTEM, DABRINA D. DUTCHER, Peter H. McMurry, Particle Technology Laboratory, Department of Mechanical Engineering, University of Minnesota, Minneapolis,MN; Kihong Park, Department of Mechanical Engineering, University of Maryland, College Park, MD; Alexandra M. Schmitt, Deborah S. Gross, Department of Chemistry, Carleton College, Northfield, MN

5PC4 EFFECT OF NH3 ON PM2.5 COMPOSITION, KENNETH OLSZYNA, Solomon Bairai, Roger Tanner, Tennessee Valley Authority, Muscle Shoals, AL

5PC5 UNCERTAINTY ANALYSIS OF THE MEASURED PM 2.5 CONCENTRATIONS, SUN-KYOUNG PARK, Armistead G. Russell, The Georgia Institute of Technology, Atlanta, GA

5PC6 COMPARISON OF SEARCH AND EPA PM2.5 SPECIATION MONITOR DATA FOR SOURCE PREDICTION CALCULATIONS, DAVYDA HAMMOND, University of Alabama at Birmingham, Birmingham, AL; Ashley Williamson, Southern Research Institute, Birmingham, AL

5PC7 COMPARISON OF OBSERVED AND CMAQ SIMULATED ATMOSPHERIC CONSTITUENTS BY FACTOR ANALYSIS, Wei Liu , Yuhang Wang,

Georgia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA; Amit Marmur, Armistead Russell, Georgia Institute of Technology, Civil and Environmental Engineering, Atlanta, GA; Eric S. Edgerton, Atmospheric Research and Analysis, Inc., Durham, NC

12:40 PM – 2:40 PM Grand Hall East
5PD. Carbonaceous Aerosols II

5PD1 CORRELATION OF EGA THERMOGRAPHIC PATTERNS AND OC/BC SOURCE REGIONS, DARREL BAUMGARDNER Graciela B. Raga Oscar Peralta, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico

5PD2 UNDERSTANDING THE ORIGIN OF ORGANIC ACIDS PRESENT IN SECONDARY ORGANIC AEROSOL FROM A REMOTE SAMPLING SITE IN NORTHERN MICHIGAN, REBECCA SHEESLEY, James Schauer, University of Wisconsin-Madison, Environmental Chemistry and Technology Program, Madison, WI; Donna Kenski, Lake Michigan Air Directors Consortium, Des Plaines, IL; Erin Bean, University of Wisconsin-Madison, State Lab of Hygiene, Madison, WI

5PD3 EVALUATION OF ORGANIC TRACER ANALYSIS IN AEROSOL, BO WANG, Meiyu Dong, Georgia Institute of Technology, Atlanta, GA; James Schauer, University of Wisconsin-Madison, Madison, WI; Mei Zheng, Georgia Institute of Technology, Atlanta, GA

5PD4 SPATIAL CHARACTERIZATION OF PM2.5 ASSOCIATED ORGANIC COMPOUNDS IN THE SAN JOAQUIN VALLEY, LYNN R. RINEHART, Dave Campbell, Eric Fujita, Judith C. Chow, and Barbara Zielinska, Desert Research Institute, Division of Atmospheric Science, Reno, NV

5PD5 ANNUAL VARIATION OF ENVIRONMENTAL AEROSOL CONCENTRATION: A COMPARATIVE STUDY OF THREE YEARS, T. S. VERMA, T. A. Thomas, Department of Physics, University of Botswana, P/Bag 0022, Gaborone, Botswana

5PD6 CONCENTRATIONS OF THE BIOGENIC COMPONENT OF ATMOSPHERIC AEROSOL AT ALTITUDE AND ONLAND MEASUREMENTS IN THE SOUTH OF WESTERN SIBERIA, ALEXANDER S. SAFATOV, Irina S. Andreeva, Alexander I. Borodulin, Galina A. Buryak,Yurii V.Marchenko, Victor V.Marchenko, Sergey E. Olkin, Valentina A. Petrishchenko,Oleg V. P'yankov, Irina K. Reznikova, Alexander N. Sergeev, State Research Center of Virology and Biotechnology "Vector", Koltsovo, Novosibirsk Region, Russia; Konstantin P. Koutsenogii,Valerii I. Makarov, Svetlana A. Popova, Institute of Chemical Kinetics and Combustion, SB RAS, Novosibirsk, Russia; Boris

D. Belan,Mikhail V. Panchenko, Institute of Atmospheric Optics SB RAS,Tomsk, Russia

5PD7 URBAN / RURAL CONTRAST FOR AMBIENT FINE PARTICULATE MATTER IN THE ST. LOUIS AREA, Neil D. Deardorff, JAY R. TURNER, Washington University, St. Louis, MO; Min-Suk Bae, James J. Schauer, University of Wisconsin, Madison, WI; Warren W. White, University of Calfornia, Davis, CA

5PD8 WATER- SOLUBLE FRACTION OF ORGANIC CARBON, CRUSTAL ELEMENTS, AND POLYATOMIC IONS IN ASIAN AEROSOLS, RACHELLE DUVALL, Martin Shafer, James Schauer, University of Wisconsin-Madison, Madison, WI; Patrick Chuang, University of California at Santa Cruz, Santa Cruz, CA; Berndt Simoneit, Oregon State University, Corvallis, OR

5PD9 SHORT-TIME PERIODIC VARIATIONS OF AEROSOL CONCENTRATION AND BASE METEOPARAMETERS IN THE SURFACE LAYER, ANDREI JOURAVEV, Guerman Teptin, Kazan State University, Russia

12:40 PM – 2:40 PM Grand Hall East
5PE. Chemical Characterization of Atmospheric Aerosols 1

5PE1 PM10 AEROSOLS OF URBAN COIMBATORE, INDIA WITH EMPHASIS ON ITS ELEMENTAL, IONIC AND PAH CONSTITUENTS, R. MOHANRAJ, P. A. Azeez, Salim Ali Centre, India

5PE2 SEASONAL AND SPATIAL VARIABILITY OF THE SIZE-RESOLVED CHEMICAL COMPOSITION OF PARTICULATE MATTER (PM10) IN THE LOS ANGELES BASIN, SATYA B. SARDAR, Philip M. Fine, and Constantinos Sioutas, University of Southern California, Los Angeles, CA

5PE3 SIZE-SEGREGATED CHEMICAL PARTICLE CHARACTERIZATION IN WINTER 2003 AT THE IFT-RESEARCH STATION MELPITZ (GERMANY), GERALD SPINDLER, Erika Brüggemann, Thomas Gnauk, Achim Grüner, Hartmut Herrmann, Konrad Müller, Leibniz-Institut für Troposphärenforschung e.V., Leipzig, Germany; Horst Werner, Umweltbundesamt, Berlin, Germany

5PE4 MEASUREMENTS OF AMBIENT AEROSOL COMPOSITION USING AN AERODYNE AEROSOL MASS SPECTROMETER IN NEW YORK CITY: WINTER 2004 INTENSIVE STUDY, SILKE WEIMER, James J. Schwab, Kenneth L. Demerjian, Atmospheric Sciences Research Center, State University of New York, Albany, NY; Frank Drewnick, Department Cloud Physics and Chemistry, Max Planck Institute of Chemistry, Mainz, Germany; Doug Worsnop, Aerodyne Research, Inc., Billerica, MA; Jose L. Jimenez, Qi Zhang, University of Colorado, Boulder, CO

5PE5 ELEMENTAL COMPOSITION OF PM10 AND PM2.5 FROM RESUSPENDED SOIL IN CALIFORNIAS' SAN JOAQUIN VALLEY, OMAR F. CARVACHO, Lowell L. Ashbaugh, Michael S. Brown, and Robert G. Flocchini, University of California, Crocker Nuclear Laboratory, Air Quality Group, Davis, CA

5PE6 TRAJECTORY ANALYSIS OF SPECIATED AEROSOL COMPONENTS IN SOUTHERN SCOTLAND, MEASURED USING AN AEROSOL MASS SPECTROMETER, DAVID ANDERSON, Eiko Nemitz, Rick Thomas, John Neil Cape, David Fowler, Centre For Ecology & Hydrology (CEH), Bush Estate, Penicuik, UK

5PE7 CHEMICAL COMPOSITION OF AEROSOLS MEASURED BY AMS AT OKINAWA JAPAN IN WINTER-SPRING PERIOD, AKINORI TAKAMI, Takao Miyoshi, Shiro Hatakeyama, NIES, Tsukuba, Japan; Akio Shimono, Sanyu Plant Service, Sagamihara, Japan

5PE8 PREDICTING BULK AMBIENT AEROSOL COMPOSITIONS FROM ATOFMS DATA, WEIXIANG ZHAO, Philip K. Hopke, Department of Chemical Engineering, and Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY; Xueying Qin, Kimberly A. Prather, Department of Chemistry and Biochemistry, University of California, San Diego, La Jolla, CA

5PE9 EFFECT OF INITIAL AEROSOL CONCENTRATION ON THE PHOTOCHEMICAL REACTION OF AMBIENT AIR, YOUNG-MEE LEE, Seung-Bok Lee, Ji-Eun Choi, Gwi-Nam Bae, Kil-Choo Moon, KIST, Seoul, Korea

5PE10 EFFECT OF LIGHT INTENSITY ON THE PHOTOCHEMICAL REACTIONS OF AMBIENT AIR, SEUNG-BOK LEE, Young-Mee Lee, Ji-Eun Choi, Gwi-Nam Bae, Kil-Choo Moon, Korea Institute of Science and Technology, Seoul, Korea

5PE11 AMBIENT AEROSOL MEASUREMENTS WITH THE TIME-OF-FLIGHT AEROSOL MASS SPECTROMETER (TOF AMS) DURING THE PMTACS-NY 2004 WINTER CAMPAIGN, FRANK DREWNICK, Silke S. Hings, Stephan Borrmann, Cloud Physics and Chemistry Department, Max-Planck Institute for Chemistry, Mainz, Germany; Peter DeCarlo, Jose-L. Jimenez, Dept. of Chemistry & Biochemistry, University of Colorado, Boulder, CO: Marc Gonin, Tofwerk AG, Thun, Switzerland,; John T. Jayne and Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA

12:40 PM – 2:40 PM Grand Hall East
6PA. Deposition in the Lung

6PA1 MODELING OF POLLUTION OF THE GROUND SURFACE WITH DROPS OF ROCKET FUEL, Yuriy

Morokov, Gdaly Rivin, Ekaterina Klimova, ICT SB RAS, Novosibirsk, Russia; ALEXANDER BORODULIN, Boris Desyatkov, Sergei Zykov, SRC VB "Vector", Koltsovo, Novosibirsk, Russia

6PA2 AIRBORNE NUMBER AND MASS CONCENTRATION AND COMPOSITION OF FINE AND ULTRAFINE PARTICLES AT THE WTC SITE ONE YEAR LATER, MAIRE S.A. HEIKKINEN, NYU School of Medicine, New York, NY; Shao-I Hsu, Ramona Lall, Paul Peters, Beverly S. Cohen, Lung Chi Chen, George Thurston, NYU School of Medicine, Tuxedo, NY

6PA3 INVESTIGATION OF ORGANIC DPM SAMPLING ARTIFACTS OF A HIGH-VOLUME SAMPLING SYSTEM, ZIFEI LIU, Minming LU, Tim C. Keener, Fuyan Liang, Dept. of Civil and Environmental Engineering, University of Cincinnati, Cincinnati, OH

6PA4 CHARACTERIZATION OF AEROSOL AND FRAGRANCE EXPOSURES TO TWO CONSUMER FRAGRANCE PRODUCTS, CHWEN-JYH JENG, Toxcon HSRC Inc., Edmonton, AB, Canada; D. A. Isola, Ladd Smith, Research Institute for Fragrance Materials, Inc., Woodcliff Lake, NJ; R. E. Rogers, and A. Myshaniuk, Toxcon HSRC Inc., Edmonton, AB, Canada

6PA5 COMPARISON OF ANALYSIS OF METALS AND ORGANIC COMPOUNDS IN PM2.5 PERSONAL EXPOSURE SAMPLES WITH STANDARD AMBIENT SAMPLES, GLYNIS C LOUGH, Rebecca J. Sheesley, James J. Schauer, Martin M. Shafer, University of Wisconsin-Madison, Madison, WI; Manisha Singh, Philip M. Fine, Constantinos Sioutas, University of Southern California, Los Angeles, CA

6PA6 THE EFFECT OF AEROSOLIZED CLASS C FLY ASH IN WEANLING GOATS, CHARLES PURDY, USDA-ARS, Bushland, TX; David Straus, Texas Tech University Health Sciences Center, Lubbock, TX; J.R. Ayers, Veterinary Diagnostic Center, University of Nebraska, Lincoln, NE

6PA7 SOME PROBLEMS OF AIR POLLUTION IN ARMENIA, LUIZA GHARIBYAN, Yerevan State Medical University, Department Hygine and Ecology, Yerevan, Armenia

6PA8 AERODYNE AEROSOL MASS SPECTROMETER MEASUREMENTS OF PARTICLE SIZE DISTRIBUTIONS AND CHEMICAL COMPOSITION FROM PRESSURIZED METERED DOSE INHALERS, LEAH WILLIAMS, Hacene Boudries, John Jayne, Charles Kolb, and Douglas Worsnop, Aerodyne Research Inc., Billerica, MA; Margaret Farrar, Cambridge Ridge and Latin High School, Cambridge, MA; William Barney, TIAX LLC, Cambridge, MA

6PA10 AMBIENT BIOLOGICAL PARTICULATE MATTER CHARACTERIZATION AT THE ST. LOUIS - MIDWEST SUPERSITE, DANIEL G. RAUER, Jay R. Turner, Largus T. Angenent, Washington University in St. Louis, St. Louis, MO

12:40 PM – 2:40 PM Grand Hall East
6PB. Combustion and Environmental Particle Formation II

6PB1 DETAILED GAS- AND PARTICLE-PHASE MEASUREMENTS OF EMISSIONS FROM IN-USE DIESEL-ELECTRIC LOCOMOTIVES, ANIKET SAWANT, Abhilash Nigam, David Cocker, University of California, Riverside, CA

6PB2 EMISSION RATES OF PARTICULATE MATTER, ELEMENTAL AND ORGANIC CARBON FROM IN-USE DIESEL ENGINES, SANDIP SHAH, David Cocker, University of California, Riverside, CA

6PB3 EMISSION CHARACTERISTICS OF INCENSE COMBUSTION TRANSITION FROM FLAMELESS TO FLAME, TZU-TING YANG, Jia-Ming Lin, Yee-Chung Ma, Ming-Heng Huang, Chih-Chieh Chen, National Taiwan University, Taipei, Taiwan

6PB4 VOLATILITY OF ULTRAFINE PARTICLES IN DIESEL EXHAUST UNDER IDLING CONDITION, HIROMU SAKURAI, Osamu Shinozaki, Keizo Saito, Takafumi Seto, AIST, Tsukuba, Japan

6PB5 EMISSION CHARACTERISTICS OF INCENSE COMBUSTION TRANSITION FROM FLAMELESS TO FLAME, TZU-TING YANG, Jia-Ming Lin, Yee-Chung Ma, Ming-Heng Huang, Institute of Environmental Health, College of Public Health, National Taiwan University, Chih-Chieh Chen, Institute of Occupational Medicine Industrial Hygiene, College of Public Health, National Taiwan University

6PB6 LABORATORY EXPERIMENTS EXAMINING ULTRAFINE PARTICLE PRODUCTION BY RE-BREATHING OF ROAD DUST THROUGH A DIESEL ENGINE, KEITH J. BEIN, Yongjing Zhao, Anthony S. Wexler, University of California, Davis, CA; Eric Lipsky, Allen L. Robinson, Carnegie Mellon University, Pittsburgh, PA

6PB7 REAL-TIME SIMULTANEOUS MEASUREMENTS OF SIZE, DENSITY, AND COMPOSITION OF SINGLE ULTRAFINE DIESEL TAILPIPE PARTICLES, ALLA ZELENYUK/IMRE, Yong Cai, Michael Alexander, Pacific Northwest National Laboratory, Richland, WA; Dan Imre, Imre Consulting, Richland, WA; Jian Wang, Gunnar Senum, Brookhaven National Laboratory, Upton, NY; John Storey, Oak Ridge National Laboratory at NTRC, Knoxville, TN

6PB8 OAK RIDGE ENGINE AEROSOL CHARACTERIZATION (OREACH) 2004: STUDIES OF DIESEL ENGINE PARTICLE EMISSIONS USING

SMPS AND EEPS, JIAN WANG, Brookhaven National Laboratory, Upton, NY; Kass, Shean Huff, Brian West, Norberto Domingo, John Storey, Oak Ridge National Laboratory, Knoxville, TN

6PB9 COMPOSITION AND SIZE DISTRIBUTION OF PARTICULATE MATTER EMISSIONS FROM HOBBY ROCKETS, ANDREW RUTTER, Charles Christensen, James Schauer, University of Wisconsin-Madison, Madison, WI

6PB10 THE ELEMENTAL CARBON CONTENT IN DPM OF VEHICLES IN AN UNDERGROUND METAL MINE WITH AND WITHOUT DIESEL PARTICULATE FILTERS, Alex Bugarski, Steve Mischler, JIM NOLL, Larry Patts, George Schnakenberg, National Institute for Occupational Safety and Health, Pittsburgh, PA

6PB11 EFFECTS OF LOW SULFUR FUEL AND A CATALYZED PARTICLE TRAP ON THE COMPOSITION AND TOXICITY OF DIESEL EMISSIONS, JACOB D. MCDONALD, Kevin S. Harrod, JeanClare Seagrave, Steven K. Seilkop and Joe L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM

12:40 PM – 2:40 PM Grand Hall East
6PC. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol III

6PC1 UNCERTAINTY ANALYSIS OF CHEMICAL MASS BALANCE MODELING USING ORGANIC TRACERS FOR PM2.5 SOURCE APPORTIONMENT, BO YAN, Mei Zheng, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA; Armistead Russell, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atanta, GA

6PC2 BIRMINGHAM PM SOURCE ATTRIBUTION USING CONTINUOUS GAS AND PARTICLE SIZE MEASUREMENTS, ASHLEY WILLIAMSON, Southern Research Institute, Birmingham, AL; Davyda Hammond, University of Alabama at Birmingham, Birmingham, AL

6PC3 SOURCE APPORTIONMENT OF FINE PARTICULATE MATTER IN THE TENNESSEE VALLEY REGION, LIN KE, Georgia Institute of Technology, Atlanta, GA; Roger L. Tanner, Tennessee Valley Authority Environmental Research Center, CEB 2A, P.O.B. 1010, Muscle Shoals, AL; James J. Schauer, Environmental Chemistry and Technology Program, University of Wisconsin-Madison, Madison, WI; Mei Zheng, Georgia Institute of Technology, Atlanta, GA

6PC4 SOURCE ALLOCATION OF ORGANIC CARBON IN PM2.5 USING 14C AND TRACER INFORMATION, Eric Edgerton, ARA, Inc., Cary, NC

6PC5 ATMOSPHERIC AEROSOL OVER TWO URBAN-RURAL PAIRS IN SOUTHEAST UNITED STATES: CHEMICAL COMPOSITION AND SOURCES, Wei Liu, , Yuhang Wang, Georgia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA; Armistead Russell, Georgia Institute of Technology, Civil and Environmental Engineering, Atlanta, GA; Eric S. Edgerton, Atmospheric Research and Analysis, Inc., Durham, NC

6PC6 EMISSIONS PROFILE AND AIR QUALITY IMPACTS FROM PRESCRIBED BURNING IN GEORGIA, SANGIL LEE, Karsten Baumann, Michael Chang, Zohir Chowdhury, Ted Russell, Mei Zheng, EAS/CEE, Georgia Tech, Atlanta, GA; Luke Naeher, EHS, University of Georgia, Athens, GA; James Schauer, CEE, University of Wisconsin, Madison, WI

12:40 PM – 2:40 PM Grand Hall East
6PD. Carbonaceous Aerosol Analysis Instrumentation

6PD1 QUANTIFYING UNCERTAINTIES IN THERMAL/OPTICAL ANALYSIS FOR ORGANIC AND ELEMENTAL CARBON FRACTIONS, L.-W. Antony Chen, Guadalupe Paredes-Miranda, M.-C. Oliver Chang, Judith Chow, John Watson, Desert Research Institute, Reno, NV; Kochy Fung, Atmoslytic Inc., Calabasas, CA

6PD2 CHARACTERIZATION AND PERFORMANCE EVALUATION OF THE MAGEE SCIENTIFIC AETHALOMETER (TM) FOR AMBIENT BLACK CARBON CONCENTRATION MEASUREMENTS, BRADLEY P. GOODWIN, Jay R. Turner, Washington University, St. Louis, MO; George A. Allen, NESCAUM, Boston, MA

6PD3 EXTRACTING REFRACTIVE INDEX INFORMATION FROM THE LIGHT SCATTERING SIGNALS MEASURED WITH THE TSI AEROSOL TIME OF FLIGHT MASS SPECTROMETER, DABRINA D DUTCHER, Peter H. McMurry, Particle Technology Laboratory, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN; Deborah S. Gross, Department of Chemistry, Carleton College, Northfield, MN

6PD4 CHARACTERIZATION AND PERFORMANCE EVALUATION OF THE TIME-OF-FLIGHT AEROSOL MASS SPECTROMETER (TOF AMS), SILKE S. HINGS, Frank Drewnick, Stephan Borrmann, Cloud Physics and Chemistry Department, Max-Planck Institute for Chemistry, Mainz, Germany; Peter DeCarlo, Jose-L. Jimenez, Dept. of Chemistry & Biochemistry, University of Colorado, Boulder, CO; Marc Gonin, Tofwerk AG, Thun, Switzerland; John T. Jayne and Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA

6PD6 PARTICLE SIZE AND EXTINCTION COEFFICIENT OF OIL AEROSOLS PRODUCED VIA THE VAPORIZATION AND CONDENSATION, PAUL NAM, Ramesh Chand, Robert Schaub, Shubhen Kapila, Virgil Flanigan, Center for Environmental Science & Technology, University of Missouri-Rolla, Rolla, MO; William Rouse, Edgewood Chemical & Biological Center, SBCCOM, Aberdeen Proving Ground, MD

6PD7 MATERIAL EFFECTS ON THRESHOLD COUNTING EFFICIENCY OF TSI MODEL 3785 WATER-BASED CONDENSATION PARTICLE COUNTER, Wei Liu, STANLEY L. KAUFMAN, Gilmore J. Sem, Paul J. Haas, TSI Incorporated, Shoreview, MN; Frederick R. Quant, Quant Technologies LLC, Blaine, MN

6PD8 DEVELOPMENT OF A LASER-BASED INSTRUMENT FOR MEASURING SCATTERING, 180 DEGREE BACKSCATTERING, AND ABSORPTION BY AEROSOLS, RUNJUN LI, Yong Seob Lee, Don R. Collins, Texas A&M University, College Station, TX

6PD9 DEVELOPMENT OF A MULTI-ANGLE LIGHT-SCATTERING SPECTROMETER FOR AIRCRAFT USE, WILLIAM DICK, Francisco Romay, Daryl Roberts, Benjamin Liu, MSP Corporation, Shoreview, MN

6PD10 SEMI-EMPIRICAL MODELS FOR THE ASPIRATION EFFICIENCIES OF AEROSOL SAMPLERS IN PERFECTLY CALM AIR, WEI-CHUNG SU, Lovelace Respiratory Research Institute, Albuquerque, NM; James H. Vincent, University of Michigan, Ann Arbor, MI

12:40 PM – 2:40 PM Grand Hall East
6PE. Aerosol Physical Properties

6PE1 THE MODEL OF RADIO WAVES SCATTERING BY AEROSOL IN TURBULENT ATMOSPHERE CONSIDERING REAL HUMIDITY, A.V. ALEXANDROV, G.M. Teptin, O.G. Khoutorova Department of Physics, Kazan State University, Republic of Tatarsan, Russian Federation

6PE2 PARAMETRIC OPTICAL PROCESSES WITH THRESHOLD BEHAVIOR IN TRANSPARENT DROPLETS, M.V. JOURAVLEV, Aerosol Department of SSC of Russian Federation, Karpov Institute of Physical Chemistry, Moscow, Russia; G. Kurizki, Department of Chemical Physics, Weizmann Institute of Science, Rehovot, Israel

6PE3 CHARACTERISTICS OF URBAN AEROSOLS AT PUNE,N. SHANTIKUMAR SINGH, Indian Astronomical Observatory, Indian Institute of Astrophysics, Leh-Ladakh (J & K), India: G. R. Aher, Physics Department, Nowrosjee Wadia College, Pune, India; V.V. Agashe, Department of Environmental Sciences, University of Pune, Pune, India

6PE4 EFFECTIVE REFRACTIVE INDEX OF SUBMICRON AEROSOLS AT AN ANTARCTIC SITE, AKI VIRKKULA, Risto Hillamo, Kimmo Teinilä, Finnish Meteorological Institute, Air Quality Research, Helsinki, Finland Ismo K. Koponen, Markku Kulmala, Aerosol and Environmental Physics Laboratory, University of Helsinki, Helsinki, Finland

6PE5 EFFECT OF PRIMARY PARTICLE SIZE ON THE COAGULATION RATE OF FRACTAL-LIKE AGGLOMERATES, KI-JOON, JEON and Chang-Yu, Wu, University of Florida, Gainesville, FL

6PE6 TAXONOMY OF TRANSIENT NUCLEATION AND GROWTH, Ranjit Bahadur, RICHARD B. MCCLURG, University of Minnesota, Minneapolis, MN

6PE7 NODAL ALGORITHM AND SOFTWARE FOR THE SOLUTION OF GENERAL DYNAMIC EQUATION, ANAND PRAKASH, Michael R. Zachariah, University of Maryland, College Park, MD Ameya Bapat, University of Minnesota, Minneapolis, MN

6PE8 CHARACTERIZATION OF AEROSOLS PRODUCED IN AN AMPLIFIER OF POWERFUL LASER, François Gensdarmes, Guillaume Basso, Institute for Radioprotection and Nuclear Safety, France; Isabelle Tovena, STEPHANIE PALMIER, CEA-CESTA, France

6PE11 AN APPROACH TO THE STANDARDIZATION OF PARTICLE FRACTAL DIMENSION IN MORPHOLOGICAL CHARACTERIZATION, ESTHER COZ, Begona Artinano, Francisco J. Gomez-Moreno, Ciemat, Madrid, Spain; Daniel Rodriguez-Perez, Hugo Franco-Triana, Jose L. Castillo, J. Carlos Antoranz, UNED, Madrid, Spain

12:40 PM – 2:40 PM Grand Hall East
7PA. Atmospheric Aerosol Modeling I

7PA1 COMPUTATIONAL MODELING OF NEAR-SOURCE DEPOSITION OF FUGITIVE DUST ON VEGETATIVE SURFACES, JOHN VERANTH, Eric Pardyjak, Fang Yin, Kevin Perry, University of Utah, Salt Lake City, UT; Judith Chow, John Watson, Vic Etyemezian, Desert Research Institute, Reno NV

7PA2 THE USE OF UAM-V CODE FOR THE SIMULATION OF THE THERMAL INVERSION LAYER, LEONOR CORTÉS PALACIOS Eduardo Florencio Herrera Peraza, Jorge Iván Carrilo Flores, Arturo Keer Rendón, Luisa Idelia Manzanares Papayanopoulos, Center of Research in Advanced Materials, SA, Chihuahua, Mexico

7PA3 COAGULATION ALGORITHMS FOR SOURCE-ORIENTED AIR QUALITY MODELS, QI YING, Michael J. Kleeman, University of California, Davis, CA

7PA4 IMPROVING THE PERFORMANCE OF THE ISORROPIA AEROSOL THERMODYNAMIC MODEL, DOUGLAS WALDRON, University of Louisville, Louisville, KY; Athanasios Nenes, Georgia Institute of Technology, Atlanta, GA

7PA5 METEOROLOGICAL UNCERTAINTIES AND THEIR INFLUENCES ON AEROSOL MODEL PREDICTIONS, SHAO-HANG CHU U. S. Environmental Protection Agency, Research Triangle Park, NC

7PA6 IMPROVEMENTS TO AIR QUALITY MODELING USING A SPATIALLY AND TEMPORALLY RESOLVED AMMONIA EMISSION INVENTORY, ROBERT PINDER, Timothy Gaydos, Peter Adams, Carnegie Mellon University, Pittsburgh, PA

7PA7 NUMERICAL SIMULATION OF SULFATE AND NITRATE WET DEPOSITION IN THE LAKE BAIKAL REGION, VLADIMIR MAKUKHIN, Vladimir Obolkin, Limnological Institute SB RAS, Irkutsk, Russia

7PA8 ATMOSPHERIC CONDUCTIVITY REDUCTION UNDER ENHANCED AEROSOL CONDITIONS, K Nagaraja, B S N PRASAD, University of Mysore, Mysore, India; Nels Laulainen, Pacific Northwest National Laooratory, Richland, WA

7PA9 AN EXPERIMENTAL STUDY AND NUMERICAL SIMULATION OF OIL GENERATED AEROSOLS IN BATTLEFIELD, QIANG CHEN, Shubhen Kapila, Virgil Flanigan, Paul Nam, Kanisa Kittiratanapiboon, Center for Environmental Science and Technology, University of Missouri – Rolla, Rolla, MO; William Rouse, Edgewood Chemical and Biological Center, Aberdeen Providing Ground, MD

7PA10 PARTICLE FORMATION AND GROWTH DURING THE QUEST CAMPAIGN IN HYYTI_L_, FINLAND, KARI E. J. LEHTINEN, Lauri Laakso, Hanna Vehkamaki, Ismo Napari, Miikka Dal Maso, Markku Kulmala, University of Helsinki, Dept. Physical Sci., Finland

7PA11 COMPUTER SIMULATION OF POLLUTANT TRANSPORT AND DEPOSITION NEAR PEACE BRIDGE, CHAOSHENG LIU, Goodarz Ahmadi, Clarkson University, Potsdam, NY

7PA12 PARTICLE TRANSPORT AND DEPOSITION IN CHANNEL FLOWS - AN UNSTRUCTURED GRID ANALYSIS, CHAOSHENG LIU, Goodarz Ahmadi, Clarkson University, Potsdam, NY

12:40 PM – 2:40 PM Grand Hall East
7PB. Special Symposium: Heterogeneous & Multiphase Chemistry I

7PB1 PRODUCTS AND MECHANISMS OF OZONE REACTIONS WITH OLEIC ACID FOR AEROSOL

PARTICLES HAVING CORE-SHELL MORPHOLOGIES, YASMINE KATRIB, Scot T. Martin, Hui-Ming Hung, Harvard University, Cambridge, MA; Yinon Rudich, Weizmann Institute, Rehovot, Israel; Haizheng Zhang, Jay G. Slowik, Paul Davidovits, Boston College, Chestnut Hill, MA; John T. Jayne, Douglas R.Worsnop, Aerodyne Research, Inc., Billerica, MA

7PB2 SURFACE OXIDATION OF DIESEL PARTICULATE MATTER IN THE PRESENCE OF O3 +NOX: DIRECT TD/GC/MS ANALYSIS, ZHONG CHEN and Britt A. Holmen, Environmental Engineering Program, University of Connecticut, Storrs, CT

7PB3 GAS-PARTICLE PARTITIONING OF ORGANICS DURING PHOTO-OXIDATION OF TOLUENE/NOX MIXTURES, JANYA HUMBLE, Diane Michelangeli, Don Hastie, Mike Mozurkewich, York University, Toronto, ON, Canada; Paul Makar, MSC, Downsview, ON, Canada; Craig Stroud, NCAR, Boulder CO

7PB4 THE ROLE OF PARTICLE SUBSTRATE EFFECTS IN DETERMINING THE REACTIVITY OF ORGANIC AEROSOLS, GEOFFREY D. SMITH, John D. Hearn, University of Georgia, Athens, GA

7PB5 LABORATORY MEASUREMENT OF HETEROGENEOUS OXIDATION KINETICS OF ORGANIC AEROSOLS, AMY M. SAGE, Kara E. Huff Hartz, Emily A. Weitkamp, Allen L. Robinson, Neil M. Donahue, Carnegie Mellon University, Pittsburgh, PA

7PB6 SECONDARY ORGANIC AEROSOL YEILD OF DIVERSE MONOTERPENES BY HETEROGENOUS ACID CATALYZED REACTIONS, AMANDA NORTHCROSS, Myoseon Jang, University of North Carolina, Chapel Hill, NC

7PB7 DEPENDENCE OF SECONDARY ORGANIC AEROSOL YIELD ON AEROSOL ACIDITY IN HETEROGENEOUS ACID CATALYZED REACTIONS, NADINE CZOSCHKE, Richard Kamens, Myoseon Jang, University of North Carolina, Chapel Hill, NC

7PB8 EFFECT OF SURFACTANTS ON GAS/PM2.5 PARTITIONING OF HERBICIDES, WENLI YANG and Britt A. Holmen, Environmental Engineering Program, University of Connecticut, Storrs, CT

7PB9 ORGANIC AEROSOL PARTICLES AS CLOUD CONDENSATION NUCLEI: THE EFFECT OF SURFACE TENSION AND OXIDATIVE PROCESSING, KEITH BROEKHUIZEN, Jonathan P.D. Abbatt, University of Toronto, Toronto, Canada

7PB10 IS SECONDARY ORGANIC PARTICULATE MATTER FORMED BY REACTIONS OF GAS PHASE

ALDEHYDES SULFATE AEROSOL PARTICLES?, MICHAEL MOZURKEWICH, Jin Zhang, York University, Toronto, Ontario, Canada

7PB11 ORGANIC ACID FORMATION PATHWAYS, Grazyna Orzechowska, Ha Ngoyen, De-Ling Liu, Zsuzsa Marka, SUZANNE E. PAULSON, Department of Atmospheric Sciences, University of California at Los Angeles, Los Angeles, CA

7PB12 MODELLING THE SECONDARY ORGANIC AEROSOL WITHIN A 3-DIMENSIONAL AIR QUALITY MODEL, ADAM G. XIA, Diane V. Michelangeli, Centre for Atmospheric Chemistry & Department of Earth and Space Science and Engineering, York University, Toronto, ON, Canada; Paul Makar, Air Quality Modelling and Integration Division, Meteorological Service of Canada, Toronto, ON, Canada

7PB13 A COMPUTATIONALLY EFFICIENT ALGORITHM FOR AEROSOL PHASE EQUILIBRIUM, RAHUL A. ZAVERI, Richard C. Easter, Leonard K. Peters, Pacific Northwest National Laboratory, Richland, WA; Anthony S. Wexler, University of California, Davis, CA

12:40 PM – 2:40 PM Grand Hall East
7PC. Health Related Aerosol Characterization I

7PC1 DIFFUSION CHARGER-BASED AEROSOL SURFACE AREA MONITOR RESPONSE TO SILVER AGGLOMERATES WITH 2-D FRACTAL DIMENSIONS RANGING FROM 1.58 TO 1.94, BON KI KU, Andrew Maynard, National Institute for Occupational Safety and Health, Cincinnati, OH

7PC2 CHARACTERIZATION OF AEROSOL PARTICLES RELEASED DURING AGITATION OF UNPROCESSED SINGLE WALLED CARBON NANOTUBES, USING AEROSOL PARTICLE MASS ANALYSIS AND TRANSMISSION ELECTRON MICROSCOPY, ANDREW D. MAYNARD, Bon-Ki Ku, NIOSH, Cincinnati, OH; Mark R. Stolzenburg, Peter McMurry, University of Minnesota, Minneapolis, MN

7PC3 CREATING UNIFORM SAMPLES OF DEPOSITED BACTERIA, PAUL BARON, Cherie Estill, Terri Schnorr, National Institute for Occupational Safety and Health, Cincinnati, OH; John Wright, Greg Dahlstrom, Jeremy Beard, Daryl Ward, Dugway Proving Ground, Dugway, UT; Wayne Sanderson, University of Iowa, Iowa City, IA

7PC4 THE EFFECT OF FILTER MATERIAL ON THE BIOAEROSOL COLLECTION EFFICIENCY: EXPERIMENTAL STUDY UTILIZING BG SPORES AS BACILLUS ANTHRACIS SIMULANT, NANCY CLARK BURTON, Atin Adhikari, Sergey Grinshpun, and Tiina Reponen, Center for Health-Related Aerosol Studies, Department of

Environmental Health, University of Cincinnati, Cincinnati, OH, USA

7PC5 QUANTITATIVE TECHNIQUE FOR TESTING BIOAEROSOL SAMPLERS,VLADIMIR B. MIKHEEV, Maria L. Luna, and Patricia M. Irving, InnovaTek, Richland, WA, USA

7PC6 INACTIVATION RATES OF AIRBORNE BACILLUS SUBTILIS CELLS AND SPORES BY A SOFT X-RAY ENHANCED CORONA SYSTEM, ERIC KETTLESON, Myonghwa Lee, Largus Angenent, Pratim Biswas, Washington University in St. Louis, St. Louis, MO

7PC7 QUANTIFICATION OF AIRBORNE MYCOBACTERIUM TUBERBUSLOSIS IN HEALTH CARE SETTING BY REAL-TIME QPCR, Pei-Shih Chen and CHIH-SHAN LI, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan

7PC8 SAMPLING PERFORMANCE OF IMPINGEMENT AND FILTRATION FOR BIOAEROSOLS BY VIABILITY USING FLUOROCHROME AND FLOW CYTOMETRY, Pei-Shih Chen and CHIH-SHAN LI, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan

7PC9 REAL-TIME QUANITITATIVE PCR WITH GENE PROBE, FLUOROCHROME, AND FLOW CYTOMETRY FOR MICROORGANISM ANALYSIS, Pei-Shih Chen and CHIH-SHAN LI, Graduate Institute of Environmental Health College of Public Health, National Taiwan University, Taipei, Taiwan

7PC10 ULTRAVIOLET GERMICIDAL IRRADIATION AND TITANIUM DIOXIDE PHOTOCATALYST FOR CONTROLLING LEGIONELLA PNEUMOPHILA, Chun-Chieh Tseng and CHIH-SHAN LI, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, R.O.C.

7PC11 STERILIZATION OF BIOLOGICALLY CONTAMINATED AIR AND SURFACES USING ELECTROSTATIC FIELDS, Maosheng Yao, GEDIMINAS MAINELIS, Rutgers University, New Brunswick, NJ

12:40 PM – 2:40 PM Grand Hall East
7PD. Aerosol Synthesis of Nanomaterials I

7PD1 FORMATION OF ZN, CU AND CARBON PARTICLES BY CO2 LASER ABLATION, ANATOLI BAKLANOV, Tatjana Fedirko, Institute of Chemical Kinetics and Combustion, Novosibirsk, Russia

7PD2 SINGLE WALLED CARBON NANOTUBE SYNTHESIS BY A NOVEL AEROSOL METHOD,

ALBERT G. NASIBULIN, Centre for New Materials, Helsinki University of Technology; Anna Moisala, Centre for New Materials, Helsinki University of Technology; Hua Jiang, VTT Processes, Aerosol Technology Group; David P. Brown, Centre for New Materials, Helsinki University of Technology; Esko I. Kauppinen, Centre for New Materials, Helsinki University of Technology and VTT Processes, Aerosol Technology Group, Finland

7PD4 THE EVOLUTION OF METAL OXIDE AEROSOLS IN FLAMES: AN ELECTRON MICROSCOPY STUDY WITH THERMOPHORETIC SAMPLING, BING GUO, Ian M. Kennedy, University of California, Davis, CA

7PD5 SYNTHESIS OF TIN OXIDE NANOPARTICLES USING A COMMERCIAL ARC WELDER, JUNHONG CHEN Esam Abu-Zahra Ganhua Lu University of Wisconsin-Milwaukee Milwaukee, WI 53211

7PD6 SYSTEMATIC STUDY OF EFFECT OF CORONA-SOFT X-RAY ON NANOPARTICLE SYNTHESIS IN A FURNACE REACTOR, Kuk Cho, Joonghyuk Kim, Myonghwa Lee, PRATIM BISWAS, Environmental Engineering Science, Washington University in St. Louis, St. Louis, MO; Sangsoo Kim, Korean Advanced Institute of Science and Technology, Seoul, Korea

7PD7 MORPHOLOGICAL STUDY ON THE TIO2 PARTICULATE DEPOSITED ON THE TEMPERATURE CONTROLLED SUBSTRATE, Hyuksang Chang, Yeungnam University, Gyeongsang buk-do, Korea

7PD8 HIGH TEMPERATURE HEAT AND MASS TRANSFER OF OXIDIZING TUNGSTEN PARTICLE WITH ACCOUNT OF STEFAN FLUX, SVETLANA ORLOVSKAYA, Valerii Kalinchak, Tatyana Gryzunova, Odessa National Mechnikov's University, Odessa, Ukraine

7PD9 SPRAY PYROLYSIS SYNTHESIS AND PROPERTIES OF LANTHANIDE - DOPED YTTRIUM OXIDE NANOPARTICLES WITH DIFFERENT FLUORESCENT SPECTRA, DOSI DOSEV, Bing Guo, Ian Kennedy, University of California Davis, Davis, CA

7PD10 A BROWNIAN DYNAMICS SIMULATION TO PREDICT THE FRACTAL DIMENSION OF AGGLOMERATES WITH COLLISION AND SINTERING, KUK CHO and Pratim Biswas; Aerosol and Air Quality Research Laboratory; Chemical Engineering, Washington University in St. Louis, St. Louis, MO

12:40 PM – 2:40 PM Grand Hall East
7PE. Indoor Aerosols I

7PE1 THE EFFECT OF RESUSPENSION ON HUMAN EXPOSURE AND RESIDENCE TIME OF INDOOR PM10, Andrea Ferro, JING QIAN, Clarkson University, Potsdam, NY

7PE2 PARTICLE TRANSPORT BY FOOT TRAFFIC: TRACKING AND RESUSPENSION, MARK R. SIPPOLA and Tracy L. Thatcher, Indoor Environment Department, Environmental Energy Technologies Division, Ernest Orlando Lawrence Berkeley National Laboratory, Berkeley, CA USA

7PE3 DESIGN AND CHARACTERIZATION OF A RESUSPENSION CHAMBER FOR RESUSPENSION STUDIES, JONATHAN THORNBURG, Charles Rodes, Doug VanOsdell, RTI International, Research Triangle Park, NC; Jacky Rosati, US EPA, Research Triangle Park, NC

7PE4 EXAMINATION OF THE TRANSPORT OF SMALL AIRBORNE PARTICLES WITHIN A ROOM, JENNIFER RICHMOND-BRYANT, Alfred D. Eisner, Laurie A. Brixey, ManTech Environmental Technologies, Inc., Research Triangle Park, NC; Russell W. Wiener, U.S. EPA, Research Triangle Park, NC

7PE5 MATHEMATICAL MODELING OF MICROCLIMATE AND SPREAD OF AEROSOL POLLUTANTS WITHIN LARGE BUILDINGS, Sergei Sarmanaev, ALEXANDER BORODULIN, Boris Desyatkov, SRC VB ''Vector'', Koltsovo, Novosibirsk region, Russia

7PE6 POLLUTANT TRANSPORT IN INDOOR AIR - A THREE DIMENSIONAL MODEL, KAMBIZ NAZRIDOUST, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY

7PE7 CFD MODELING OF SIZE-RESOLVED PARTICLE DISTRIBUTION AND DEPOSITION IN A VENTILATED CHAMBER, Alvin Lai, FANGZHI CHEN, School of Mechanical and Production Engineering, Nanyang Technological University, Singapore

7PE8 SUPERMICRON PARTICLE DEPOSITION FROM TURBULENT FLOW ONTO SMOOTH AND ROUGH VERTICAL SURFACES: PART 1 - EXPERIMENTAL STUDY, ALVIN LAI, School of Mechanical and Production Engineering, Nanyang Technological University, Singapore; William Nazaroff, Department of Civil and Environmental Engineering, University of California, Berkeley, CA

12:40 PM – 2:40 PM Grand Hall East
8PA. Urban/Regional PM I

8PA1 THE RESEARCH OF THE QUANTITATIVE RELATIONSHIP BETWEEN METEOROLOGICAL CONDITION AND FINE PARTICLES IN BEIJING, JINGLI WANG, Conglan Cheng, Xiaofeng Xu,

Institute of Urban Meteorology, CMA, Beijing; Yuanhang Zhang,Min Shao, Limin Zeng, State Joint Key Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences, Peking University; Xulin Liu, Beijing Meteorological Information and Network Center

8PA2 ANALYSIS OF SMOG EPISODE IN KOREA IN MAY 2003, YOUNG SUNG GHIM, Air Resources Research Center, Korea Institute of Science and Technology, Seoul, Korea; Jae-Gwang Won, School of Earth and Environmental Sciences, Seoul National University, Seoul, Korea; Shang Gyoo Shim, Kil-Choo Moon, Air Resources Research Center, Korea Institute of Science and Technology, Seoul, Korea; Il Soo Park, Atmospheric Physics Division, National Institute of Environmental Research, Seoul, Korea

8PA3 A MORPHOLOGICAL STUDY OF AMBIENT PARTICLES IN A SUBURBAN AREA (MADRID, SPAIN) RELATED TO THEIR AERODYNAMIC SIZE, ESTHER COZ, Francisco J. Gomez-Moreno, Manuel Pujadas, Begona Artinano, CIEMAT, Dept. Combustibles Fosiles, Madrid, Spain

8PA4 FUEL-BASED PARTICULATE MATTER AND GASEOUS EMISSION FACTORS DETERMINED FROM VEHICLES IN PITTSBURGH, PA'S SQUIRREL HILL TUNNEL, ANDREW P. GRIESHOP, Eric M. Lipsky, Allen L. Robinson, Carnegie Mellon University, Pittsburgh, PA

8PA5 MEASUREMENTS OF NITRATE PARTICLES IN PITTSBURGH USING RAPID SINGLE PARTICLE MASS SPECTROMETER, YONGJING ZHAO, Keith J. Bein, and Anthony S. Wexler, Mechanical and Aeronautical Engineering, Civil and Environmental Engineering, and Land, Air and Water Resources, University of California, Davis, CA; Michael P. Tolocka and Murray V. Johnston, Department of Chemistry and Biochemistry, University of Delaware, Newark, DE

8PA6 IN-SITU CONCENTRATION OF SEMI-VOLATILE AEROSOL USING WATER-CONDENSATION TECHNOLOGY, ANDREY KHLYSTOV, Duke University, Durham, NC; Qi Zhang, Jose-Luis Jimenez, University of Colorado, Boulder, CO; Charlie Stanier, Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA; Manjula R. Canagaratna, Aerodyne Research Inc., Billerica, MA; Philip Fine, Chandan Misra, Constantinos Sioutas, University of Southern California, Los Angeles, CA

8PA7 SPATIAL AND TEMPORAL VARIABILITY OF AMBIENT AEROSOL IN THE MEXICO CITY METROPOLIAN AREA, DOUGLAS R.WORSNOP, Manjula Canagaratna, Timothy B. Onasch, John T. Jayne, Scott Herndon, Phil Mortimer, Charles E. Kolb, Aerodyne Research, Inc., Billerica, MA;

Berk Knighton, Montana State University, Bozeman, MT; Ed Dunlea, Linsey Marr, Mario Molina, Luisa Molina, MIT, Cambridge, MA; Dara Salcedo, Universidad Iberoamericana Mexico; Katja Dzepina, Jose L Jimenez, Dept. of Chemistry and Biochemistry, University of Colorado, Boulder, CO

8PA8 CHEMICAL COMPOSITION OF PARTICLES AND THE LIGHT EXTINCTION ANALYSIS IN GUANGZHOU CITY, CHINA, MIN SHAO, Limin Zeng, Yuanhang Zhang, College of Environmental Sciences, Peking University, Beijing, P.R.China

8PA9 GROUND-BASED MEASUREMENTS OF SUBMICRON AEROSOLS IN TOKYO USING THE AERODYNE AEROSOL MASS SPECTROMETER, NOBUYUKI TAKEGAWA, Yutaka Kondo, Takuma Miyakawa, Yuzo Miyazaki, Yuichi Komazaki, University of Tokyo, Tokyo, Japan; Jose-Luis Jimenez, University of Colorado, Boulder, CO; John T. Jayne, Douglas R. Worsnop, Aerodyne Research, Inc., Billerica, MA

8PA10 FIELD EVALUATION OF A LAMINAR-FLOW, WATER-BASED CONDENSATION PARTICLE COUNTER, SUSANNE V. HERING, Aerosol Dynamics Inc., Berkeley, CA; Olga Hogrefe, G.Garland Lala and Kenneth L. Demerjian, ASRC, University at Albany, Albany, NY

8PA11 EFFECTS OF AIRBORNE PARTICLES AND RAINFALL ON BUILDING DETERIORATION: NUMERICAL MODELING AND FIELD MEASUREMENTS, Wei Tang, CLIFF I. DAVIDSON, Carnegie Mellon University, Pittsburgh, PA

12:40 PM – 2:40 PM Grand Hall East
8PB. Special Symposium: Heterogeneous & Multiphase Chemistry II

8PB1 MEASUREMENTS OF SIZE-DEPENDENT REACTIVITY OF ALUMINUM NANOPARTICLES USING SINGLE PARTICLE MASS SPECTROMETRY, KIHONG PARK, Ashish Rai, and Michael R. Zachariah;Co-laboratory on NanoParticle Based Manufacturing and Metrology, University of Maryland and National Institute of Standards and Technology, MD, USA; Donggeun Lee, School of Mechanical Engineering, Pusan National University, Busan, Korea

8PB2 CRYSTALS FORMED AT 293 K BY AQUEOUS SULFATE-NITRATE-AMMONIUM-PROTON AEROSOL PARTICLES, Julie C. Schlenker, Adam Malinowski, SCOT T. MARTIN, Hui-Ming Hung, and Yinon Rudich, Harvard University, Cambridge, MA

8PB3 EFFECTS OF AQUEOUS PHASE REACTIONS ON METHANESULFONATE-TO-NON-SEASALT-SULFATE RATIOS IN PARTICLES, LEI ZHU, School

of Earth and Atmospheric Sciences, Athanasios Nenes, School of Earth and Atmospheric Sciences & Chemical and Biomolecular Engineering, Paul Wine, School of Earth and Atmospheric Sciences & Chemistry and Biochemistry, J. Michael Nicovich, School of Chemistry and Biochemistry, GA Institute of Technology, Atlanta, GA

8PB4 SURFACE SPECTROSCOPY STUDIES OF THE REACTION OF OZONE WITH ALKALI HALIDE SALTS, JOHN T. NEWBERG, John C. Hemminger, University of California, Irvine, CA

8PB5 RELEASE OF REACTIVE BROMINE FROM THE PHOTOLYSIS OF NITRATE AND HYDROGEN PEROXIDE IN SEA-SALT SOLUTIONS, CORT ANASTASIO, Ingrid George, Atmospheric Science Program, Department of Land, Air & Water Resources, University of California - Davis, Davis, CA

8PB6 SURFACE ION MOBILITY MEASUREMENTS ON NACL CRYSTALS, STEPHANIE M. KING, Treavor A. Kendall, and Scot T. Martin, Harvard University, Cambridge, MA

8PB7 WATER ACTIVITY OF SODIUM CHLORIDE NANODROPLETS AND ITS CORRELATION WITH NITRIC ACID UPTAKE, THOMAS DAVID SAUL, Michael P. Tolocka & Murray V. Johnston, University of Delaware, Department of Chemistry and Biochemistry, Newark, DE

8PB8 SURFACTANT CONTROL OF HCL AND HBR UPTAKE INTO SUPERCOOLED SULFURIC ACID, SAMUEL GLASS, Jennifer Lawrence, Seong-Chan Park, Gilbert Nathanson, University of Wisconsin-Madison, Madison, WI

8PB9 DIRECT MEASUREMENTS OF THE HYGROSCOPIC GROWTH CYCLES IN AMBIENT AEROSOL POPULATIONS, JOSHUA L. SANTARPIA, Roberto Gasparini, Don R. Collins, Texas A&M University, College Station, TX

8PB10 METHANOL REACTION WITH SULFURIC ACID: APPLICATION TO ORGANO-SULFATE AEROSOL CHEMISTRY IN THE UPPER TROPOSPHERE, LISA L. VAN LOON and Heather C. Allen Department of Chemistry The Ohio State University Columbus, OH

8PB11 APPLICATIONS OF FT-IR SPECTROSCOPY TO THE STUDY OF AEROSOL HETEROGENEOUS CHEMISTRY, CINDY DEFOREST HAUSER, Kate Williams, Francois Trappey, Department of Chemistry, Davidson College, Davidson, NC

8PB13 COMPARISONS BETWEEN ABSORPTIVE PARTITIONING THEORY AND LABORATORY AND AMBIENT MEASUREMENTS FOR ORGANIC COMPOUNDS, P.A. MAKAR (1), M. Diamond (2),

D.J. Donaldson (3), J. Truong (2), A. Asad(3), N. H. Martinez(2), E. Demou(3), H. Visram(3). (1) Environment Canada, Toronto, Ontario, Canada; (2) Departments of Chemical Engineering and Geography, University of Toronto, Toronto, Ontario, Canada; (3) Department of Chemistry, University of Toronto, Toronto, Ontario, Canada

12:40 PM – 2:40 PM Grand Hall East
8PC. Indoor Aerosols II

8PC1 CHARACTERIZATION AND INHALATION DOSE ESTIMATION OF PARTICLES PRODUCED DURING SHOWERING, YUE ZHOU, Janet M. Benson, Clinton M. Irvin, Hammad Irshad, Yung-Sung Cheng, Lovelace Respiratory Research Institute, Albuquerque, NM

8PC2 AEROSOL EMISSIONS FROM LASER PRINTERS, AYANO NIWA, Lawrence Norcio, Pratim Biswas; Aerosol and Air Quality Research Laboratory; Environmental Engineering Science, Washington University in St. Louis, MO

8PC3 COLLECTION OF MICROBES IN HOSPITAL AIR ENVIRONMENTS USING THREE DIFFERENT SAMPLING METHODS., Krisaneya Sungkajuntranon, PARADEE CHUAYBAMROONG, Faculty of Public Health; Pipat Sribenjalux, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand

8PC4 INDOOR AIR QUALITY IN A SOUTH CAROLINA RESIDENCE, Hamp Crow, CHRISTOS CHRISTOFOROU, School of the Environment, Clemson University, Clemson, SC

8PC5 LABORATORY PERFORMANCE COMPARISON OF INDOOR AIR CLEANERS, TSUNG-SHI LIN, Chih-Chieh Chen, National Taiwan University; Yu-Mei Kuo, Chung Hwa College of Medical Technology, Taipei, Taiwan

8PC6 MICROANALYSIS OF INDOOR AEROSOLS FOR PREVENTIVE CONSERVATION OF CULTURAL HERITAGE, RENE VAN GRIEKEN, Ricardo Godoi, Velichka Kontozova, Zoya Spolnik, University of Antwerp, Belgium; Chul-Un Ro, Hallym University, ChunCheon, Korea

12:40 PM – 2:40 PM Grand Hall East
8PD. Aerosol Synthesis of Nanomaterials II

8PD2 COMBUSTION SYNTHESIS OF ULTRAFINE ANATASE TIO2 NANOPARTICLES IN A PREMIXED STAGNATION FLAME, Bin Zhao, Kei Uchikawa, HAI WANG, Department of Mechanical Engineering, University of Delaware; John, R. McCormick, Chao Ying Ni, Department of Materials Science and Engineering, University of Delaware; Jingguang G. Chen,Department of Chemical Engineering, University of Delaware, Newark, DE

8PD3 GENERATION AND GROWTH OF LICOO2 NANOPARTICLES IN A DIFFUSION FLAME REACTOR, Yong-Jae Suh, Chun Mo Seong, Korea Institute of Geoscience and Mineral Resources, Daejeon, Korea, CO; Churl Kyoung Lee, Kumoh Institute of Technology, Kumi, Korea

8PD4 HEAT AND MASS TRANSFER AND THERMAL DISTRACTION OF HARD FUEL WHEN LASER RADIATION ACTION, LARISA RYABCHUK, Mikle.Chesnokov, Odessa National I.I. Mechnikov's University, Odessa, Russia

8PD5 EXPERIMENTAL EVIDENCE FOR NON-UNIFORM FLOW IN A HORIZONTAL EVAPORATION/ CONDENSATION AEROSOL GENERATOR, Teddy Damour, SHERYL EHRMAN, Department of Chemical Engineering, University of Maryland, College Park, MD; Lisa Karlsson, Department of Materials Chemistry, Lund University, Lund, Sweden; Martin Karlsson, Knut Depprt, Department of Solid State Physics, Lund University, Lund, Sweden

8PD6 STRUCTURAL AND MAGNETIC PROPERTIES OF FLAME AEROSOL SYNTHESIZED NANOPARTICLES AS A FUNCTION OF SIZE, PRAKASH KUMAR, Pratim Biswas, Da-Ren Chen, Richard Axelbaum and Ronald Indeck; Aerosol and Air Quality Research Laboratory, Washington University in St. Louis, St. Louis, MO

8PD7 IN-SITU CONTROL OF AEROSOL SIZE DISTRIBUTIONS DURING LASER ABLATION OF ZINC OXIDE, MEVLUT BULUT, Renato P. Camata, University of Alabama at Birmingham, Department of Physics, Birmingham, AL

8PD8 AN AEROSOL METHOD FOR INCORPORATING METAL NANOPARTICLES IN AMORPHOUS CARBON FILMS FOR PROPERTY MODULATION, MEVLUT BULUT, Renato P. Camata, University of Alabama at Birmingham, Department of Physics, Birmingham, AL

8PD9 TWO-COMPONENT NANOPARTICLE GENERATION BY LIQUID FLAME SPRAY, JYRKI M. MÄKELÄ, Helmi Keskinen, Jorma Keskinen, Aerosol Physics Laboratory, Tampere University of Technology, Finland

8PD10 TURBULENT THREE-PHASE FLOWS IN A BUBBLE COLUMN, XINYU ZHANG, Goodarz Ahmadi, Clarkson University, Potsdam, NY

12:40 PM – 2:40 PM Grand Hall East
8PE. Chemical Characterization of Atmospheric Aerosols 2

8PE1 CHEMICAL COMPOSITION AND SIZE DISTRIBUTIONS OF NON-REFRACTORY SUBMICRON AEROSOL MEASURED DURING THE NEW ENGLAND AIR QUALITY STUDY 2004, MANJULA CANAGARATNA, Tim Onasch,

Douglas Worsnop, Aerodyne Research, Inc., Billerica, MA; Patricia Quinn, Tim Bates, Pacific Marine Environmental Laboratory, NOAA, Seattle, WA

8PE2 CHARACTERIZATION OF LABORATORY AND AMBIENT PARTICLES USING THE COMBINATION OF AEROSOL MASS SPECTROMETRY AND LIGHT SCATTERING TECHNIQUES, EBEN CROSS, Timothy B. Onasch, David K. Lewis, John T. Jayne, Manjula Canagaratna, Douglas Worsnop, Aerodyne Research, Inc., Billerica, MA; Edward Dunlea, Jose L Jimenez, Dept. of Chemistry and Biochemistry, University of Colorado, Boulder, CO

8PE3 RECENT AIRBORNE MEASUREMENTS USING AERODYNE AEROSOL MASS SPECTROMETER THE UK FACILITY FOR AIRBORNE ATMOSPHERIC MEASUREMENTS (FAAM), JONATHAN CROSIER, Hugh Coe, Mohammedrami Alfarra, James Allan, Keith N. Bower, Paul I. Williams, School Earth, Atmospheric and Environmental Sciences, The University of Manchester; Doug R. Worsnop, John T. Jayne, Aerodyne Research Inc., Billerica, MA; USA; Jose L. University of Colorado, Boulder, CO

8PE4 EVALUATION OF SINGLE-DIAMETER SMPS SAMPLING FOR CAPTURING ROADSIDE PARTICLE DYNAMICS, DEB NIEMEIER, University of California-Davis, Davis, CA; Britt A. Holmén, University of Connecticut, Storrs, CT

8PE5 PHYSICOCHEMICAL PROPERTIES OF PM2.5 EMISSIONS IN AN INDIVIDUAL MOLDING PROCESS AT THE FOUNDRY, M.-C. OLIVER CHANG, Judith Chow, John Watson, Desert Research Institute, Reno, NV; Cliff Glowacki, Anil Prabhu, Sue Anne Sheya, Technikon, LLC, McClellan Park, CA

8PE6 RADIOLOGICAL STUDY OF THE LOAD OF SEDIMENTS OR SILTS THE CHIHUAHUA VALLEY, Jorge Iván Carrillo Flores Luisa Idelia Manzanares Papayanopoulos Leonor Cortés Palacios Arturo Keer Rendón Eduardo Florencio Herrera Peraza

8PE7 MODEL-BASED PREDICTION OF NEW PARTICLE FORMATION FROM H2SO4-NH3-H2O NUCLEATION, Timothy Gaydos, CHARLES STANIER, Carnegie Mellon University, Pittsburgh, PA; Spyros Pandis, University of Patras, Patra, Greece and Carnegie Mellon University, Pittsburgh, PA

8PE8 IMPROVED CHARACTERIZATION OF PERSONAL EXPOSURE SAMPLES USING ICP-MS TECHNIQUES, MARTIN SHAFER, Glynis Lough, Joel Overdier, James Schauer, University of Wisconsin-Madison-Environmental Chemistry & Technology, WI; Mike Arndt, Chris Worley,

THURSDAY, OCTOBER 07, 2004
2:50 PM – 4:10 PM Platform Session 9

2:50 PM – 4:10 PM Courtland
9A. Combustion Aerosol Control
Chair: Chang-Yu Wu, Co-Chair: Herek Clack

2:50 PM	9A1	TURBULENT INTERPHASE MASS TRANSFER WITHIN GAS-POWDERED SORBENT SUSPENSIONS: EDDY DIFFUSIVITY CORRELATIONS, HEREK L. CLACK, Mohammed Aamer Ahmed, Illinois Institute of Technology, Chicago, IL
3:10 PM	9A2	TECHNOLOGIES FOR MERCURY REMOVAL USING FABRIC FILTER COLLECTORS FOR COAL-FIRED POWER PLANTS, Kenneth Noll, OBATOSIN ALUKO, Illinois Institute of Technology, Chicago, IL
3:30 PM	9A3	STUDY OF FINE AEROSOL SIZE DISTRIBUTION CHANGE DUE TO INTER-COAGULATION BY COARSE AEROSOL, SANG-RIN LEE, Chang-Yu Wu, Univerisity of Florida, Gainesville, FL
3:50 PM	9A4	A NOVEL APPROACH FOR THE CONTINUOUS DEPOSITION AND OXIDATION OF DIESEL PARTICULATE MATTER, REINHARD NIESSNER, Armin Messerer, Astrid Thalhammer, Elisabeth Dronia Ulrich Poeschl, Technical University Munich, Institute for Hydrochemist, Munich, Germany

2:50 PM – 4:10 PM Hanover DE
9B. Special Symposium: Heterogeneous & Multiphase Chemistry III
Chair: Mike Mozurkewich, Co-Chair: Rahul Zaveri

2:50 PM	9B1	INTERACTIONS BETWEEN SOOT AND NITROGEN OXIDE SPECIES, RAVISHANKARA, A. R., NOAA, Aeronomy Laboratory, Boulder, CO
3:10 PM	9B2	PRODUCTS AND MECHANISM OF THE HETEROGENEOUS REACTION OF NITRATE RADICALS WITH OLEIC ACID PARTICLES, Kenneth Docherty, Huiming Gong, PAUL ZIEMANN, Air Pollution Research Center, University of California, Riverside, CA
3:30 PM	9B3	UPTAKE AND REACTIONS OF ATMOSPHERIC TRACE GASES BY SURFACE FILMS, D. JAMES DONALDSON, Department of

		Chemistry, University of Toronto, Toronto, Ont, Canada
3:50 PM	9B4	THEORETICAL, IN SITU, AND LABORATORY CONSTRAINTS ON ORGANIC AEROSOL OXIDATION, NEIL DONAHUE, Allen Robinson, Carnegie Mellon University, Pittsburgh, PA

2:50 PM – 4:10 PM **Hanover FG**
9C. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol IV
Chair: Jean-Clare Seagrave, Co-Chair: Paige Tolbert

2:50 PM	9C1	LUNG TOXICITY OF AMBIENT PARTICULATE MATTER FROM SOUTHEASTERN US SITES WITH DIFFERENT CONTRIBUTING SOURCES, JEANCLARE SEAGRAVE, Jacob D. McDonald, Joe L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM; Eric S. Edgerton, ARA Inc, Cary, NC; J.J. Jansen, Southern Co, Birmingham, AL
3:10 PM	9C2	RESULTS OF ARIES EMERGENCY DEPARTMENT AND IMPLANTABLE DEFIBRILLATOR STUDIES, 1998-2002, PAIGE TOLBERT, Mitchel Klein, Jennifer Peel, Kristina Metzger, Dana Flanders, Rollins School of Public Health of Emory University, Atlanta, GA
3:30 PM	9C3	CAUSE OF DEATH AND ESTIMATED ASSOCIATIONS OF DAILY MORTALITY AND AMBIENT AIR QUALITY: ARIES, REBECCA KLEMM, Klemm Analysis Group, Inc., Washington, DC Fred Lipfert, Environmental Consultant, Northport, NY
3:50 PM	9C4	LINKING ATMOSPHERIC AEROSOL EXPOSURE TO HEALTH IMPACTS: MODEL DEVELOPMENT AND APPLICATIONS TO THE SOUTHEAST UNITED STATES, Quansong Tong and Denise Mauzerall, Science, Technology and Environmental Policy Program, Woodrow Wilson School, Princeton University, Princeton, NJ; Robert Mendelsohn, School of Forestry & Environmental Studies, Yale University, New Haven, CT

2:50 PM – 4:10 PM **Hanover AB**
9D. Aerosol Aggregates
Chair: Chris Sorenson, Co-Chair: Chang-Yu Wu

2:50 PM	9D1	GROWTH OF COMPLEX BRANCHED NANOSTRUCTURES RESEMBLING TREES VIA MULTIPLE SEEDING BY GOLD AEROSOL NANOPARTICLES,

		Kimberly A. Dick, KNUT DEPPERT, Werner Seifert, Thomas Mårtensson, Lars Samuelson, Solid State Physics, Lund University, Lund, Sweden; Magnus W. Larsson, L. Reine Wallenberg, Materials Chemistry, Lund University, Lund, Sweden
3:10 PM	9D2	AGGLOMERATION AND FRAGMENTATION OF AIRBORNE BIOLOGICAL NANOPARTICLES, CHRISTOPHER HOGAN, Myong-Hwa Lee, Da-Ren Chen and Pratim Biswas, Environmental Engineering Science, Washington University in St. Louis, MO
3:30 PM	9D3	THE EFFECTS OF FLUID TURBULENCE ON NANOPARTICLE COAGUATION, SEAN C. GARRICK, University of Minnesota, Minneapolis, MN
3:50 PM	9D4	DETACHMENT OF MICROPARTICLE AGGLOMERATES, A. H. Ibrahim, S. EscobarVargas, P. F. Dunn and R. M. Brach Particle Dynamics Laboratory University of Notre Dame, Notre Dame, IN

2:50 PM – 4:10 PM **Dunwoody**
9E. Nucleation/Ultrafine Aerosols
Chair: Charlie Stanier, Co-Chair: Ann Dillner

2:50 PM	9E1	SIZE-FRACTIONATED MEASUREMENTS OF AMBIENT ULTRAFINE PARTICLE CHEMICAL COMPOSITION IN LOS ANGELES USING THE NANOMOUDI, SATYA B. SARDAR, Philip M. Fine, Paul R. Mayo and Constantinos Sioutas, University of Southern California, Los Angeles, CA
3:10 PM	9E2	VOLATILITY PROPERTIES OF OUTDOOR AND INDOOR ULTRAFINE PARTICLES CLOSE TO A FREEWAY, THOMAS KUHN, Yifang Zhu, Margaret Krudysz, William C. Hinds, John Froines, Southern California Particle Center & Supersite, University of California, Los Angeles, CA; Philip M. Fine, Constantinos Sioutas, Southern California Particle Center & Supersite, University of Southern California, Los Angeles, CA
3:30 PM	9E3	ATMOSPHERIC ION-INDUCED NUCLEATION OF SULFURIC ACID AND WATER, EDWARD LOVEJOY, Karl Froyd, NOAA Aeronomy Laboratory, Boulder, CO; Joachim Curtius, Institut fur Physik der Atmosphere, Universitat Mainz, Mainz, Germany

3:50 PM	9E4	SIZE-DEPENDENT CHEMICAL COMPOSITION OF SUB-20 NANOMETER ATMOSPHERIC AEROSOL, KATHARINE F. MOORE, James N. Smith, Matt Dunn, Fred L. Eisele, National Center for Atmospheric Research, Boulder, CO; Peter H. McMurry, Melissa Fink, Mark R. Stolzenburg, University of Minnesota, Minneapolis, MN

THURSDAY, OCTOBER 07, 2004
4:30 PM – 5:50 PM Platform Session 10

4:30 PM – 5:50 PM Courtland
10A. Bioaerosol Analysis Instrumentation
Chair: Peter T.A. Reilly, Co-Chair: Edward Stuebing

4:30 PM	10A1	AN EFFICIENT & SELECTIVE BIOLOGICAL AEROSOL MONITORING SYSTEM, KEITH COFFEE, Vincent Riot, Bruce Woods, David Fergenson, Eric Gard, Lawrence Livermore National Laboratory, Livermore, CA; Greg Czerwieniec, Scott Russell, Carlito Lebrilla, University of California Davis, Davis, CA
4:50 PM	10A2	THE DETECTION AND CHARACTERIZATION OF BIO-AEROSOLS IN AN ION TRAP MASS SPECTROMETER BY MATRIX-ASSISTED LASER DESORPTION/IONIZATION, WILLIAM A. HARRIS, Peter T.A. Reilly, William B. Whitten, J. Michael Ramsey, Oak Ridge National Laboratory, Oak Ridge TN
5:10 PM	10A3	DETECTION OF PATHOGENIC BIOAEROSOLS BY MATRIX ASSISTED AEROSOL TIME-OF-FLIGHT MASS SPECTROMETRY, A.L.VAN WUIJCKHUIJSE, O. Kievit, and C. Kientz, TNO Prins Maurits Laboratory, Rijswijk, The Netherlands; M.A. Stowers and J.C.M. Marijnissen, Delft University of Technology, Delft, The Netherlands
5:30 PM	10A4	ENRICHMENT OF BIOAEROSOLS CUED FROM THEIR FLUORESCENCE SPECTRUM, YONG-LE PAN, Richard K. Chang, Department of Applied Physics and Center for Laser Diagnostics, Yale University, New Haven, CT; Veronique Boutou, Jean-Pierre Wolf, LASIM (UMR5579), Universite Claude Bernard Lyon, Villeurbanne Cedex, France

4:30 PM – 5:50 PM **Hanover DE**
10B. Toxicology
Chair: John Veranth, Co-Chair: Liya Yu

4:30 PM	10B1	GENERATION OF HYDROXYL RADICAL IN SIMULATED LUNG FLUID BY SOOT PARTICLES, HEEJUNG JUNG(1,2), Bing Guo(1), Cort Anastasio(2), Ian Kennedy(1) (1) Dept. of Mechanical & Aeronautical Engineering (2) Dept. of Land, Air, Water & Resources University of California, Davis, Davis, CA
4:50 PM	10B2	RELATIONSHIP BETWEEN TOXICITY AND COMPOSITION OF INHALED DIESEL EXHAUST, JACOB D. MCDONALD, Kevin S. Harrod, JeanClare S. Seagrave, and Joe L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM
5:10 PM	10B3	PARTICULATE EXPOSURE ADVERSELY LOWERS CARDIAC OUTPUT IN SENESCENT MICE., CLARKE G. TANKERSLEY, Djahida Bedja, Eiki Takimoto, Wayne Mitzner, Richard Rabold, Kathleen Gabrielson, Johns Hopkins Medical Institutes, Baltimore, MD
5:30 PM	10B4	USE OF A COMPACT CASCADE IMPACTOR TO COMPARE THE BIOLOGICAL ACTIVITY OF SIZE-SEGREGATED SAMPLES OF THREE OCCUPATIONAL AEROSOLS., LUPITA D. MONTOYA, Rensselaer Polytechnic Institute, Troy, NY; Ramon M. Molina, Joseph D. Brain, Harvard School of Public Health, Boston, MA

4:30 PM – 5:50 PM **Hanover FG**
10C. Special Symposium: Characterization and Health Effects of Ambient Southeastern U.S. Aerosol V
Chair: Annette Rohr, Co-Chair: Lance Wallace

4:30 PM	10C1	INFLUENCE OF ATMOSPHERIC FINE PARTICULATE MATTER ON RESPIRATORY HEALTH IN RURAL CENTRAL GEORGIA: RESULTS FROM THE GRASP HEALTH STUDY, MICHAEL O. RODGERS, James R. Pearson, Air Quality Laboratory, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA
4:50 PM	10C2	AIR POLLUTION AND ACUTE AMBULATORY CARE VISITS: PRELIMINARY 4-YEAR RESULTS FROM THE AEROSOL INHALATION AND EPIDEMIOLOGY STUDY (ARIES), AMBER H. SINCLAIR, Dennis Tolsma, Kaiser Permanente-Georgia, Atlanta, GA

5:10 PM	10C3	RELATIVE TOXICITIES OF INDOOR AND OUTDOOR FINE PARTICLES USING AN *IN VITRO* ASSAY, Ted Myatt, Daid MacIntosh, Environmental Health & Engineering, Inc., Newton, MA; Luke Naeher, Department of Environmental Health Sciences, University of Georgia, Athens, GA; HELEN SUH, Department of Environmental Health, Harvard School of Public Health, Boston, MA
5:30 PM	10C4	CAN WE DETERMINE PENETRATION COEFFICIENTS AND DEPOSITION RATES FROM FIELD STUDIES? RESULTS OF A 37-PERSON PANEL STUDY IN NORTH CAROLINA, LANCE WALLACE, Ronald Williams, National Exposure Research Laboratory, Research Triangle Park, NC

4:30 PM – 5:50 PM **Hanover AB**
10D. Particle Formation Processes
Chair: Doug Doren, Co-Chair: Prakash Kumar

4:30 PM	10D1	NANOPARTICLE DYNAMICS IN LASER ABLATION PROCESS, DA-REN CHEN, Washington University in St. Louis, St. Louis, MO; Doh-Won Lee and Meng-Dawn Cheng, Oak Ridge National Laboratory, Oak Ridge, TN
4:50 PM	10D2	NUCLEATION RATES FOR THE CONDENSATION OF MONOVALENT METALS, Ranjit Bahadur, RICHARD B. MCCLURG, University of Minnesota, Minneapolis, MN
5:10 PM	10D3	NUCLEATION OF ALCOHOLS IN SUPERSONIC NOZZLES, Murad Gharibeh, BARBARA WYSLOUZIL, The Ohio State University, Columbus, OH; Yoojeong Kim, Worcester Polytechnic Institute, Worcester, MA; David Ghosh, Reinhard Strey, Universitaet zu Koeln, Koeln, Germany
5:30 PM	10D4	ION-INDUCED NUCLEATION IN DIPOLAR VAPOURS, ALEXEY NADYKTO, Fangqun Yu, Atmospheric Sciences Research Centers; SUNY at Albany, Albany, NY

4:30 PM – 5:50 PM **Dunwoody**
10E. Carbonaceous Aerosols III
Chair: Barb Turpin, Co-Chair: Andrea Polidori

4:30 PM	10E1	A FIELD INVESTIGATION OF THE PROCESSING OF POLLUTED ORGANIC AEROSOL AND ITS IMPACT ON AEROSOL PROPERTIES, HUGH COE, Rami Alfarra, J.D. Allan, K. N.

		Bower, P. I. Williams, M. Flynn, D.O. Topping, G. McFiggans, The University of Manchester, Manchester, UK; G. Coulson, I. Colbeck, The University of Essex, Colchester, UK; M.-C. Facchini, S. Fuzzi, S.Decesari, ISAC, Bologna, Italy; A. Berner, The University of Vienna, Austria; U. Poeschl, The University of Munich, Germany; A. S. Lewis, J. Hopkins, The University of York, UK; D. R. Worsnop, J.T. Jayne, Aerodyne Research Inc, Billerica, MA; J. L. Jimenez, University of Colorado, Boulder, CO
4:50 PM	10E2	SEASONAL AND SPATIAL VARIATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) IN VAPORPHASE AND PM2.5 IN THE CALIFORNIA CHILDRENÆS HEALTH STUDY, ARANTZA EIGUREN-FERNANDEZ, Suresh Thurairatnam, Antonio H.Miguel, SCPCS, University of California, Los Angeles, CA, USA and Ed L. Avol, Department of Preventive Medicine, University of Southern California, Los Angeles, CA
5:10 PM	10E3	THE INFLUENCE OF FOREST FIRES IN THE WESTERN UNITED STATES ON POLLUTANT CONCENTRATIONS IN CALIFORNIA DURING THE SUMMER OF 2002, MELISSA LUNDEN, Douglas Black, Nancy Brown, Lawrence Berkeley National Laboratory, Berkeley, CA; Gavin McMeeking, Sonia Kreidenweis, Christian Carrico, Taehyoung Lee, Jacqueline Carrillo, Jeffrey Collett, Jr., Department of Atmospheric Science, Colorado State University, Fort Collins, CO; Derek Day, Jennifer Hand and William Malm, CIRA, Colorado State University, Fort Collins, CO
5:30 PM	10E4	AEROSOL BLACK CARBON CLIMATOLOGY AT THE ST. LOUIS - MIDWEST SUPERSITE, JAY R. TURNER, Neil D. Deardorff, Bradley P. Goodwin, Jason S. Hill, Washington University, St. Louis, MO; Min-Suk Bae, James J. Schauer, University of Wisconsin, Madison, WI

THURSDAY, OCTOBER 07, 2004
6:00 PM – 8:00 PM **Posters #2 Open**
Grand Hall East

FRIDAY, OCTOBER 08, 2004
8:00 AM – 9:15 AM **Plenary Session #4**
Centenial III

8:00 AM		Announcements and recognition of Board Members and Committee Chairs
8:10 AM		Presentation of the Benjamin Y.H. Liu Award and the Sheldon K. Freidlander Award, George Mulholland, Awards Committee Chair
8:30 AM		CHARACTERIZATION OF ATMOSPHERIC AEROSOLS: YESTERDAY AND TODAY, Susanne Hering, Aerosol Dynamics, Inc., Berkeley, CA

FRIDAY, OCTOBER 08, 2004
9:30 AM – 10:50 AM Platform Session 11

9:30 AM – 10:50 AM Courtland
11A. Personal Aerosol Samplers
Chair: David Fergenson, Co-Chair: Andrew Maynard

9:30 AM	11A1	MINIATURIZED TAPERED ELEMENT OSCILLATING MICROBALANCE PERFORMANCE IN A PERSONWEARABLE DUST MONITOR., JON C. VOLKWEIN, Robert P. Vinson, and Donald P. Tuchman; CDC/NIOSH, Pittsburgh, PA
9:50 AM	11A2	EVALUATION OF THE COLLECTION EFFICIENCY OF A PERSONAL MICROTRAP AEROALLERGEN SAMPLER, LUPITA D. MONTOYA, Rensselaer Polytechnic Institute, Troy, NY; Nathan M. Kreisberg, Aerosol Dynamics Inc., Berkeley, CA
10:10 AM	11A3	FIELD VALIDATION OF A PERSONAL CASCADE IMPACTOR SAMPLER (SIOUTAS IMPACTOR) FOR TRACE-LEVEL COMPOSITION MEASUREMENTS, MANISHA SINGH, Philip M. Fine, Constantinos Sioutas, Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, CA; Glynis C. Lough, James J. Schauer, Martin M. Shafer, University of Wisconsin-Madison Environmental Chemistry and Technology Program, Madison, WI
10:30 AM	11A4	A PASSIVE AEROSOL SAMPLER TO MEASURE ULTRAFINE PARTICLE EXPOSURE, THOMAS PETERS, University of Iowa, Iowa City, IA; David Leith, Stephen Rappaport, University of North Carolina, Chapel Hill, NC

9:30 AM – 10:50 AM **Hanover DE**
11B. Special Symposium: Heterogeneous & Multiphase Chemistry IV
Chair: Diane Michelangeli, Co-Chair: Britt Holmen

9:30 AM	11B1	OZONOLYSIS OF ORGANIC AEROSOLS: KINETICS AND FORMATION OF HIGH MOLECULAR WEIGHT PRODUCTS, MICHAEL TOLOCKA, Matthew Dreyfus, Julie Lloyd and Murray Johnston, University of Delaware, Newark, DE
9:50 AM	11B2	IDENTIFICATION OF POLYMERS AS MAJOR COMPONENTS OF ATMOSPHERIC ORGANIC AEROSOLS, Urs Baltensperger, Dwane Paulsen, Martin Steinbacher, Josef Dommen, Rebekka Fisseha, ANDRE S.H. PREVOT, Laboratory of Atmospheric Chemistry, Paul Scherrer Institut, Switzerland; Markus Kalberer, Myriam Sax, Vladimir Frankevich, Renato Zenobi, Chemistry and Applied Biosciences, ETH Zürich, Switzerland
10:10 AM	11B3	A DETAILED MODELLING STUDY OF THE EVOLUTION OF ORGANIC AEROSOLS, GORDON MCFIGGANS, Dave Topping, Mike Cubison, Hugh Coe, Atmospheric Physics Group, UMIST, Manchester, UK; Mike Jenkin, Imperial College, London, UK
10:30 AM	11B4	FAST SIZE-RESOLVED AEROSOL COMPOSITION MEASUREMENTS IN MEXICO CITY WITH AN AMS, JOSE L. JIMENEZ, Katja Dzepina, Matthew Dunn, Peter DeCarlo, Qi Zhang, and Alex Huffman, University of Colorado-Boulder; Dara Salcedo, Universidad Iberoamericana, Mexico City; Timothy Onasch, Douglas R. Worsnop, Phillip Mortimer, John T. Jayne, and Manjula R. Canagaratna, Aerodyne Research; Beatriz Cardenas, CENICA; Rainer Volkamer, Benjamin de Foy, Kirsten Johnson, Bilal Zuberi, Mario Molina, and Luisa Molina, MIT; James Smith, NCAR; Peter McMurry, University of Minnesota; and Jeffrey Gaffney and Nancy Marley, Argonne National Laboratory

9:30 AM – 10:50 AM **Hanover FG**
11C. Bioaerosols
Chair: Sergey Grinshpun, Co-Chair: Gedi Mainelis

9:30 AM	11C1	AEROSOLIZATION OF MICROORGANISMS AND MICROBIAL FRAGMENTS FROM METALWORKING FLUIDS, HONGXIA WANG, Atin

		Adhikari, Weixin Li, Dainius Martuzevicius, Klaus Willeke, Sergey Grinshpun, Tiina Reponen, Center for Health-Related Aerosol Studies, Department of Environmental Health, University of Cincinnati, OH
9:50 AM	11C2	PERFORMANCE AND DESIGN OF A SINGLE-PASS "BUBBLING" BIOAEROSOL GENERATOR, GEDIMINAS MAINELIS, Rutgers University, New Brunswick, NJ; Rudolph Jaeger, CH Technologies, Westwood, NJ; David Berry, Hey Reoun An, Maosheng Yao, Rutgers University, New Brunswick, NJ; Kevin DeVoe, BGI Inc., Waltham, MA
10:10 AM	11C3	SAMPLING EFFICIENCY AND STORAGE EFFECTS FOR VIRUS AEROSOL, Chun-Chieh Tseng and CHIH-SHAN LI, Graduate Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, R.O.C.
10:30 AM	11C4	IDENTIFICATION AND CHARACTERIZATION OF AUREOBASIDIUM IN THE OUTDOOR AIR IN PASADENA, RICHARD C. FLAGAN, Philip E. Taylor, California Institute of Technology, Pasadena, CA; M. Michael Glovsky, Huntington Memorial Research Institute, Pasadena, CA; Robert Esch, Greer Laboratories, Lenoir, NC

9:30 AM – 10:50 AM **Hanover AB**
11D. Soot Formation and Characterization
Chair: George Mulholland, Co-Chair: Chris Sorensen

9:30 AM	11D1	A STUDY OF THE CRITERIA FOR SOOT INCEPTION IN OXYGEN ENHANCED COFLOW FLAMES, BENJAMIN KUMFER, Richard Axelbaum, Washington University, St. Louis, MO
9:50 AM	11D2	REACTION PROPERTIES OF TEM-OBSERVABLE PRIMARY SOOT PARTICLES IN FLAME ENVIRONMENTS, C.H. Kim, A.M. El-Leathy, G.M. FAETH, University of Michigan, Ann Arbor, MI; F. Xu, University of Central Florida, Orlando, FL
10:10 AM	11D3	ON THE FRACTAL DIMENSION AND EFFECTIVE DENSITY OF SOOT PARTICLES, MATTI MARICQ, Ning Xu, Research, Ford Motor Co., Dearborn, MI

10:30 AM	11D4	CHARACTERIZATION OF DIESEL SOOT WITH SYNCHROTRON TECHNIQUES, ARTUR BRAUN, Naresh Shah, Frank E. Huggins, Yuanzhi Chen, Gerald P. Huffman, Consortium for Fossil Fuel Science, Lexington, KY; Kerry E. Kelly, Adel Sarofim, University of Utah, Salt Like City, UT; Sue Wirick, Christoper Jacobsen, SUNY Stony Brook, NY; Simon Bongjin Mun, Zahid Hussain, Berkeley National Laboratory, Berkeley, CA; Matti Maricq, Ford Motor Company, Deerborn, MI; Jan Ilvsky, Purdue University, IN; Pete R. Jemian, University of Chicago, Chicago, IL; Steven N. Ehrlich, Brookhaven National Laboratory, Upton, NY; Alena Kubatova, University of North Dakota, Grand Forks, ND

9:30 AM – 10:50 AM Dunwoody
11E. Atmospheric Aerosol Modeling II
Chair: Donald Dabdub, Co-Chair: Marco Rodriguez

9:30 AM	11E1	FORMATION AND REMOVAL OF AMMONIUM NITRATE AND ITS PRECURSORS: IMPLICATIONS FOR PM2.5 CONTROL STRATEGIES, Dimitris Vayenas, University of Ioannina, Agrinio, Greece; SATOSHI TAKAHAMA, Cliff Davidson, Spyros Pandis, Carnegie Mellon University, Pittsburgh, PA
9:50 AM	11E2	A COMPUTATIONALLY EFFICIENT MODEL FOR MULTICOMPONENT ACTIVITY COEFFICIENTS IN AQUEOUS SOLUTIONS, RAHUL A. ZAVERI, Richard C. Easter, Pacific Northwest National Laboratory, Richland, WA; Anthony S. Wexler, University of California, Davis, CA
10:10 AM	11E3	THE PREDICTED EFFECTS OF DISSOLVED INORGANIC SALTS ON THE FORMATION OF AEROSOL PARTICULATE MATTER CONTAINING ORGANIC COMPOUNDS AND WATER, GARNET B. ERDAKOS, James F. Pankow, OGI School of Science & Engineering at OHSU, Department of Environmental and Biomolecular Systems, Beaverton, OR
10:30 AM	11E4	AN UPDATED AMMONIA EMISSION INVENTORY FOR THE CONTINENTAL UNITED STATES, CLIFF DAVIDSON, Ross Strader, Carnegie Mellon University, Pittsburgh, PA

FRIDAY, OCTOBER 08, 2004
11:10 AM – 12:30 AM Platform Session 12

11:10 AM – 12:30 AM Courtland
12A. New Concepts in Instrumentation
Chair: Suresh Dhalia, Co-Chair: Eugene Kim

11:10 AM	12A1	ELEMENTAL COMPOSITIONS OF INDIVIDUAL PARTICLES WITH A LASER-INDUCED PLASMA SOURCE FOR MASS SPECTROMETRY, Shenyi Wang, Hong Chen, MURRAY JOHNSTON, Chemistry and Biochemistry Department, University of Delaware, Newark, DE
11:30 AM	12A2	REAL-TIME MEASUREMENT OF THE MASS AND COMPOSITION OF PARTICLES, PETER T. A. REILLY, Kenneth C. Wright, William B. Whitten, J. Michael Ramsey Oak Ridge National Laboratory, Oak Ridge, TN
11:50 AM	12A3	DEVELOPMENT OF AEROSOL MOBILITY SIZE SPECTROMETER, PRAMOD KULKARNI, Jian Wang, Brookhaven National Laboratory, Upton, NY
12:10 PM	12A4	A NEW GAS AND PARTICLE ANALYZER: CONTINUOUS ION MOBILITY SPECTROMETER (C-IMS), MANG ZHANG, Beelee Chua, Anthony S. Wexler University of California, Davis, CA

11:10 AM – 12:30 AM Hanover DE
12B. Special Symposium: Heterogeneous & Multiphase Chemistry V
Chair: Paul Makar, Co-Chair: Murray Johnston

11:10 AM	12B1	RECENT RESULTS IN SECONDARY ORGANIC AEROSOL FORMATION, JOHN SEINFELD, Song Gao, Sally Ng, Melita Keywood, Varuntida Varutbangkul, Roya Bahreini, Jason Surratt, Jesse Kroll, Fred Brechtel, Richard Flagan, California Institute of Technology, Pasadena, CA.
11:30 AM	12B2	A THERMODYNAMIC APPROACH TO EVALUATING THE EXTENT TO WHICH ALPHA-PINENE AND ISOPRENE MAY CONTRIBUTE TO ORGANIC PARTICULATE MATTER VIA THE FORMATION OF OLIGOMERS, KELLEY BARSANTI, James Pankow, OGI School of Science and Engineering at OHSU, Portland, OR
11:50 AM	12B3	A PREDICTIVE MODEL FOR ORGANIC AEROSOL GROWTH BY HETEROGENEOUS ACID-CATALYZED REACTIONS OF ORGANIC CARBONYLS, MYOSEON JANG,

		Nadine Czoschke, Amenda Northcross, The University of North Carolina at Chapel Hill, Chapel Hill, NC
12:10 PM	12B4	PANEL DISCUSSION ON ORGANIC AEROSOL FORMATION AND REACTIONS IN THE ATMOSPHERE

11:10 AM – 12:30 AM Hanover FG
12C. Health Related Aerosol Characterization II
Chair: Gedi Mainelis, Co-Chair: Michael Kleinman

11:10 AM	12C1	A NEW METHOD TO EVALUTE RESPIRATORY PROTECTION PROVIDED BY N95 RESPIRATORS AGAINST AIRBORNE DUST AND MICROORGANISMS IN AGRICULTURAL FARMS, SHU-AN LEE, Atin Adhikari, Sergey A. Grinshpun, Tiina Reponen, Center for Health-Related Aerosol Studies, Department of Environmental Health, University of Cincinnati, Cincinnati, OH
11:30 AM	12C2	AEROSOL-BORNE HYDROPEROXIDES IN URBAN AIR, Chuautemoc Arellanes and SUZANNE E. PAULSON Atmospheric Sciences Department, University of California at Los Angeles, CA, Alam S. Hasson Department of Chemistry, California State University Fresno, CA
11:50 AM	12C3	FOREIGN PARTICLE CHARACTERIZATION IN INHALATION DRUG PRODUCTS: BENEFITS OF AUTOMATED MICRO RAMAN, OLIVER VALET. rap.ID Particle Systems, Berlin; Markus Lankers, rap.ID Particle Systems, Berlin; Michael Niemann, Boehringer Ingelheim, Ingelheim
12:10 PM	12C4	VARIABILITY IN BLACK CARBON CONCENTRATIONS FOR DIFFERENT TEMPORAL AND SPATIAL SCALES IN THE NEW YORK METROPOLITAN AREA, Yair Hazi, Dept. of Env. Health Sciences of Columbia University; New York, NY; STEVEN CHILLRUD, Farnosh Family, James Ross, David Friedman, Lamont-Doherty Earth Observatory of Columbia University, New York, NY; Deepti K.C., Juan Correa, Molini Patel, Patrick Kinney, Mailman School of Public Health of Columbia University; Swati Prakash, West Harlem Environmental Action, Harlem, NY; Marian Feinberg, South Bronx Clean Air Coalition, Bronx, NY

11:10 AM – 12:30 AM Hanover AB
12D. Biological and Coarse PM
Chair: Paul Solomon, Co-Chair: Jordan Peccia

11:10 AM	12D1	CORRELATIONS BETWEEN BIOGENIC VOLATILE ORGANIC COMPOUNDS, ANTHROPOGENIC POLLUTANTS, AND AEROSOL FORMATION IN A SIERRA NEVADA PINE FOREST, MELISSA LUNDEN, Douglas Black, Nancy Brown, Atmospheric Science Department, Lawrence Berkeley National Laboratory, Berkeley, CA; Anita Lee, Gunnar Schade and Allen Goldstein, Department of Environmental Science, Policy, and Management, University of California, Berkeley, CA
11:30 AM	12D2	MULTIPLE UV WAVELENGTH EXCITATION AND FLUORESCENCE OF BIOAEROSOLS, VASANTHI SIVAPRAKASAM, Alan Huston, Cathy Scotto, Jay Eversole, Naval Research Laboratory, Washington DC
11:50 AM	12D3	MULTI-SITE PERFORMANCE EVALUATIONS OF CANDIDATE METHODOLOGIES FOR DETERMINING COARSE PARTICULATE MATTER (PMC) CONCENTRATIONS ROBERT VANDERPOOL,Thomas Ellestad, Timothy Hanley, Richard Scheffe, USEPA, RTP, NC; Paul Solomon, USEPA, Las Vegas, NV; Christopher Noble, Sanjay Natarajan, Robert Murdoch, RTI International, RTP, NC; Jeffrey Ambs, Rupprecht & Patashnick Co., Inc., East Greenbush, NY; G. J. Sem, TSI Inc., Shoreview, MN; John Tisch, Tisch Environmental, Inc., Cleves, OH
12:10 PM	12D4	CONTINUOUS MEASUREMENT OF PARTICLE MASS CONCENTRATION, CRITERIA POLLUTANTS AND METEOROLOGICAL CONDITIONS IN PHOENIX, AZ, CHRISTOPHER NOBLE, Sanjay Natarajan, Robert Murdoch, RTI International, Research Triangle Park, NC; Thomas Ellestad, Robert Vanderpool, US Environmental Protection Agency, Research Triangle Park, NC; Paul Solomon, US Environmental Protection Agency, Las Vegas, NV; Jeffrey Ambs, Rupprecht & Patashnick Co., Inc., East Greenbush, NY

11:10 AM – 12:30 AM Dunwoody
12E. Urban/Regional PM II
Chair: Delbert Eatough, Co-Chair: Tim Onasch

11:10 AM	12E1	GASEOUS AND PARTICULATE POLLUTANT TRANSPORT IN STREET CANYONS, KAMBIZ NAZRIDOUST, Goodarz Ahmadi, Department of Mechanical and Aeronautical Engineering, Clarkson University, Potsdam, NY
11:30 AM	12E2	ATMOSPHERIC AEROSOLS IN BEIJING, CHINA, DURING DUST STORM EVENTS AND NON-DUST STORM EVENTS, MARCH 22- APRIL 1, 2001, ANN M. DILLNER, Xia Su, Arizona State University, Tempe, AZ, James J. Schauer, University of Wisconsin, Madison, WI, Glen R. Cass, deceased
11:50 AM	12E3	PM2.5 MASS AND CHEMICAL COMPOSITION ACROSS THE PEARL RIVER DELTA REGION OF CHINA, G.W. HAGLER, M.H. Bergin, M. Zheng, Georgia Tech, Atlanta, GA; L.G. Salmon, Caltech, Pasadena, CA; J.Z. Yu, E. Wan, HKUST, Hong Kong; C.S. Kiang, Y.H. Zhang, X. Tang, Peking University, Beijing, PRC; J.J. Schauer, University of Wisconsin, Madison, WI
12:10 PM	12E4	LONG TERM AEROSOL NUMBER CONCENTRATION MEASUREMENTS IN FIVE EUROPEAN CITIES, K. HÄMERI, P. Aaalto, P. Paatero, M. Kulmala, University of Helsinki, Finland; T. Bellander, N. Berlind, Department of Occupational and Environmental Health, Stockholm, Sweden; L. Bouso, G. Castaño-Vinyals, A. Marconi, J. Sunyer, IMIM - Institut Municipal d'Investigació Mèdica, Barcelona, Spain; G. Cattani, Instituto Superiore di Sanità, Rome, Italy; J. Cyrys, S. Von Klot, A. Peters, K. Zetzshe, GSF-Forschungszentrum Institut f. Epidemiologie, Neuherberg, Germany; T. Lanki, J. Pekkanen, National Public Health Institute, Kuopio, Finland; F. Nyberg, Institute of Environmental Medicine, Karolinska Institute, Stockholm, Sweden; B. Sjövall, Stockholm Air Quality and Noise Analysis, Stockholm, Sweden; F. Forastiere, Department of Epidemiology, Rome, Italy

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LATE BREAKINGS

The following late breaking abstracts will be available for viewing in Poster Session #1. Please review the Schedule at a Glance for specific dates and times.

LB 1 - DELIQUESCENCE OF SODIUM CHLORIDE NANOPARTICLES *GEORGE BISKOS, Adam Malinowski, and Scot T. Martin*

LB 2 - EVOLUTION OF INTERNALLY VS. EXTERNALLY MIXED PARTICLES DUE TO SOC PARTITIONING AND COAGULATION *JIN LU, Frank Bowman, Vanderbilt University, Nashville, TN*

LB 3 - COMPARISON OF CHEMICAL ANALYSIS SCENARIOS FOR SOURCE APPORTIONMENT OF SYNTHETIC PM2.5 USING POSITIVE MATRIX FACTORIZATION *GREGORY L BRINKMAN, STEVEN J DUTTON, Shelly L Miller, Michael P Hannigan, Jana B Milford, University of Colorado, Boulder, CO*

LB 4 - CLEAN-AIR DELIVERY RATES FOR MICROBIOLOGICAL AEROSOLS AND UV-C LAMP PERFORMANCE FOR PORTABLE AIR CLEANERS *Fatimah Matalkah, Elmira Kujundzic, Cody Howard, Mark Hernandez, SHELLY MILLER, University of Colorado, Boulder, CO*

LB 5 - AERODYNAMIC CHARACTERISTICS OF FUNGAL FRAGMENTS RELEASED FROM SURFACES CONTAMINATED WITH STACHYBOTRYS CHARTARUM *SEUNG-HYUN CHO, Sergey A. Grinshpun, Sung-Chul Seo, Satheesh K. Sivasubramani, Tiina Reponen, Center for Health Related Aerosol Studies, Department of Environmental Health, University of Cincinnati, Cincinnati, OH*

LB 6 - THE IMPORTANCE OF AEROSOL ORGANIC OXYGEN FOR ESTIMATING ORGANIC AEROSOL MASS *Yanbo Pang and Lara A. Gundel Lawrence Berkeley National Laboratory, Berkeley, California Barbara J. Turpin Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

LB 7 - ULTRAFINE AND NANOPARTICLE ELPI NUMBER DISTRIBUTION EMISSIONS FROM HYBRID-

ELECTRIC AND CONVENTIONAL DIESEL BUSES USING ULTRA-LOW SULFUR DIESEL *AURA C. DAVILA, Britt A. Holmén, University of Connecticut, Storrs, CT*

LB 8 - DIPOLAR PROPERTIES OF HYDRATED SULFURIC ACID, HYDRATE DISTRIBUTION AND THEIR EFFECT ON THE UPTAKE OF CONDENSABLE VAPOURS BY ION CLUSTERS *Alexey B.Nadykto, Atmospheric Sciences Research Center, Suny At Albany, Albany, Ny; Anas Al Natsheh, University Of Kuopio,Kuopio, Finland;Fangqun Yu, Atmospheric Sciences Research Center, Suny At Albany, Albany, Ny;Kurt V. Mikkelsen, Department Of Chemistry, University Of Copenhagen,Copenhagen, Denmark; Juhani Ruuskanen, University Of Kuopio,Kuopio, Finland.*

LB 9 - EXPERIMENTAL DETERMINATION OF THE COLLECTION EFFICIENCIES OF THE AERODYNAMIC LENS IN THE AERODYNE AEROSOL MASS SPECTROMETER (AMS) *PETER S.K. LIU, Terry Deshler and Derek C. Montague, Department of Atmospheric Science, University of Wyoming, Laramie, WY; John Jayne and Doug Worsnop, Center for Aerosol and Cloud Chemistry, Aerodyne Research, Inc, Billerica, MA; Xuefeng Zhang, Kenneth A Smith and Deng Rensheng, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA*

LB 10 - FORMATION AND GROWTH OF NANOPARTICLES IN ENGINE EXHAUST: ROLE OF IONS, SULFURIC ACID, AND ORGANIC COMPOUNDS *FANGQUN YU, State University of New York at Albany, NY*

LB 11- AGRICULTURAL BURNING SMOKE IN EASTERN WASHINGTON: ATMOSPHERIC CHARACTERIZATION *Jorge Jimenez, Candis Claiborn, Department of Civil and Environmental Engineering, Washington State University, Pullman, WA, 99164*

LB 12 - SIMPLE CORRECTION TO THE CLASSICAL THEORY OF HOMOGENEOUS NUCLEATION *ALEXEY B. NADYKTO, Fangqun Yu, Atmospheric Sciences Research Center, State University of New York at Albany, Albany, NY.*

LB 13 - CONTINUOUS SULFATE, CARBON, AND PM2.5 MASS AT ADDISON, NY DURING THE

SUMMER 2004 NEAQS/ITCT INTENSIVE *JAMES SCHWAB, John Spicer, Olga Hogrefe, Kevin Rhoads, Silke Weimer, Yongquan Li, Gar Lala, Kenneth Demerjian, Atmospheric Sciences Research Center, Univesity at Albany, SUNY, Albany, NY; Oliver Rattigan, Dirk Felton, New York State Department of Environmental Conservation, Albany, NY*

LB 14 - EFFECTS OF PARTICLE SIZE ON THE SYSTEMIC BIOAVILABILITY IN RATS FOLLOWING INHALATION EXPOSURE *Shu-Chieh Hu, IIT Research Institute, Chicago, IL, USA; Bruce D Naumann, Merck & Co., Inc., Whitehouse Station, NJ, USA; Michael Cwik, IIT Research Institute, Chicago, IL, USA; NARAYANAN RAJENDRAN, IIT Research Institute, Chicago, IL, USA*

LB 15 - VUV SCATTERING STUDIES ON SUPERFINE SILICA PARTICLES *Jinian Shu, Kevin Wilson, Musahid Ahmed, and Stephen R. Leone Lawrence Berkeley National Laboratory, Berkeley, California 94720 Alan Arrowsmith and Stephen R. Leone Departments of Chemistry and Physics, University of California,*

LB 16 - ASH AEROSOL FORMATION UNDER HIGH PRESSURE PULVERIZED COAL COMBUSTION CONDITIONS *AURA C. DAVILA, Joseph J. Helble, University of Connecticut, Storrs, CT*

LB 16 - TEMPORAL VARIATIONS OF NITRIC ACID AND PARTICULATE NITRATE IN TOKYO URBAN AIR *YU MORINO, Yutaka Kondo, Nobuyuki Takegawa, Yuzo Miyazaki, Yuichi Komazaki, Nobuhiro Moteki, Takuma Miyakawa, University of Tokyo, Tokyo, Japan; Kazuyuki Kita, Ibaraki University, Mito, Japan*

LB 17 - LUMPING MODEL FOR SECONDARY ORGANIC AEROSOLS FROM MULTIPLE HYDROCARBON PRECURSORS *Fei Bian, Frank M. Bowman, Vanderbilt University, TN*

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LB 19 - DIRECT MEASUREMENT OF OPTICAL EXTINCTION BY AEROSOL *TAHLLEE BAYNARD, Anders Pettersson, Steve Brown, Bill Dube, Hans Osthoff, Cooperative Institute for Research in the Environmental Sciences, University of Colorado, Boulder, CO; Edward Lovejoy, Steve Cicoria, A.R. Ravishankara, NOAA Aeronomy Laboratory, Boulder, CO*

LB 20 - A NOVEL OPTICAL METHOD FOR ELEMENTAL CARBON DETERMINATION *CHRISTOS CHRISTOFOROU, School of the Environment, Clemson University; Lynn Salmon, EQL, Caltech*

LB 21 - INVESTIGATION OF OZONOLYSIS OF OLEIC ACID PARTICLES BY PERCI-MS *James Zahardis, Brian W. LaFranchi, GIUSEPPE A. PETRUCCI, Department of Chemsitry, University of Vermont, Burlington, VT*

LB 22 - TRANSIENT AEROSOL SPECTRAL MEASUREMENTS OF TOBACCO SMOKE *JOHN McAUGHEY and Conor J McGrath, British American Tobacco, Southampton, UK*

LB 23 - A FIELD PORTABLE ELECTRICALLY ENHANCED LASER INDUCED PLASMA SPECTROMETER: SIGNAL ENHANCEMENT IN A NEAR REAL-TIME ENVIRONMENT *GEORGE FARQUAR, Oak Ridge Institute for Science and Education*

LB 24 - CONTROL OF DIFFUSIVE PARTICLE MOTION USING THE QUADRUPOLE ELECTRIC FIELD *JIN-YOUNG CHOI, Korea Advanced Institute of Science and Technology*

LB 25 - EXAMINATION OF PARTICULATE MATTER AND HEAVY METALS AND THEIR EFFECTS IN SUSCEPTIBLE WARDS WITHIN THE WASHINGTON, DC REGION *NATASHA GREENE, DR. VERNON R. MORRIS, HOWARD UNIVERSITY, PROGRAM IN ATMOSPHERIC SCIENCES, WASHINGTON, DC*

LB 26 - PARTICLE SIZE DISTRIBUTION OF MAINSTREAM CIGARETTE SMOKE *MARK J. RUSYNIAK, Philip Morris USA Postgraduate Research Program; David B. Kane, Peter J. Lipowicz, Philip Morris USA Research Center, 4201 Commerce Road, Richmond, VA 23234*

LB 27 - RELATIONSHIP BETWEEN SIZE-RESOLVED INORGANIC AEROSOLS AND THEIR GAS-PHASE PRECURSORS DURING WINTER 2003 IN MEXICO CITY *MIREYA MOYA, Michel Grutter, Armando Baez, Centro de Ciencias de la Atmosfera-UNAM, Mexico City, Mexico*

LB 28 - REDESIGN OF THE AEROSOL PARTICLE MASS ANALYZER TO ACHIEVE FASTER SETTLING TIME AFTER CHANGING THE CLASSIFYING VOLTAGE AND FOR LESS INTERNAL PARTICLE LOSSES *Kensei Ehara, HIROMU SAKURAI, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan; Nobuhiko Fukushima, Kanomax Japan Inc.; Kittichote Worachotekamjorn, Prince of Songkla University, Songkhla, Thailand; Kevin J. Coakley, National Institute of Standards and Technology, Boulder, CO*

LB 29 - QUASI-UNARY HOMOGENEOUS NUCLEATION OF H2SO4-H2O *FANGQUN YU, State University of New York at Albany, NY*

LB 30 - A NEW METHOD OF BROWNIAN DYNAMICS FOR SIMULATING THE MOTION OF PARTICLES IN ALTERNATING ELECTRIC FIELD *JIN-YOUNG CHOI, Korea Advanced Institute of Science and Technology*

LB 31 - SOOT NANOSTRUCTURE: DEFINITION, QUANTIFICATION AND IMPLICATIONS *RANDY L. VANDER WAL, Aaron J. Tomasek NCMR c/o NASA-Glenn Cleveland, OH 44135 USA*

LB 32 - MEASUREMENT OFOM/OC FOR ATLANTA SUPERSITE *HAZEM S. EL-ZANAN, Barbara Zielinska, Desert Research Institute, Division of Atmospheric science, 2215 Raggio PKWY, Reno, NV; Alan Hansen, EPRI Palo Alto, CA*

LB 33 - ORGANIC PM2.5 AT THE BALTIMORE PM SUPERSITE: DIURNAL VARIATIONS DURING SUMMER AND WINTER WITH A TIME-RESOLUTION OF THREE HOURS *WOLFGANG F. ROGGE, Anna Bernardo-Bricker, Orhan Sevimoglu, Florida International University, Miami, FL; Yu Chen Chang, John Ondov, University of Maryland, College Park, MD.*

LB 34 - FORMATION OF VOLATILE NANOPARTICLES IN ENGINE EXHAUST *HUA DU, Atmospheric Science Research Center at SUNY-Albany*

LB 35 - COMPARISON BETWEEN BACK-TRAJECTORIES BASED MODELING AND LAGRANGIAN BACKWARD DISPERSION MODELING FOR LOCATING SOURCES OF REACTIVE GASEOUS MERCURY *YOUNG-JI HAN; Dept. of Civil and Environmental Engineering, Syracuse University, Syracuse, NY 13244 Thomas M. Holsen; Dept. of Civil and Environmental Engineering, Clarkson University, Potsdam, NY 13699-5710 Philip K. Hopke; Dept. of Chemistry and Center for Air Resources Engineering and Science, Clarkson University, Potsdam, NY 13699-5708 Seung-Muk Yi: School of Public Health and Institute of Health and Environment, Seoul National University, 28 Yeongon-dong, Chongro-gu, Seoul, 110-799, Korea*

LB 36 - APPLICATION OF THE PSEDUDO-DETERMINISTIC RECEPTOR MODEL TO RESOLVE POWER PLANT INFLUENCES ON AIR QUALTIY AT THE CMU SUPERSITE *Seung Shik Park, John Ondov, University of Maryland Department of Chemistry, College Park, MD; Allen Robinson, Carnegie Mellon University, Pittsburgh, PA*

LB 37 - DESIGN OF A RAPID AND FULLY AUTOMATED PATHOGEN DETECTION SYSTEM *TRINA VIAN, James Harper, Michael Languirand, Richard Mathews, Paula Ward, Joseph Lacirignola, Richard Nagle, MIT Lincoln Laboratory, Lexington, MA*

LB 38 - DEVELOPMENT OF A COCKTAIL MIXTURE OF SURROGATE VIRUSES AND BACTERIA TO DIRECTLY EVALUATE BIOAEROSOL REMOVAL EFFICIENCIES *MIN WANG, Gail Brion, Civil Engineering Department, Lexington, KY*

LB 39 - CHEMICAL COMPOSITION OF ATMOSPHERIC ICE NUCLEI *DANIEL CZICZO, Daniel Murphy, David Thomson, NOAA Aeronomy Lab, Boulder, CO; Paul DeMott, Sarah Brooks, Mathew Richardson, Anthony Prenni, Sonia Kreidenweis, Department of Atmospheric Science, Colorado State University, Fort Collins, CO; Edward Dunlea, Allison Aiken, J. Alex Huffman, Carlos Gallar, Jose-Luis*

Jimenez, Department of Chemistry and Biochemistry, Univeristy of Colorado, Boulder, CO; Jefferson Snider, Markus Petters, Department of Atmospheric Science, University of Wyoming, Laramie, WY; Randolph Borys, Storm Peak Laboratory, Desert Research Institute, Steamboat Springs, CO

LB 40 - OCCUPATIONAL EXPOSURE TO ULTRAFINE PARTICLES AND POLYCYCLIC AROMATIC HYDROCARBONS FROM CANDLE EMISSIONS *David Silver, University of South Florida, Tampa, Florida Raymond D. Harbison, University of South Florida, Tampa, Florida*

LB 41 - AIRBORNE COLLECTION INSTRUMENT FOR SAMPLING *Kaichen Chang, Chiayuan Chang, Industrial Technology Research Institute, Taiwan.*

LB 42 - INFLUENCE OF DIFFUSINAL PARTICLE DEPOSITION IN TUBE FLOW BY THERMOPHORESIS *Jyh-Shyan Lin, CHUEN-JINN TSAI, Institute of Environmental Engineering, National Chiao Tung University, Hsinchu, Taiwan.*

LB 43 - DESIGN AND CHARACTERIZATION OF A RAPID ALIQUOT SAMPLING AND DILUTION SYSTEM FOR PARTICLE SIZE CHARACTERIZATION OF CIGARETTE SMOKE *MOHAMMAD S. SAIDI, Isfahan University of Technology, Isfahan, Iran David B. Kane, Philip Morris USA Rearch Center, Richmond, VA*

LB 44 - CONTRIBUTION OF BLACK CARBON EMISSIONS ON CLIMATE CHANGE *K. MADHAVI LATHA and KVS BADARINATH, Forestry and Ecology Division, National Remote Sensing Agency, Balanagar, Hyderabad, India*

LB 45 - BLASTING MODEL ON AEROSOL EXTINGUISHANT *CHEN-GUANG ZHU, Nanjing University of Science and Technology*

LB 46 - VARIATION OF BLACK CARBON AEROSOLS, CARBON MONOXIDE AND TROPOSPHERIC OZONE OVER A TROPICAL URBAN SITE – A CASE STUDY *K. MADHAVI LATHA and KVS BADARINATH, Forestry and Ecology Division, National Remote Sensing Agency, Balanagar, Hyderabad, India*

LB 47 - NUMERICAL MODELING OF TURBIDITY PARAMETERS DURING EPISODES OF REGIONAL WINDBLOWN DUST IN THE PACIFIC NORTHWEST *IRRA SUNDRAM, Candis Claiborn, Brian Lamb, Laboratory for Atmospheric Researcg, Department of Civil & Environmental Engineering, Washington State University, Pullman, 99164-2910, WA*

LB 48 - NEAR INFRARED WAVELENGHT IN HIGH IRIDIUM CONTENT GAS *THERESE SCHNECK*

LB 49 - SYNTHESIS OF CATALYTIC IRON NANOPARTICLES FOR VAPOR-PHASE GROWTH OF CARBON NANOTUBES *SEOK JOO PARK, Korea Institute of Energy Research, Daejeon, South Korea; Dong Geun Lee, Chungnam National University, Daejeon, South Korea*

LB 50 - COMPUTATIONAL SIMULATION OF PARTCIE TRAJECTORIES IN HOT GAS FILTER SYSTEM WITH CERAMIC CANDLE FILTERS *SEOK JOO PARK, Young Ok Park, Korea Institute of Energy Research, Daejeon, South Korea*

LB 51 - MODELING SECONDARY ORGANIC AEROSOL FORMATION FROM THE OXIDATION OF BIOGENIC HYDROCARBONS *JIANJUN CHEN, Robert Griffin, Robert Talbot, University of New Hampshire, Durham, NH*

LB 52 - AEROSOL FORMATION FROM THE OXIDATION OF ANTHROPOGENIC AND BIOGENIC HYDROCARBONS BY CHLORINE ATOMS *XUYI CAI, Pieter Beckman, Jesse Marcum, Michael Diamond, Natasha Hardy, Robert Griffin, University of New Hampshire, Durham, NH*

LB 53 - SPATIAL AND TEMPORAL TRENDS IN PARTICLE ACIDITY IN NORTHERN NEW ENGLAND *LUKE ZIEMBA, Robert Griffin, Robert Talbot, Huiting Mao, University of New Hampshire, Durham, NH*

LB 54 - SYNTHESIS AND CHARACTERIZATION OF COUMARIN MODIFIED SI-MCM-41 FOR DRUG DELIVERY SYSTEM *TAI GYU LEE, Manickam Selvaraj, Byong Hoo Kim, and Byoung-Ryul Min, Yonsei University*

LB 55 - SYNTHESIS, REACTIVITY MEASUREMENTS AND THERMODYNAMIC ANALYSES OF NANO-THERMITE FORMULATIONS *Anand Prakash, Michael Zachariah, University of Maryland, College Park, MD Alon McCormick, University of Minnesota, Minneapolis, MN*

LB 56 - PREPARATION OF COLUMN SHAPE TIO2 BY DIFFUSION FLAME REACTOR AND THEIR PHOTOCATALYTIC PROPERTIES *TAI GYU LEE, Seok Ho Jeon, Byung Wook Park, Jin-Won Park, Yonsei University*

LB 57 - MICROORGANISMS' EXPRESS-DETECTION ON THE BASIS OF THEIR ENZYMATIC ACTIVITY *Anatoly Reshetilov, Pavel Il'yasov, Boris Baskunov, Institute of Biochemistry and Physiology of Microorganisms of the Russian Academy of Sciences (IBPM), Bld.5, Nauki avenue, Pushchino,142292, RUSSIA, , VLADIMIR SIGAEV, Alexander Tolchinsky, Konstantin Soloviev, Alexander Varfolomeev, Research Centre for Toxicology and Hygienic Regulation of Biopreparations at the Ministry of Health of the Russian Federation (RCT&HRB), Bld. 102A, Lenin Street, Serpukhov, Moscow Region, 142253 RUSSIA*

LB 58 - COMPARISON OF MERCURY REMOVAL EFFICIENCY FROM A SIMULATED EXHAUST GAS BY SEVERAL TYPES OF TIO2 POWDER UNDER VARIOUS LIGHT SOURCES *YONG GYU LEE, Jung-Hyun Kim, Tai Gyu Lee, Yonsei University Wonyong Choi, Pohang University of Science and Technology*

LB 59 - ON USING A PRESSURE CONTROLLED INLET TO SAMPLE ATMOSPHERIC AEROSOLS INTO AN AIRBORNE AERODYNE AEROSOL MASS SPECTROMETER, *Middlebrook, Simons, Dunlea, and Matthew, NOAA Aeronomy Laboratory, Boulder, CO*

LB 60 - MEASUREMENT OF AEROSOL PROPERTIES AND BEHAVIOR AT THE ISLES OF SHOALS DURING ICARTT, *Alice Delia, Cynthia Randles, Katheryn Holderness , Lynn Russell, Scripps Institution of Oceanography, UCSD, La Jolla CA; Roland von Glasow, Susanne Marquardt Institut fuer Umweltphysik, Universitaet Heidelberg, Heidelberg, Germany*

LB 61 - FTIR FUNCTIONAL GROUP ANALYSIS OF ORGANIC AEROSOL SAMPLES IN CHEBOGUE POINT, NOVA SCOTIA, *Katheryn M. Holderness*, Alice Delia, Lynn M. Russell,, **Scripps Institution of Oceanography, UCSD, La Jolla CA***

AAAR FUTURE MEETINGS

Particulate Matter Supersites Program and Related Studies
An AAAR International Specialty Conference
February 7-11, 2005
Sheraton Atlanta Hotel
Atlanta, Georgia

An International Specialty Conference
Sponsored by the American Association
for Aerosol Research

AAAR 2005 Annual Conference
October 17 - 21, 2005
Hilton Austin
Austin, Texas

International Aerosol Conference 2006
September 10-15, 2006
Radisson Riverfront Hotel
St. Paul, Minnesota

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February 7 – 11, 2005 • Sheraton Atlanta Hotel • Atlanta, Georgia
Conference Chair: **Paul A. Solomon, US EPA**
solomon.paul@epa.gov

An International Specialty Conference Sponsored by the American Association for Aerosol Research

The primary purpose of the conference is to disseminate results from the Supersites Program and other air quality methods, measurements, data analysis, and modeling programs that have taken place over the last half decade or so to key stake holders in the public and private sectors.

Results presented should provide information that would ultimately reduce uncertainties in our understanding of atmospheric PM accumulation on urban and regional scales and allow for the development of effective emissions management programs to reduce the impact of PM related pollution on humans and ecosystems.

General Topic Areas

- Measurement Methods
- Emissions
- Deposition
- Measurements and Characterization
- Atmospheric Processes and Chemistry
- Source Apportionment
- Models & Modeling
- Policy Implications
- Related Topics (Plenary Sessions)

Hotel group and a limited number of government rates as well as limited travel grants are available. Authors are strongly encouraged to submit abstracts resulting from research presented at the conference to one of the atmospheric sciences journals (AS&T, AE, JGR, & JAM) where special issues are planned.

If you are interested in exhibiting during the conference, visit www.aaar.org or contact the AAAR headquarters at (856) 439-9080 for more information.

Abstract Submission Deadline:
October 22, 2004!

Online Registration Open:
End of October 2004

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IARA welcomes all to participate in the 7th International Aerosol Conference and interact with scientists from all over the world on a broad spectrum of topics related to aerosol science and engineering.

Conference Location:
Radisson Riverfront Hotel, St. Paul, Minnesota
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Scientific Program: Tutorials (Sunday), invited plenary lectures, platform and poster presentations, Special Symposium, Fuchs award presentation, and more.

Key Dates:
1. Call for Papers: September 1, 2005
2. Abstracts Due: February 1, 2006
3. Notification to Authors: May 1, 2006
4. Early Bird Registration Deadline: June 15, 2006

Conference Co-Chairs:
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