



PARTICULARS

the E-Newsletter of the American Association for Aerosol Research

Spring 2014

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Organizational Members

AAAR would like to thank the companies that support us as Organizational Members:



Letter From the President

As many of us dig out from the most severe winter weather that parts of the US have experienced in a while, I'd like to take this opportunity to update you all on the progress and direction of AAAR. Financially we are very sound. Our membership is dedicated to our core mission, and progress is being made on developing a new strategic plan as well as strengthening our commitment to online education.

As we look forward to the upcoming year, I again encourage members to nominate their colleagues for a [AAAR Award](#). Your efforts will ensure that your Association recognizes the amazing accomplishments of our members.

The [call for abstracts](#) is now open for the 33rd Annual Conference, October 20-24, 2014 at the Rosen Shingle Creek, Orlando, Florida, USA. This is the last of the three visits to this venue. The special symposia at the conference cover a broad range of topics including public health, biomass burning, aerosol sources associated with emerging energy technologies, and new particle formation and growth.

As you submit your abstract, please consider renewing your membership if it has lapsed. Remember, membership includes your online access to the Aerosol Science and Technology, and a free abstract submission code for the conference.

I hope to see you in Orlando!

Barbara Wyslouzil
AAAR President

2014 Annual Conference Update

Dear Colleagues:

I am excited about the upcoming 33rd Annual Conference, which this year will be held in Orlando, Florida, on October 20-24. The conference is an outstanding venue for presenting the latest on aerosol science and technology, while providing ample opportunities for networking with attendees from the industry, government and academia.

The conference will start off on Monday, October 20, with a menu of 16 tutorials covering a broad range of aerosol topics. The tutorials are of interest to all, whether you are relatively new to the field and seek introductory materials, or desire to expand your understanding in areas of aerosol science and technology including those related to the Special Symposia. I am pleased to inform that the very successful **"Hands-on**



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"Aerosol Instrumentation Design and Measurement" tutorial will be continued this year. A description of each tutorial will be posted on the [conference website](#). Monday evening will conclude with the Young Investigators' event, where the next generation of emerging scientists and engineers will have a chance to socialize and participate in a technical writing workshop in a friendly cordial atmosphere (with free food too!).

The plenary talks, special symposia, poster presentations, platform presentations, and special events will take place from Tuesday morning through Friday noon. The [plenary lectures](#) are presented at the start of each morning by highly distinguished scientists that share their vision on major challenges and solutions to problems regarding aerosols and their impacts. This year, we are fortunate to have Ken Carslaw (University of Leeds), C. Arden Pope III (Brigham Young University), Allen L. Robinson (Carnegie Mellon University), and Tami Bond (University of Illinois at Urbana-Champaign).

The last couple of years have been quite important for the aerosol field, with high profile research on aerosol formation and evolution, as well as on its impacts on society and the Earth System. Motivated by this, we will have [Special Symposia](#) covering and bridging five themes: (a) Linking Aerosols with Public Health in a Changing World, (b) Biomass Burning Aerosol: From Emissions to Impacts, (c) Emerging Aerosol Sources in a Changing Economy, (d) Results from Recent Ambient Measurement Campaigns in the Southeast US, and, (e) Understanding the Formation and Impacts of New Particle Formation and Growth. The program will also include sessions on aerosol chemistry, aerosol physics, urban aerosols, aerosols, clouds and climate, remote and regional atmospheric aerosols, carbonaceous aerosols, aerosol source apportionment, combustion, nanoparticles and materials synthesis, aerosol control technology, health-related aerosols, history of aerosol science, indoor aerosols, aerosol exposure, aerosol instrumentation and methods, and aerosols and homeland security. We also added a bioaerosols working group to the suite of existing ones, in recognition of this important and exciting field of aerosol research.

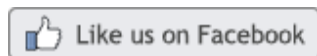
The exhibit area, open Tuesday through Thursday, will continuously provide opportunities to engage with and learn from leading companies and vendors offering instrumentation and services in aerosol science and technology.

The conference will take place at the Rosen Shingle Creek Resort, where in addition to ideal weather conditions offers diverse amenities including nature and walking trails, a sand volleyball court, a full-service spa, an 18-hole championship golf course, outdoor swimming pools, and lighted tennis courts. Nicknamed "The City Beautiful" and "The Theme Park Capital of the World", Orlando offers a diverse range of attractions and theme parks. Less known but equally inviting are the downtown sections of Orlando itself and many nearby towns in Central Florida - places that celebrate public art and take pride in offering a myriad of cultural opportunities. **This year we will offer on Wednesday night free transportation to and from local entertainment and restaurant venues as an alternative outing option for all conference attendees.**

A conference block of reduced rate sleeping rooms has been secured at the Rosen Shingle Creek resort. Please access additional information concerning Rosen Shingle Creek under the HOTEL/TRAVEL section of this site. **Please be advised that the AAAR sleeping room block is expected to sell out quickly, and availability and rate cannot be guaranteed once the AAAR block is filled. And please [submit your abstracts](#) soon - the deadline is March 27!**

Detailed information on the conference can be found at the [conference website](#). We look forward to your participation. Don't forget to share with your colleagues how great a conference AAAR is, and please encourage them to join us in Orlando.

Visit Us On Facebook



See you there!
Athanasios Nenes, Chair

In Case You Missed It . . .

Aerosols in the Rain Forest! The Department Of Energy (DOE) Office of Biological and Environmental Research's Climate and Environmental Sciences Division, in collaboration with Brazilian and German organizations, is conducting an integrated field study to look at the coupled atmosphere-cloud-terrestrial tropical systems. The experiment, called Green Ocean Amazon (or GOAmazon), will extend through the wet and dry seasons from January 2014 through December 2015. Science goals include better understanding aerosol-cloud interactions under pristine conditions, and the influence of pollution outflow on aerosol and cloud lifecycles. Additional information on the campaign and its participants can be found at <http://campaign.arm.gov/goamazon2014>

Particles in Poetry! [Climate Change 2013: The Physical Science Basis](#), from the 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), devotes considerable attention to the impacts of aerosol particles on climate. The current report is over 2000 pages long, and the summary for policy makers is roughly 30 pages. However if you're looking to read an even more compact version, perhaps you would prefer haiku form? These [19 beautifully illustrated haiku](#) summarize the entire report; the effects of particles on climate appear in two of them!

Living Particles! Recent research suggests that mushrooms, seemingly small but fun-guys (groan here), are able to modify their local wind fields, promoting the distribution of their spores. According to a study presented at the annual meeting of the American Physical Society's Division of Fluid Dynamics, the evaporation of water from mushrooms' surfaces, resulting in lower temperatures, [provides a small amount of lift](#) that improves the dispersal of the spore cloud.

Particle in the Universe! Ever had trouble conveying to a friend the size of something? The size of a bacterium? The size of a virus? The size of a clay particle? (...In comparison to the size of the moon? Or the size of the Milky Way?) This [website](#) can put it all into perspective. The challenge: count how many different particles are represented. Enjoy!

Akua Asa-Awuka
Sr. Assistant Editor

Aerosols in the Spotlight

Measuring Organic Carbon and Black Carbon in Rainwater: Evaluation of Methods

A. Torres, T. C. Bond, C. M. B. Lehmann, R. Subramanian, and O. L. Hadley, [AS&T 48\(3\), 239-250, 2014](#).

Carbonaceous material - including both organic carbon (OC) and black carbon (BC) - is a significant component of ambient aerosol mass and contributes greatly to aerosol effects on climate and health. The atmospheric lifetimes of OC and BC are largely governed by their removal through wet deposition; however, many aspects of this process are uncertain. This is especially true for BC, which is insoluble in water and which lacks a standard analytical procedure for its measurement in rainwater. A new study presents a thorough comparison of methods used to measure OC and BC in rainwater, with a focus on their potential application in a large-scale monitoring network. For the measurement of rainwater BC, two methods showed the most promise, although each had drawbacks as well. The filtration of rainwater and subsequent analysis via a Sunset Labs OC/EC analyzer is both accurate and sensitive, although it is time-consuming due to the extensive sample preparation required to achieve high filtration efficiency. The analysis of nebulized rainwater with a single particle soot photometer (SP2) is rapid and highly sensitive,

AAAR Newsletter Committee

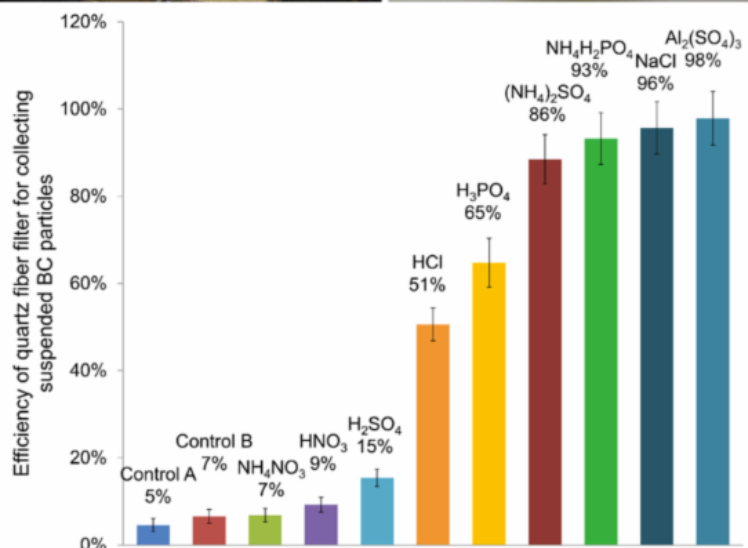
AAAR thanks the following Newsletter Committee members for contributing their valuable time and talent to Particulars:

Jesse Kroll
Editor

Akua Asa-Awuku
Sr. Assistant Editor

Chris Hennigan
Jr. Assistant Editor

although significant particle losses somewhere in the procedure indicate that further characterization of this method is required. Rainwater BC analysis using UV/VIS spectrophotometry is not recommended for widespread applications due to a number of limiting factors, including poor sensitivity and interference from other light-absorbing compounds. Overall, this study brings important insight to the challenges associated with developing a robust measurement of BC in rainwater, highlighting one of the major obstacles to establishing a monitoring network of BC in precipitation.



Top - Photographs showing the collection of BC reference material from pine wood combustion. Bottom - figure showing the filtration efficiency of BC suspended in water as a function of the added coagulant.

Chris Hennigan
Jr. Assistant Editor

2014 Call for Abstracts

Submit Your Abstract Today!

AAAR is currently accepting abstracts for the 2014 Annual Conference in Orlando. Please [click here](#) to submit an abstract.

Each current AAAR member (including student members) receives an abstract code for *one (1) free abstract submission* to the AAAR 33rd Annual Conference. This specific code can only be used one time. Codes are transferable, so they can be gifted or traded. This abstract process is

intended to enhance the quality of the AAAR presentations in part by reducing the number of no-shows. Individuals submitting more than one abstract will be guided through the payment process on the [abstract website](#).

If you have not received your free abstract code or have a question concerning AAAR abstract codes, please contact Caroline Olson at colson@aaar.org.

The deadline to submit an abstract is March 27, 2014.

AAAR 2014 Award Nominations

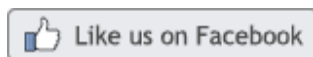
Nominate a colleague for a AAAR Award!

The Awards Committees of the American Association for Aerosol Research (AAAR) invite you to submit nominations for AAAR's Annual Awards, which will be presented out at the 33rd Annual Conference. The five awards are listed below; click on each link for information on eligibility, required nomination materials, and a list of previous winners.

- The [Sheldon K. Friedlander Award](#) recognizes an outstanding dissertation by an individual who has earned a doctoral degree.
- The [Benjamin Y. H. Liu Award](#) recognizes outstanding contributions to aerosol instrumentation and experimental techniques that have significantly advanced the science and technology of aerosols.
- The [Thomas T. Mercer Joint Prize](#) recognizes excellence in the areas of pharmaceutical aerosols and inhalable materials.
- The [David Sinclair Award](#) recognizes sustained excellence in aerosol research and technology by an established scientist still active in his/her career.
- The [Kenneth T. Whitby Award](#) recognizes outstanding technical contributions to aerosol science and technology by a young scientist.

Nominations and supporting documentation for 2014 awards must be received by June 2, 2014 at the AAAR national office: AAAR, 15000 Commerce Parkway, Suite C, Mt. Laurel, NJ 08054. Telephone: 856-439-9080, Fax: 856-439-0525, E-mail: info@aaar.org

All AAAR members are encouraged to submit nominations for these prestigious awards. If you have any questions, please contact Alicea Coccellato at the national office, 856-380-6899 or acoccellato@aaar.org



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