

PARTICULARS

Newsletter of the American Association for Aerosol Research

Summer 2005

The AAAR 2005 Conference

By Spyros N. Pandis, *Conference Chair*

The 24th Annual AAAR Conference, to be held at the Hilton Austin, in downtown Austin, Texas, from October 17 to 21 promises to be one of the best AAAR conferences ever! The conference has already set a new record with approximately 710 accepted presentations from 31 countries and all continents but Antarctica (the penguins there may still decide to submit a late-breaking poster...). Based on the quality of the submitted abstracts, the 2005 conference also promises to set a new record for exciting new results in aerosol research.

Highlights of the conference week will include four plenary lectures offering stimulating and insightful presentations on:

- "What Satellites Contribute to the Global Aerosol Picture" (Ralph Kahn, Jet Propulsion Laboratory/Caltech)
- "The Health Effects of Ambient Particulate Matter: What We Know in 2005 and Where We Need to Go in the Future" (Dan Costa, EPA)
- "From Ancient Artwork to Modern Functional Aerosol-made Materials" (Sotiris Pratsinis, Swiss Federal Institute of Technology)
- "What are We Learning from Field Measurements with Aerosol Mass Spectrometry?" (Jose-Luis Jimenez, University of Colorado-Boulder)

Tutorial program chair Suresh Dhaniyala has organized an exciting slate of 16 tutorials led by experts in their respective fields covering topics ranging from basic aerosol science to cutting-edge tools and techniques.

The more than 400 posters will be presented on Tuesday and Thursday mornings after the plenary talks (instead of the regular late afternoon slots) and will be available for viewing during the whole meeting. To encourage the lively discussions during these poster sessions, we will supply the two most important food groups for successful scientific conferences: caffeine and sugar. Late-breaking posters will be accepted until September 12.

Six outstanding symposia will take place during the meeting to provide timely and updated information on:

- Personal exposure to aerosols on-road and in-cabin in private automobiles, school buses, and in other micro-environments (organized by Antonio Miguel)

- Emissions from aircraft (organized by Chowen Wey, Philip Whitefield, and Andreas Petzold)
- Combination of space-based observations with models and far-more detailed but less-extensive in-situ and surface aerosol data (organized by Ralph Kahn, Sonia Kreidenweis, and John Seinfeld)
- The air quality in the Northeastern U.S. as well as upwind and downwind locations (organized by Ann Middlebrook and Robert Griffin)

- The latest developments related to respiratory tract delivery of pharmaceutical aerosols, ultrafine aerosols, and nanoparticles (organized by Ron Wolff and Warren Finlay)
- Aerosol research related to homeland security (organized by Edward Stuebing and Eric Gard)

Our venue, the Hilton Austin, boasts excellent meeting rooms, a range of amenities including two restaurants and an outdoor pool, and a downtown location within easy walking distance from the waterfront and the city's entertainment districts. It is not too early to call in your room reservation. The corresponding deadline is September 16.

You can find additional information about the details of AAAR 2005 in this newsletter and the AAAR Web site (www.aaar.org). The deadline for the Early Bird registration is August 10. See you in Austin in October.



Letter from the Editor

By Mike Hannigan, *Editor*



Howdy y'all. I hope y'all are fixin' to register for the Annual Conference (just getting you in the spirit for this year's conference locale - Austin). Having spent a bit of time in Austin myself, I can honestly say that it will be a fun location (and of course an amazing conference). Please check out the conference schedule and register early.

So, I bet all seven of my loyal readers are very curious about the tack that I am going to take on my final "Letter to the Editor." After the "Poetic Call to Arms," I followed up with the "Let's Increase Readership with a Contest (The 2005 Aerosol Limerick Contest)" – see winning limericks below. Where to go next? Well, I spent some time generating a comic strip where our heroes Batman and Robin were busy 'characterizing' those dastardly villains Primary-Emission-Man, Biogenic-SOA-Woman, and Anthropogenic-SOA-Boy. As you can imagine, after scribbling the line "holy aging aerosols," sanity took control and pushed me to rethink my final letter.

No comic strip, no limerick, no poem where does that leave me? Maybe I should just try some plain language to get my latest point across. Let me just say "Thank You." From my sister – who is too busy balancing a job and a new son to have time to keep up with the details about climate change – to my future child (yep, AAAR members

may not see me at the conference this fall as my wife and I are expecting the week after the conference) – who gets to inherit this Earth from us – we all give thanks to my fellow aerosolytes. You are all working hard and giving your brain power to understand, solve, and/or better our world. Sure it is your job, but there are other jobs you could have chosen and many of you work at this as if it is far more than a simple job.

Aside: You may be wondering, "What is up with Mike?" The answer is ... I just returned from the setup of an aerosol field campaign in Riverside (mid-July in Riverside is a beautiful place), and I got to experience the enthusiasm of the grad students. Climb on the roof of a trailer to mount an inlet – full sun, incredible smog, and 102 °F – no problem, and can we talk about the science later?

Oops, let me veer this bicycle back on the course. Y'all may not hear it from Joe Q. Public or from your colleagues, so let me say it one more time, "Thanks." And, in honor of you and all your hard work, I have decided to declare September 3, the first (and last?) Aerosol Researcher Appreciation Day. On this special day, please ... take the day off (and that goes for my students too).

Cheers,
Mike Hannigan

The 2005 Aerosol Limerick Contest

Winner:

In Wonderland

Some may think I'm as mad as a hatter,
For expending any gray matter,
On particles so small,
One can't see them at all,
But only the light that they scatter.
by Betsy Andrews, NOAA
(Betsy, Mike owes you a drink of your choice.)

2nd-Place:

No Title

The fuzzy pollution called haze
That's afflicting most fine summer days
May come from our autos,
When smoke stacks go blotto,
Or even from forests ablaze.
by Roger Tanner, Tennessee Valley Authority

3rd-Place (tie):

No Title

What's the particle that's most divine,
That's least likely to come from a mine?
It's the one with no mass,
coming right from burned gas.
The answer, of course: ultrafine.
by Sverre Vedal, University of Washington

No Title

A particle's life is extreme
Like living within a regime
When you think you are free
It is only to be
Corrected by Cunningham's scheme
by Phil Fine, University of Southern California

We would like to thank all those that participated. We have some very creative members in our organization. AND, we would like to thank those hard-working judges, they know who they are.

Executive Director's Report

By Amy Williams, CAE

These days the AAAR staff's world has been revolving around conferences. We're hard at work, along with the conference committees, planning the 24th Annual Conference (October 17–21, 2005, in Austin, Texas) and the International Aerosol Conference (September 10–15, 2006, in St. Paul, Minn.), both of which are shaping up to be outstanding events. We received a record number of abstracts for the Annual Conference and have greatly surpassed our past efforts on the Annual Conference sponsorship development front.

A special thank you to the companies that have agreed to sponsor this year's conference so far:

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Bronze Sponsor

NOAA

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EPRI, Quant Technologies

Symposium Sponsors

Aradigm, ISAM, NASA, NOAA,
University of New Hampshire

Bag Sponsors

EPRI, Sunset Laboratory, TSI Incorporated,
Thermo Electron Corporation

I'd also like to thank the National Science Foundation and the U.S. Army Research Office for generously supporting our conference through grants. Because of the support received from NSF, AAAR is able to offer student travel grants to the Annual Conference for the first time in years. To date, AAAR, under the enthusiastic and dedicated direction of Tony Wexler, has secured \$71,000 in sponsorship for this conference. We hope this translates into one of our best conferences ever, with high-quality sessions and a few "extras" that the increased sponsorship allows. If you haven't registered yet, please do so today!

The IAC Committee has also been hard at work planning for the 7th International Aerosol Conference, which will bring together aerosol research scientists from around the world. In addition to the traditional tutorials, plenary lectures, symposia and platform sessions, the IAC will feature a pre-conference History of Aerosol Science Symposium, the Fuchs Award Presentation and Reception, and a special 25th Anniversary Celebration of AAAR. More information on the International Aerosol Conference can be found at www.AAAR.org/iac2006.

I'm happy to announce that the location of the 2007 Annual Conference has been selected. AAAR is going to Reno! The conference will be held September 22–30, 2007, at the Reno Hilton (www.caesars.com/Hilton/Reno/Hotel). With a huge exhibit hall, plenty of meeting space, a great room rate of just

\$101 a night, and its close proximity for many members, we're confident the Reno Hilton will be a great venue for the conference.



AAAR staff has also been gathering information on locations for the 2008 Annual Conference, which will likely be held in the East. There are several challenges in finding a location that is a fit for AAAR – we require a lot of meeting space but not a large room block (i.e. the number of rooms set aside for our conference attendees) and we are looking for a rate of less than \$150 night. Unfortunately, these criteria combined eliminate most properties from consideration. AAAR's meeting manager will be presenting the board of directors with several venues for their consideration at the October board meetings and a final decision on the 2008 conference location will be made in early 2006.

I think it's important to explain the impact the room block has on AAAR's conference expenses, since attendees inevitably book at other hotels, regardless of the rate we are able to secure at the conference hotel. Typically, AAAR does not incur any meeting room rental fees because of the size of our room block, but only if we actually use all (or at least 90 percent) of the rooms in the block. If we don't meet the room block, we are charged room rental fees based on our attrition rate (i.e. the percentage of rooms we failed to pick up in the block). For instance, if we only got to 70 percent of our block, AAAR would have to pay over \$30,000 in attrition/room rental charges.

Why am I boring you with this information? To stress that it is important that attendees stay at the conference hotel. You may save a couple of dollars a night by staying at the hotel down the block, but in the long run you could end up paying more to attend a conference. As you can see in Sonia's report, the conference, while a source of income for AAAR, is also our largest expense. If we consistently fail to meet our room block and/or have to reduce our room block to account for the number of attendees that stay off-site, we'll need to budget for room rental charges and find ways to cover the expense. Hopefully we can do that through increased sponsorship, but if not we would have to increase registration fees and/or reduce conference services (i.e. refreshment breaks, receptions, giveaways, etc.) to cover the expense.

The moral of the story - please make your reservations at the Austin Hilton today and at the Radisson Riverfront Hotel, St. Paul next year (and be sure to mention that you are with the AAAR conference because AAAR doesn't get credit for your reservation if you don't).

Have a great summer! I look forward to seeing you all in Austin in October.

Amy

Industry News

In recent news, **Thermo Electron** has purchased Rupprecht and Patashnick Co., Inc. (R&P), a world leader in continuous particulate monitoring instrumentation for the ambient air, emissions monitoring and industrial hygiene markets.

Marijn E. Dekkers, president and chief executive officer of Thermo Electron said, "R&P is a global leader in particulate monitoring instrumentation and is well-positioned to address future particulate monitoring regulations that will impact the emissions and ambient air monitoring markets, both of which are core to Thermo. Their product offering is an excellent complement to our existing portfolio of gas analyzers and particulate monitoring instruments, and will significantly enhance Thermo's global position in these markets by creating a supplier with a strong portfolio of instrumentation and service capabilities. The R&P acquisition strengthens our ability to meet our customers' current and future compliance, health and safety needs and reinforces our commitment to be the world leader in analytical instrumentation for environmental applications."

Headquartered in East Greenbush, New York, R&P will become part of the Air Quality Instruments business within Thermo's Environmental Instruments division.

TSI® Now Offers Three Water-Based CPCs

TSI® Incorporated, the developer of the world's first, commercial CPC in 1979, introduced the world's only Water-based Condensation Particle Counter (WCPC) last year. Today, TSI offers a family of three WCPCs, each with a different size range and features that produce the best results in a variety of applications.

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President's Column

Sonia Kreidenweis • 2004 - 2005

The year ahead promises to be an exciting one, starting with the upcoming Annual Meeting in Austin this October. Conference Chair Spyros Pandis has received a record number of abstract submissions and has assembled an outstanding program, including several special symposia. Planning is also already well underway for the International Aerosol Conference in September 2006 in St. Paul, Minn. This will be a special meeting for us: AAAR receives the honor of hosting the IAC only once every 12 years, and next year we will also be celebrating our 25th Anniversary. Mark your calendars and plan to participate in what is sure to be a memorable event!

I would like to devote most of my message in this issue to reporting to you on the financial status of AAAR. You may recall that, a few years ago, President Susanne Hering explained that during the late 1990s as we kept our dues and conference fees flat, our operating costs exceeded our revenue by 10-20 percent. We initially made up this difference through return on our investments. When the stock market declined, AAAR, along with many other professional organizations, saw a precipitous drop in resources. We were not only unable to maintain our budgeting strategy, but we also had to liquidate some of our investments. In 2002, we instituted many severe cost-cutting measures as well as an overdue increase in our dues and conference fees in order to align them more closely with the true costs of running our association and conferences. After that necessary readjustment, the board pledged that fees would increase only by inflation each year. In addition to the immediate belt-tightening, the board revised AAAR's investment strategy to rebuild our financial cushion and to ensure long-term financial stability. Last year, AAAR began operating under the revised strategy, with a new investment advisor, and this past February, we signed a new contract with Association Headquarters (AH) to provide us with the membership and conference support services that we need while keeping management costs at a level that AAAR can afford.

AAAR's financial policy is based on prudent business practices. First, to pay our bills in a timely manner, we must maintain four months' expenses in a cash reserve, approximately \$150,000. Second, as a buffer against a financial disaster such as a cancelled meeting, we must maintain long-term investments equivalent to one year's operating budget. As is shown in Figure 1, this is approximately \$459,000. This strategy has been a wise one, as seen from the history of our investments over the past 6 years (Figure 2). Without the reserves that we had in place, it may have been difficult for AAAR to survive the dip in 2002. It's clear that our belt-tightening since then has gone a long way toward improving our position. Within the next few years we should reach our goal, while maintaining our commitment to raising fees by no more than the inflationary rate each year. It is important to note, however, that half of the investment value shown in Figure 2 is, by our adopted policy, in more volatile products that offer higher returns, but at greater risk; the other half is in low-risk products. Thus the total value of our investments will fluctuate up and down with the market, although our current policy buffers against large swings through

an appropriate combination of investments.

Our annual operating budget has two parts: membership, which includes the journal, and conference. Every year at our winter board meeting, the board adopts a balanced budget based on our best estimates of income and expenses; any proposed expenditures outside this budget have to be separately authorized by the board. The income and expenses, summarized into broad categories, are shown in Figure 3. I have left out the dues income associated with journal subscriptions (about \$63,000) since those are paid directly to our publisher Taylor & Francis, and I show here only the portion of dues that goes toward AAAR member services (about half of the annual dues for each full member).



It's clear that income from our conference is the major offset for our annual expenses. This income includes registration fees, exhibitor fees, and tutorial fees (a more detailed breakdown of conference income and expenses is shown in Figure 4). When our conference attendance significantly exceeds that used to balance our budget, the conference generates a small surplus that, together with return on investments, has led to the growth in our reserves shown in Figure 1.

You'll notice a small piece of our budgeted income "pie" is attributed to advertising and sponsorship, and that conference costs, including management fees, account for two-thirds of our expenses. Conference costs have been rising significantly over the past several years. For example, with the move to computer-

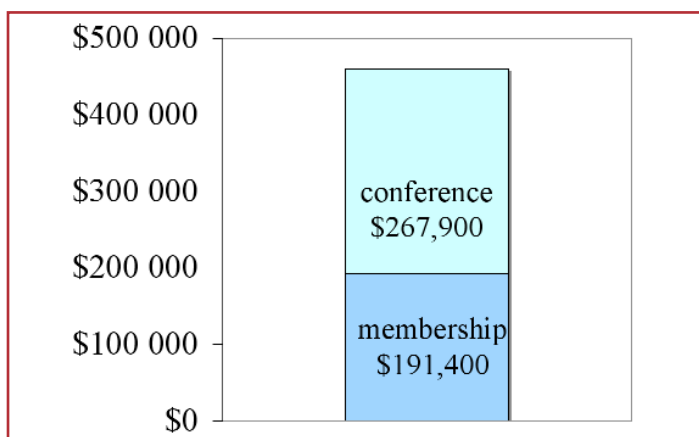


Figure 1. AAAR annual budgeted expenses, showing annual expenditures associated with membership and conference. Data are based on the approved 2005 budget.

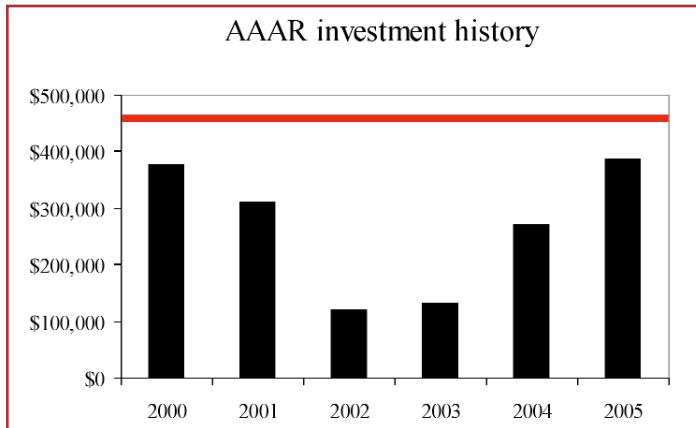


Figure 2. Value of AAAR's long-term investments. 2005 number is based on April statements. Red line is the goal of one year's operating budget.

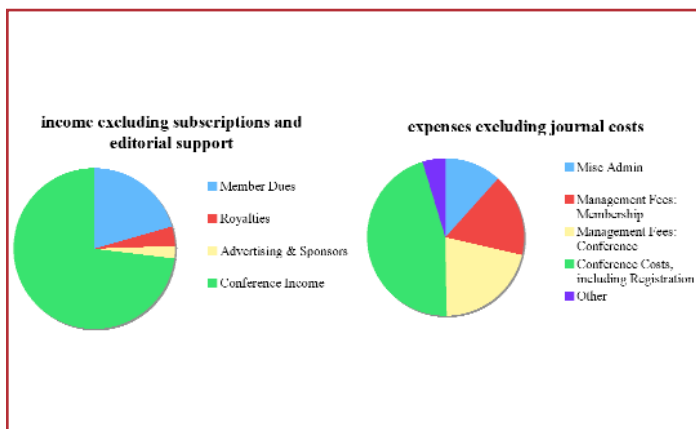


Figure 3. Summarized annual income and expenses for AAAR (based on adopted 2005 annual budget).



Figure 4. Conference income and expenses (based on 2005 adopted budget).

based presentations, audiovisual expenses have more than doubled. As Amy points out in her report, AAAR is also facing increasing challenges with respect to finding venues that can accommodate our current meeting space requirements, including the possibility of having to pay space rental fees on the order of \$50,000.

The importance of sponsorship to our annual budget has been increasing, and this will make it possible for AAAR to run high-quality meetings without having to again significantly increase registration fees to cover the ever-rising costs of meetings. I am pleased to report that our already-secured 2005 sponsorships exceed the budgeted amount by over \$60,000! These funds will enable us to not only cover unexpected expenses and approve special expenditures to enhance the conference, but also to continue to provide services important to our members: high-quality support for the conferences (e.g., up-to-date audiovisual equipment, refreshment breaks, and accurate, convenient printed materials); support for student attendance in the form of reduced registration fees; and support for special symposia to reach out to other communities and forge lasting and beneficial interactions. AAAR's Development Committee, with guidance and assistance from AH, has been refining our sponsorship program so that it is mutually beneficial to our sponsors and our members. We are very excited about the success of our efforts to date. Amy summarizes our confirmed 2005 sponsorships in her article, and I thank each of our sponsors most sincerely for their support of our association.

I am confident that AAAR is on sound financial footing at this time, and that the policies and practices now in place, together with the guidance of our informed and proactive board, will ensure that we continue on this favorable trajectory. I also want to gratefully acknowledge the many contributions of AAAR volunteers toward keeping our expenses down, by providing services at no or low cost. In particular, I thank Susanne Hering and Donald Dabdub for their work on abstract Web submission and abstract processing, which has saved AAAR many thousands of dollars over the past several years. Although I don't have space here to thank everyone individually, the many, many volunteer hours that go into various aspects of member services and conference planning and execution are so appreciated.

This is my final message to you as president. It has been a great honor to serve as the president of AAAR, and a pleasure to work with the Executive Committee, our dedicated board members, and the capable staff of AH. In particular, I would like to express my sincere appreciation to Amy Williams, who as our Executive Director has played a key role in helping AAAR manage costs and improve our planning process. I also sincerely thank Vice President Tony Wexler for his help and for his many significant contributions throughout the year. With Amy's assistance, Tony has achieved an unprecedented and outstanding level of sponsorship for our upcoming Annual Meeting. AAAR's continued success in the coming year is ensured under Tony's dynamic leadership. I thank all of you for a most rewarding year, one that has seen AAAR thrive, thanks in large part to the active participation of so many our members. I look forward to seeing you in Austin!

7TH International Aerosol Conference, September 10-15, 2006

The 2006 IAC begins Sunday, September 10, 2006, with a variety of interesting tutorials. The conference itself begins Monday, September 11 and runs every day through Friday, September 15, 2006. IAC 2006 will be in St. Paul, Minn., at the Radisson Riverfront Hotel. See the latest details at www.AAAR.org/iac2006.

The Call for Abstracts is now on the Web site, with the deadline for submission February 1, 2006. Special symposia on nanotechnology, aerosol mass spectrometry, and aerosol software modules are planned. The Third Symposium on the History of Aerosol Science is scheduled for Friday and Saturday, September 8-9, 2006, just before the IAC 2006, at the same hotel.

The Fuchs Memorial Award will recognize a lifetime of outstanding original research contributions in aerosol science and technology. The International Aerosol Fellow Award will be presented to recognize outstanding contributions to aerosol science and technology through research, technical development, education, and/or service.

IAC 2006 marks the 25th Anniversary of AAAR. Special events will mark this anniversary.

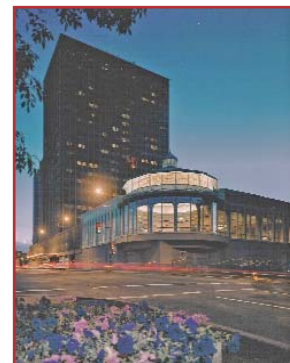
An exhibition of goods and services from about 25 aerosol-related organizations is expected. A social program, including a dinner cruise on the Mississippi River, a visit to Mall of America, and a tour of interesting

sites throughout the Twin City area will be offered to attendees and their guests.

The hotel overlooks a major bend in the beautiful Mississippi River and is located in the center of beautiful, bustling, historical St. Paul. Most sites of interest are within walking distance, including dozens of restaurants from an outstanding five-star restaurant rated the best in the Upper Midwest to fast-food places. Minnesota's awe-inspiring capitol building, with its beautifully manicured grounds, is about 1 kilometer away. The outstanding Science Museum of Minnesota – less than half a kilometer away – is a highlight for people of all ages. The building with perhaps the most beautiful interior is the recently-built Minnesota History Center – about 1 kilometer away.

St. Paul is one of the best-connected airline hubs in the world. MSP Airport – just 20 minutes away – offers direct flights to/from Amsterdam, Tokyo, London, and over 100 cities in the North America. MSP Airport, the home of Northwest Airlines, was recently ranked one of the top five airports in the world in customer satisfaction.

Don't miss this landmark conference. For the latest details, check out www.AAAR.org/iac2006.



CALENDAR OF EVENTS

August 13-16, 2005

Particles 2005 Conference on Surface Modification in Particle Technology
San Francisco, California
nanoparticles.org/Particles2005/

August 28 - September 2, 2005

European Aerosol Conference 2005 (EAC 2005)
Ghent, Belgium
www.EAC2005.be

October 3-6, 2005

Second International Symposium on Nanotechnology & Occupational Health
www.cce.umn.edu/nanotechnology

October 17-21, 2005

24th Annual AAAR Conference
Hilton Austin Hotel
Austin, Texas
www.aaar.org/05AnnualConf/index.htm

October 20-21, 2005

PCIH 2005-The Summit for New Opportunities
Denver, CO
PLUS! Exposure Assessment Decision Making, Making Decisions in the Face of Uncertainty
www.aiha.org/pci.htm

October 24 - 25, 2005

Frontiers in Aerosol Dosimetry Research
The Beckman Center of the National Academies
Irvine, California
e-mail: rfphalen@uci.edu

Dec 13-16, 2005

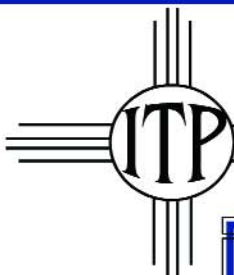
4th Asian Aerosol Conference
Grand Hyatt, Bombay, India
www.iasta-aac.org

May 13-18, 2006

AIHce 2006 Co-located with VENT 2006-May 14-16, 2006, Chicago, IL
Please visit www.aiha.org/aihce.htm to submit a presentation and for detailed information.

September 10-15, 2006

International Aerosol Conference 2006
Radisson Riverfront Hotel
St. Paul, Minnesota
www.aaar.org/IAC2006/index.htm



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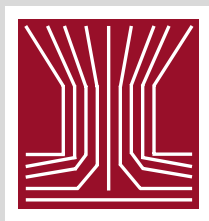
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Who's Who at the AAAR Office

AAAR staff is here to help with any and all questions you may have on the association, benefits, dues, the annual conference and more. Office hours are Monday - Friday 8:30 AM - 5:00 PM (EST). Phone calls and e-mails are typically answered within 24 hours.

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Riverside

AAAR JOB POSTINGS

NCH
Aerosol Chemist

Quantum Resources
Postdoctoral Research Fellow
– Aerosol Research

**S. C. Johnson & Son, Inc.,
Research Development &
Engineering Division**
Postdoctoral Fellow

**New Jersey Medical School,
Center for Emerging and
Re-Emerging Pathogens in
the Department of
Medicine**
Postdoctoral Fellow

Midwest Research Institute
Aerosol Engineering Manager

Please visit
www.aaar.org/career.htm for a
complete description of these
postings and more. To post a
job opening on the AAAR Web
site (and a short version in the
newsletter), please submit a
description of the job
electronically by e-mail or in
an ACSII text file to AAAR (e-
mail: info@aaar.org). The price
is \$150 U.S. for a maximum of
200 words. The posting will
remain as long as needed, up
to six months. Please send a
check (payable to the AAAR) to
AAAR, Attn: Deanna Bright,
15000 Commerce Parkway,
Suite C, Mt. Laurel, NJ 08054,
and note that this is payment
for a job posting on the AAAR
Web site. Sorry, we are not able
to accept resumes.

Welcome New Members

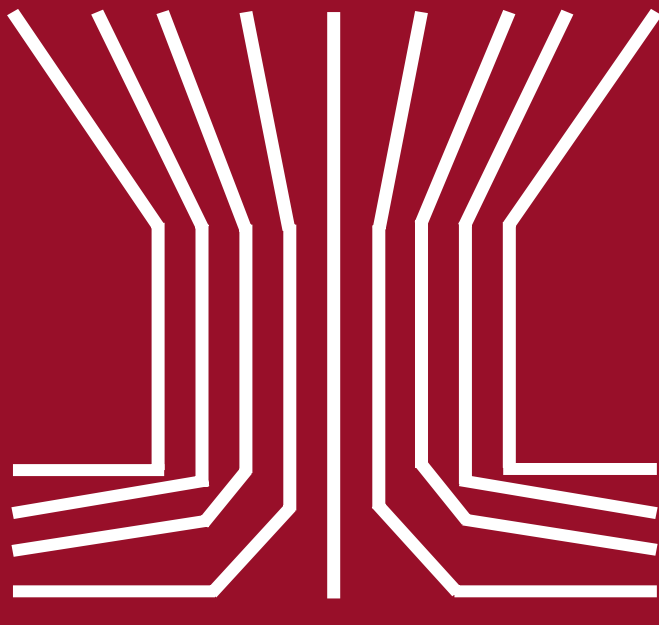
As of March 15, 2005

James Clark
CPS Inc.

Pranav Kulkarni
University of Houston

Scott Stouffer
University of Dayton

Susumu Tohno
Kyoto University



HEALTH EFFECTS INSTITUTE

Requests for Applications

HEI announces its Summer 2005 Research Agenda. The new Requests for Applications booklet is available at www.healtheffects.org/funding.htm.

RFA 05-1 Studies to Compare Components and Characteristics of Particulate Matter Associated with Health Effects solicits applications for studies from multidisciplinary teams to compare the toxicity and health effects related to different chemical or physical properties of particulate matter (PM); \$8-10 million dollars will be available. HEI will fund two types of studies:

RFA 05-1A Conducting Full Studies to Compare Characteristics of PM Associated with Health Effects. Hypothesis-driven epidemiologic and/or toxicologic studies of up to 4 years duration. Letter of Intent required by September 15, 2005, Full application due by January 4, 2006.

RFA 05-1B Conducting Planning or Demonstration Studies to Design a Major Study to Compare Characteristics of PM Associated with Health Effects. Up to 9 months duration, to establish a multidisciplinary team, evaluate a preliminary hypothesis, and gather background information. Letter of Intent required by August 31, 2005; application due by September 29, 2005.

RFA 05-2 Walter A. Rosenblith New Investigator Award To support new, outstanding investigators interested in the health effects of air pollution. It provides \$300,000 over 3 years to an investigator with outstanding promise at the Assistant Professor or equivalent level for a small project relevant to HEI's research interests. Refer to the HEI website for eligibility criteria. Letter of Intent due November 1, 2005; application due January 5, 2006.

RFPA 05-3 Health Effects of Air Pollution provides an application mechanism for investigators whose area of interest falls outside the topics targeted in other current research requests, but is relevant to HEI's current priorities. Applications can be submitted at any time.

For more information, refer to the HEI website at www.healtheffects.org/funding.htm. If you have questions, contact Terésa Fasulo at HEI tfasulo@healtheffects.org or +1-617-886-9330 ext 345.



Aerosols In The Spotlight

This SEM image shows brochosomes, a particularly beautiful, yet rarely known type of bioaerosol. Brochosomes are produced by leafhoppers to serve as a very efficient, water repellent surface coverage. The sample was collected in an impactor at a site in Munich, Germany. The brochosomes seem to retain biological activity even after sampling, occasionally reacting with the substrate or other particles. The brochosome in the lower left is an exciting example. The originally spherical particle was heavily deformed by reaction with and attachment to adjacent inorganic aerosol particles. The final structure is reminiscent of a spider web. Additional images of brochosomes and other bioaerosols can be found in Wittmaack (and co-authors) (2005a,b,c) *Atmos Environ*, 39, 1173–1180; *Atmos Chem Phys Disc*, 5, 2247–2268 and *Sci Total Environ*, 346, 244–255.

