



Joint Sponsorship with NYC Bar Association of Two Solid Waste Forums and Debates

MASS co-sponsored with the Environmental Law Committee of the New York City Bar Association two separate half-day forums entitled "Managing Solid Waste Sustainably" and "A Public Debate: Is Thermal Treatment of Solid Waste Good for New York City?" These two forums were held in the Great Hall of the New York City Bar Association located in mid-town Manhattan. The first forum was held on December 4, 2006 and featured presentations by academic researchers, entrepreneurs and technical representatives of technology innovators, public interest representatives and government officials. The lead off speaker was New York City Commissioner of Sanitation John J. Doherty. This session was moderated by Amy Eddings, the WNYC host of "All Things Considered". Approximately 150 people attended and the session was such a success that a "return engagement" on thermal treatment of MSW and alternatives thereto was scheduled.

This second session was held on March 22, 2007 at the NYC Bar Association. Again a diverse group of technical, business and public interest speakers were featured. I as the MASS Chairperson and event co-sponsor provided a brief overview of MSW management entitled from "Rodents to Recycling" seeking to put into perspective the tremendous progress during the past 35 years in virtually eliminating open dumps and the adverse and direct environmental impacts of land disposal while seeking to develop and deploy more recently better recycling and energy recovery technologies. I did this under the heading "Don't Bury the BTUs!" After the conclusion of the event, several speakers and I were interviewed by Attorney Jean Warshaw who was undertaking to prepare a Pod cast summary of the event for general access via the Bar Association's Web site. If any Section or Chapter members seek more information about the program, please contact me at 215-977-1069 or via e-mail at drb@elliottgreenleaf.com. Attorney Christine Fazio ably represented the Environmental Law Committee of the NYC Bar Association during both forums. Ms. Fazio can be reached via e-mail at fazio@clm.com.

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Douglas R. Blazey, Chair

The Chair's Corner

Douglas R. Blazey



This first message to you as your Section Chairperson reminds me of the theme I spoke about some 45 years ago. As memory serves me, that theme went something like this—"Who are we? Where have we been? Where are we going?" You guessed it; those remarks were delivered to my high school classmates on graduation day. These same questions are relevant for our Section and its four member Chapters as we seek to recruit and train new volunteers for section and chapter leadership positions, identify technical and training programs and outreach projects of real meaning and value to our members, and enhance the capabilities of our ever more relevant, now nearly 100 year old, international association.

We are an organization of volunteers with limited terms of office who seek to provide first class professional learning experiences to our colleagues in environmental science and engineering, to enjoy each others fellowship and benefit from each others experience, to aid young people obtain air and waste management expertise through scholarship support and professional development activities, and to grow our local units and our national organization. Our Section is the second largest in the nation with 653 members; only the South Atlantic States Section is larger with 705 members. While being "second" in size is not such bad news, I have to report that MASS shrunk 4% from 2005 to 2006 while SASS grew 4% during this same time period.

I have three goals for my one short year at the helm. First, to encourage more of our members to assume section and chapter leadership positions and to have current and new leaders participate in the excellent national organization training and governance processes. Incoming officer training is scheduled for Friday to Sunday, April 13-15, 2007 in Pittsburgh. I attended this training several years ago while a Delaware Valley Chapter officer and it was great! The training is excellent and the fellowship superb. We need to provide financial support to our incoming officers to attend and to encourage them to attend as attendance is unfortunately often quite "light". Second, we need to provide financial support for a current officer or continuity volunteer to attend the Section and Chapter Council meeting that occurs three times per year. The in-coming officer training session and the S&C Council meetings are a time of team building, success and failure sharing, and learning about each other and the broad ranging activities of our national organization. Unfortunately, far too few of our sections and chapters use these two vehicles established expressly for them! Let's make the Mid-Atlantic States Section and its Chapters the biggest user of these excellent products. Our International President, Tony van der Vooren, took his time to attend the entire February 2007 Section and Chapters Council meeting—so can you!

Second, let us poll our colleagues, whether in the business or academic communities, our immediate supervisors, and enterprise executives and owners about program ideas and concepts that they will support by attendance, by exhibition activity and by financial commitment. We know we are capable of delivering excellent programs, but we sometimes seem to "miss the mark" on what the market wants from us. Let's strengthen our Program Committees, talk up our mission and solicit from our business and academic colleagues ideas on what they wish to see our Section and Chapters offer as they seek to enhance the technical and financial strength of their organizations. If you want to include national, section or chapter officials in those discussions, count me in!

Finally, I would like to see a large Mid-Atlantic States turn-out in Pittsburgh for the Centennial Conference and Exhibition running from June 26-29, 2007. Let's celebrate AWMA, praise accomplishments past, prepare for the critical challenges ahead in managing our precious and limited air resource, and make waste a "thing of the past" with practical waste minimization and material and energy recovery concepts deployed around the globe. There will be plenty of lunch, plenty of learning, and plenty of fellowship during this very special one week celebration of AWMA.

MASS Section Holds Events at Rutgers



Keynote Speaker: Alan Robock

NJCNJ Chapter Holds Meeting on Global Warming

The NCNJ Chapter held a meeting on Global Warming at Rutgers University Cook Campus in December of 2006. The meeting was well attended by over 50 students, mostly undergraduates in Environmental Science and Meteorology. The keynote address was given by Dr. Alan Robock, a well-known meteorologist, who provided convincing evidence regarding the impacts of global warming. It was a great opportunity for students to meet A&WMA members who are practicing professionals in the field. MASS participates in Student Career Night at Rutgers Cook Campus.

Environmental Career Night Draws a Crowd

The MASS section participated in the Rutgers University Environmental Science Club Career night on April 18th. This event was attended by over 100 students and over 30 potential employers. Some employers were actively looking to recruit students while others were there to provide advice and guidance to students. The event was a huge success and one student commented, "it was really neat to talk to people who try to implement things that protect the environment every day when they go to work, I had no idea how challenging and exciting this could be, I am looking forward to getting a job and getting engaged."



Want to
become
a member?

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... here is how:

Online: go to <http://www.mass-awma.net/join-renew.html>

or

By phone: call the **A&WMA Member Services Department** at 1-800-270-3444 for an application and complete membership.



Avogadro Environmental Consulting Manager Receives Two Major Certifications as EMS Auditor

Avogadro is pleased to announce that William H. (Bill) Barnes, Manager of the Consulting Engineering Division has received certification by two leading global Environmental Management Systems (EMS) auditor certifying boards. Receiving such recognition demonstrates the technical depth and practical leadership provided to EMS clientele of Avogadro Environmental.

Bill formalized the Consulting Engineering Division at Avogadro Environmental in 2004 and has expanded staff and capabilities for providing first class environmental, health, and safety consulting services to industries throughout the United States. He is a registered Professional Engineer in Virginia, Georgia, Pennsylvania, Ohio, New Jersey and Alabama. These offerings include:

- ◆ Air, Water, and Waste Permitting and Compliance Reporting
- ◆ EHS Management Services (ISO 14001, NEPT, OSHA VPP, RCMS)
- ◆ Multi-Media EHS Compliance Program Development and Auditing
- ◆ Spill Prevention and Emergency Response Planning
- ◆ Process Safety, Security and Environmental Risk Management

In November, Bill received notice by the International Register of Certificated Auditors (IRCA)

that he was recognized as an EMS auditor (Certificate No. 01190571). Re-grading as a Principal Auditor is pending as of this publication date. In February, Bill received notice by the Board of Environmental, Health and Safety Auditor Certifications (BEAC) that he was recognized as a Responsible Care Management Systems (RCMS/RCI4001) Certified Professional Environmental Auditor (CPEA).

Mr. Barnes has over 20 years experience and background in environmental compliance working directly in leading industries including power, metals, minerals, chemicals, paper, aerospace and foods. He has managed numerous air & water quality permitting projects. His experience includes working with EPA, OSHA, US Coast Guard and state programs for accidental release prevention and response for oils and hazardous substances.

Bill has participated in the development of Environmental Management Systems in conformance with USEPA NEPT, ISO 14001 and other standards including OSHA Voluntary Protection Program (VPP) efforts. He is presently working with a leading cement manufacturer to develop effective EMS at Portland cement manufacturing plants throughout North America and a leading Municipal Solid Waste (MSW) Energy Recovery provider at MSW-Power Plants nationwide.

DVC and MASS APERG Program Holds Annual Awards Ceremony and Student Night

The APERG program recently held its annual awards ceremony on April 26th at Villanova University. The three current APERG scholars presented posters of their research, received their awards certificates, and discussed their projects with the event attendees. It was an excellent opportunity for the APERG committee members to meet and discuss research projects with awardees, potential new APERG applicants, and also with faculty members throughout the region. In addition to the APERG awards, the Delaware Valley Chapter gave out undergraduate scholarships to two deserving students in the Delaware region. International A&WMA's President Tony Van der Vooren also attended the ceremony. Tony gave the keynote address and discussed the future of the environmental profession. It was a wonderful event that was enjoyed by all who were able to attend. The Section and the Delaware Valley chapter plan to hold this event every year at the end of April.



Keynote Speaker International A&WMA's President Tony Van der Vooren



Marjorie Fitzpatrick presented the undergraduate scholarships at the awards ceremony



l to r. Tony Van der Vooren, Richard Lucas, Byunghyun Han, Kim Knowlton, Doug Blazey, Jim Blando, Dan Lefkowitz

Air Pollution Education and Research Grant (APERG) Program Progress Reports

The APERG 2006 scholars have been making significant progress on their research projects over the last year. Below is a summary of each project funded by the APERG program in the 2006 academic year. Dr. Kim Knowlton, Mr. Byunghyun Han, and Mr. Richard Lucas were all funded last year, with Mr. Han and Lucas having the distinction of being a Manganelli scholar as this was their second year of support from the program.

>>> Atmospheric N Deposition, Ectomycorrhizal Fungi, and Ecosystem Functioning in Forests of the Northeastern United States: What are the Connections? by Richard W. Lucas, University of Pennsylvania

Over the past century, human activities have resulted in a substantial increase in atmospheric nitrogen (N) deposition throughout eastern North America, effec-

tively doubling the amount of reactive nitrogen entering terrestrial ecosystems. Increased atmospheric N deposition has the potential to alter terrestrial plant and microbial communities by increasing available NO_3^- and NH_4^+ in forest soil. Ectomycorrhizal fungi, a central member of the soil microbial community, live in association with most tree species of temperate and boreal ecosystems and are important contributors to many ecosystem functions. Previous work in boreal systems suggests that the availability of organic and inorganic N resources are important contributing factors structuring belowground communities of ectomycorrhizal fungi. We do not yet understand the importance or the implications of changes in the ectomycorrhizal community as measured by effects on forest ecosystems or ecosystem functions

such as N cycling or carbon storage.

We examined ectomycorrhizal community structure morphologically over a well known atmospheric N deposition gradient across the northeastern United States. We also measured peroxidase, phenol oxidase, general proteolytic activity, and N mineralization, four ecosystem functions in which ectomycorrhizal fungi are principally involved. Using detrended correspondence analysis (DCA), we found significant differences in ectomycorrhizal communities across the gradient with the first three axes describing 48% of the observed variation. Most community differences are driven by the relative abundance of 17 morphotypes across the gradient. Peroxidase and phenol oxidase activities significantly decline with increasing N deposition ($r^2 = 0.441$ and 0.253 , $p = 0.0032$ and 0.0242 respectively). N mineralization also significantly declines with increasing N deposition ($r^2 = 0.421$, $p = 0.0001$). Surprisingly, general proteolytic activity increases with increasing N deposition ($r^2 = 0.331$, $p = 0.0081$). Our data support the hypotheses that with increased atmospheric N deposition ectomycorrhizal communities shift from those using more organic forms of N to those using more inorganic forms of N and also that increased N deposition accelerates decomposition of light soil C fractions with short turnover times while further stabilizing more recalcitrant soil C fractions with multidecadal turnover times.



APERG Program Gearing up for the 2007 - 2008 Academic Year

This year, as in all past years, the competition is significant as the program received a large number of applications throughout the Mid-Atlantic States Section (MASS). The

APERG committee is currently deliberating on the applications and expects to reach a decision by August 15th. This year the program plans to give out three \$25,000 awards in support of air pollution research. With this upcoming award cycle, the program will have donated over a million dollars to fund research on air quality throughout the Mid-Atlantic region.

>>> **"Profiling Carbon Dioxide, Pollen Concentrations and Asthma in the New York City Region,"** by **Dr. Kim Knowlton, Post-Doctoral Research Scientist, Dept of Environmental Health Sciences, Mailman School of Public Health, Columbia University, and Mellon Post-Doctoral Fellow, Dept of Environmental Sciences, Barnard College.**

In the first six months of the project, progress has moved ahead on two fronts. To examine local differences in ambient carbon dioxide (CO₂) concentrations, a north-south sampling transect from the urban core of New York City into surrounding suburban and rural counties has begun. A prototype outdoor CO₂ monitoring system was assembled, one that simultaneously samples carbon dioxide, temperature, water vapor and pressure in ambient air and includes a GPS location device. Originally conceived as a train transect, the sampling campaign is now conducted by car to allow sufficient time for the temperature sensor to equilibrate at each sample site. In the winter sampling campaign, data from an array of sites along the north-south transect on the east side of the Hudson River is collected during morning and afternoon hours to discern diurnal and weekend vs. weekday variations. A similar summer sampling campaign will take place later in 2007 in order to discern possible effects of local vegetation on ambient CO₂. By plotting and comparing the mean and standard errors of CO₂ concentrations vs. distance from the urban core, the project will address the overall goal of Phase I, which is to investigate the presence or absence of an "urban CO₂ dome." For Phase II, appreciable outreach efforts were made to obtain 1988-

2002 New York State pollen data. A 1988-2002 pollen dataset for the Albany, NY area compiled by Certified Allergy and Asthma Consultants is being evaluated currently, among other sites. An undergraduate student in Environmental Sciences from Barnard College is helping pre-process the pollen data and her work will be the basis of a Senior Thesis. Weekly data on respiratory hospitalizations in New York counties are being investigated in order to assess trends that may be occurring in the timing of spring seasonal pollen start dates and whether incidence of pediatric asthma hospitalizations may be correlated.

>>> **Intelligent Bioreactor Management Information System (IBM-IS) for Mitigation of Greenhouse Gas Emissions and Carbon Sequestration** by **Mr. Byunghyun Han**

In order to develop an intelligent system for operating bioreactor landfills, methods are needed to measure water in situ, since water often limits waste degradation and must be added to landfills. In addition, models are needed to describe the simultaneous movement of gas and water through refuse. These two topics are the focus of my work. The partitioning gas tracer test for measuring water in refuse was advanced in my research, with results recently published in *Environmental Science & Technology* (Han B, et al., 2007). In order to develop models for the simultaneous movement of gas and water through refuse, the influence of gas on water flow and water on gas flow must be described. The relative permeability-water saturation-capillary pressure



Mr Han's experimental system in the laboratory

relationship is proposed to describe these influences and will be measured for refuse at different degrees of waste compaction. While such measurements are common for soils, to the best of our knowledge these measurements will be the first of their kind for refuse.

An experimental column (61 cm long with 29 cm ID) was built based on similar testing procedures developed for soils (Hopmans, et al., 1998). Here, Hopmans' original design was modified to (1) increase the volume of the waste sample, to account for the heterogeneity of refuse; (2) allow for varying degrees of waste compaction; and (3) allow both steady state and transient techniques, i.e., the multi-step outflow procedure, to be used. Tests and subsequent modifications to this laboratory experimental system were completed in the last four months. The experimental cell is now being used to measure the relative permeability-water saturation-capillary pressure relationship for various types of refuse

for a range of compaction densities. Once mathematical descriptions are developed to fit these data, these equations will be incorporated into computer models for describing the movement of gas and water in bioreactor landfills.

All About NJDEP Emission Statement Program

Danny Wong, Supervisor of the Emission Statement Program in NJDEP's Division of Air Quality was the featured speaker at a Central and Northern New Jersey - A&WMA Chapter meeting held in East Brunswick, NJ, on March 6, 2007. Mr. Wong gave an extensive presentation on the Emission Statement Program. The presentation covered the essentials of an emission statement report and how to submit an error-free report. The basics of the program were reviewed, including applicability thresholds, definition of a VOC, definition of Potential To Emit, the list of air toxics that must be reported and a review of terminology used in the program.

Mr. Wong focused on issues that can result in a "Letter of Reasonableness" being sent to submitters. Last year approximately 90% of submitters were required to respond to such a letter. Common "issues of reasonableness" were reviewed. Suggestions were made as to how to avoid receiving a letter. A checklist of common issues was provided and is available on the Section Website under New Jersey Chapter (past events - March 6, 2007).

HCV Lab Welcomes A&WMA

The Hampton-Clarke/Veritech (HCV) Laboratory presentation and tour was held in Fairfield, NJ on Monday, February 26, 2007. Those who braved the bad weather were awarded with snacks, sandwiches, and drinks courtesy of HCV labs. Tom Cady, Vice President of Analytical Services with HCV Labs, gave an informative presentation on field sampling procedures, laboratory procedures, turnaround time, report formats, EDD's, quality control and analyses. His presentation was practical providing insight into the views of an opposing lawyer and how one would try to discredit your paperwork and critical steps of how to limit liability. Examples were provided of correct, and incorrect, sample collection, chain of custodies, and sample log-in.

A tour of the HCV laboratory facility followed the presentation, allowing participants to get a first-hand look behind the scenes at an environmental laboratory and the "life/process" of an environmental sample. The tour began with a walk-through of the sample storage area and a discussion of bottle preparation. Tom Cady presented an overview of sample acceptance and tracking throughout the entire laboratory process. A brief discussion of several laboratory analyses (including sensitivity, dilutions, and method selection) and theory covering gas chromatographs, mass spectrometry, ICP, and wet chemistry led the way to an overview of instrument preparation and sample extraction. The tour proceeded through their laboratory facility giving the tour members a good look at the various analytical instrumentation. If you ever wondered why it is so difficult to get rush turnaround, this tour answered your questions.



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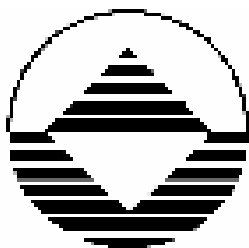
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James Blando, past Sectional Chair and currently NCNJ Chapter Chairman, has been elected to the International Board of Directors for A&WMA. This was based on the voting results for the entire membership of the A&WMA organization. Jim will serve for three years and advocate for our members, students, and local organizational units such as Sections and Chapters. His term begins in January of 2008 and he will serve as a representative in the government regulatory category.



A&WMA Annual Conference Celebrating 100 years of Air Quality Protection

by Doug Blazey, Chair MASS Section

I had the privilege of attending our association's 100th Anniversary Annual Conference and Exposition (ACE) held this year in the founding location, the City of Pittsburgh. For those of you that have attended ACE before—I have to admit that this was my first conference — what I offer as observations may be very obvious, but these observations were meaningful to me.

I knew by virtue of my service in the DVC and now in MASS that we, at the Chapter and Section level, were committed to scholarship. What I did not appreciate first hand was just how dedicated our entire organization is to scholarship and the advancement of the art, science and ethics of environmental protection. The ACE is an opportunity to receive the learning and experience of scholars, government officials and practicing business professionals from across the world regarding the status of active research now underway, the results of research concluded, and the practical learning and benefits of new field practices and equipment. Any attendee will not be disappointed in the professional learning experience and general comradeship experienced during the ACE.

What distinguishes participation in our AWMA Chapters, Sections and national organization from participation in other business



oriented professional associations is the opportunity to grow as individuals and support our profession in general without the need to advance simply our own business perspective and interests. There are plenty of networking opportunities and countless sessions with practical value for your business or professional development, but one also gains a clear sense that AWMA and its thousands of individual members are dedicated to advancing our professional and the world's environmental quality.

For those of your that have not attended an ACE, I hope to see you in Portland next summer for the 101st Annual ACE. In the short run, I look forward to seeing many of you at our September 2007 MASS Section conference in Allentown co-sponsored in conjunction with the Greater Lehigh Chamber of Commerce. It is sure to be a winner!