

HAPPENINGS at the SAB

...ensuring a solid technical basis for environmental protection

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GUEST EDITORIAL

This month's Guest Editorial comes from Joseph R. Landolph, Jr., Ph. D, who presents some his thoughts on the recent EPA Science Forum. Dr. Landolph is an Associate Professor of Molecular Microbiology and Immunology and Pathology, Keck School of Medicine, at the University of Southern California, Los Angeles, California. He studies the molecular biology of chromium and nickel-induced neoplastic cell transformation. He is also a member of the U. S. EPA's Science Advisory Board, served on the Human Health Research Strategies Review Committee, and is a member of the Drinking Water Committee.

EPA Science Forum 2003: Partnering to Protect Human Health and The Environment

The recent EPA Science Forum held in Washington, DC, from May 5-7, 2003, was very exciting and informative. An impressive Plenary Session included talks by Christine Todd Whitman, EPA Administrator, and Linda Fisher, Deputy Administrator, who described Federal mandates placed on EPA to protect human health and the environment and use of the strongest science possible upon which to base EPA's regulatory decisions. Dr. Paul Gilman, EPA Science Advisor, described the EPA's science policy. Jimmy Palmer, Regional Administrator for EPA Region 4, described environmental problems of Region 4 and application of science to resolve these problems. James Connaughton, Chairman of the White House Council on Environmental Quality, described the White House's environmental policies and coordination between the White House and the EPA. Kevin Teichman, Director, Office of Science Policy, Office of Research and Development (ORD), EPA, described science policies of ORD and their applications

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to support EPA regulatory decisions. Maureen McCarthy, Department of Homeland Security, described collaboration between the Office of Homeland Security and the EPA on homeland security. William Ross, North Carolina Department of Environmental/Natural Resources, described how scientific assessments are implemented in the regulatory sector. Dr. Earle, Marine Biologist, National Geographic Society, discussed the necessity to preserve the oceanic habitat and showed a powerful film on contamination of the ecosystems of Kuwait and Iraq with burning oil during the First Persian Gulf War. David Rejeski, Woodrow Wilson International Center for Scholars, indicated that technology is increasing at a rapid pace, including development and applications of genomics, toxicogenomics, and proteomics. He stressed that EPA and other scientific agencies should adopt these new technologies rapidly and implement them rapidly into their regulatory decision-making processes, at the beginning of development of new chemicals and products, to address toxicity concerns.

Poster session on days one to three, contained a plethora of posters on numerous topics, including arsenic toxicology, radiation in samplings, decontamination of buildings contaminated with chemical/biological agents, monitoring air/water for chemical/biological contamination, use of metabonomics to study effects of chemical toxicity, and use of aerial spectroscopy to detect chemical contamination of bodies of fresh water. Representatives from the U.S. Army's Chemical and Biological Center, including Dr. Harry Salem and colleagues, attended this and other sessions and interacted with EPA scientists. Those EPA scientists whose papers were nominated for awards under the Agency's 2001-2002 Scientific and Technological Achievement Awards (STAA) Program were invited to attend the Science Forum to receive certificates acknowledging their work from the Science Advisory Board. These certificates were presented to the top award level winners by Dr. William Glaze, Chairman of the EPA Science Advisory Board, and Dr. Herb Ward, Chair of the SAB's STAA Review Panel.

Day two contained an exciting session on Applying Computational Toxicology to Solving Environmental Problems, and concurrent sessions on the EPA Water Program, Moving Science Into Action, and Homeland Security. Dr. William Farland of ORD discussed using Computational Toxicology to support EPA's mission. Dr. Mendrick (GeneLogic, Inc.), described Toxicogenomic Predictive Modeling and its power to allow industrial firms and regulatory agencies to predict toxicology of new chemical agents. Dr. Lawrence Reiter (NHEERL/ORD) discussed EPA's Research Program on Computational Toxicology, the position of Computational Toxicology at the Interface of Toxicology, Molecular Biology, and Computational Biology, and use of this technique to estimate toxicities of large families of chemicals, such as PCBs and dioxins. Dr. Van Houten (NIEHS) discussed NIEHS's Toxicogenomics Centers as models for Federal Agency partnerships.

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The third day, in Homeland Security Seminars, there were interesting presentations by Administrators of water systems for Washington, D. C., and New York City. The need for expert scientific consultants to advise municipalities on biological, chemical, and radiological toxins, actions taken to address vulnerabilities of U. S. municipal water systems to toxins, and partnering of these municipalities with EPA, CDC, and the Office of Homeland Security were discussed. Other speakers indicated that Federal, State and local air monitors are now linked into a system coupled to computers and named "Biowatch," to detect contamination of the air in the U. S. with biological or chemical agents. Sensor networks are being developed to detect chemical and biological agents in municipal water systems. U. S. chemical industries have been rated for their vulnerabilities to sabotage, and security systems are being implemented to protect these facilities, as discussed by a security expert from Sandia National Laboratories. The session, Applying Nanotechnology to Solve Environmental Problems, included talks by Dr. Colvin (Rice Univ.), on Nanotechnology and the Environment, by Dr. Roco (NSF) on the future of the National Nanotechnology Initiative, and by Dr. Trogler (UCSD), on Nanostructured Porous Silicon and Luminescent Polysiloles as Chemical Sensors for Carcinogenic Chromium (VI) and Arsenic (VI). Dr. Chen (UC Riverside), discussed Nanoscale Biopolymers for Decontamination and Recycling of Heavy Metals. Nanoparticles provide unique chemical reagents to conduct specific, novel, and efficient syntheses. It is important to study the toxicology of nanoparticles at an early stage, to determine their environmental impact before their uses are embedded in industrial processes.

It was gratifying to observe the strong and enthusiastic cooperation among officials from the President's Office, the EPA, the Office of Homeland Security, and the U. S. Army during this time of external threats from biological, chemical, and radiological weapons. Overall, this was an exciting and informative EPA Science Forum. I recommend future EPA Science Forums to scientists who want to know and understand the structure, mandates, and impressive scientific accomplishments of the US EPA, how strongly the scientific divisions of the EPA support regulatory divisions of EPA, and collaborations between EPA and partner Federal Agencies.

Joseph R. Landolph, Jr., Ph. D

TENTATIVE SAB MEETING CALENDAR FOR JUNE & JULY

Several of the Federal Advisory Committee Act (FACA) meetings noted below have been announced in the Federal Register (FR), together with additional background information. Readers can automatically receive e-mailed copies of FR Notices by subscribing to the SAB Listserver; see Section Updates below.

If a series of meetings is anticipated, the number of the meeting in the series is indicated in parentheses; e.g., "(#2)".

JUNE



10F

Committee: Executive Committee (EC)
Topic(s): Proposed FY 2004 Self Initiated Projects
Location: U.S. EPA, Ariel Rios North, Room 6013, Teleconference
Chair: *Dr. William Glaze, Oregon Health & Science University*
DFO: *Mr. A. Robert Flaak*
Email: flaak.robert@epa.gov

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Committee: Advisory Council on Clean Air Compliance Analysis' (COUNCIL) Air Quality Modeling Subcommittee
Topic(s): Blueprint for the Clean Air Act Third Prospective Analysis
Location: Crystal City Marriott, Crystal City, VA
Chair: *Dr. David Allen, University of Texas*
DFO: *Dr. Angela Nugent*
Email: nugent.angela@epa.gov

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17-18

Committee: Environmental Engineering Committee (EEC)
Topic(s): Alternatives to Leach Testing
Location: TBA
Chair: *Dr. Domenico Grasso, Smith College*
DFO: *Ms. Kathleen White*
Email: white.kathleen@epa.gov

JULY



1F

Committee: Clean Air Scientific Advisory Committee (CASAC)
Topic(s): National Ambient Air Monitoring Strategy
Location: TBA, Teleconference
Chair: *Dr. Philip Hopke, Clarkson University*
DFO: *Mr. Fred Butterfield*
Email: butterfield.fred@epa.gov

8-9

Committee: Clean Air Scientific Advisory Committee (CASAC)
Topic(s): National Ambient Air Monitoring Strategy
Location: Research Triangle Park, NC
Chair: *Dr. Philip Hopke, Clarkson University*
DFO: *Mr. Fred Butterfield*
Email: butterfield.fred@epa.gov

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- 10** Committee: Public Non-FACA Meeting
Topic(s): Public session to discuss the proposal for reorganizing the Science Advisory Board and public involvement in EPA Science Advisory Board Activities
Location: TBA
SAB Staff: Mr. Fred Butterfield and Dr. Angela Nugent
Email: butterfield.fred@epa.gov or nugent.angela@epa.gov
- 16-17F** Committee: Executive Committee (EC)
Topic(s): Discussion of proposed FY 2004 projects, SAB reorganization, and other topics
Location: Region 5, Chicago, IL
Chair: Dr. William Glaze, Oregon Health and Science University
DFO: Mr. A. Robert Flaak
Email: flaak.robert@epa.gov
- 18** Committee: Executive Committee's (EC) Computational Toxicology Framework Consultative Panel
Topic(s): Proposed ORD Initiative on Computational Toxicology
Location: Region 5, Chicago, IL
Chair: Dr. William Glaze, Oregon Health and Science University
DFO: Dr. James Rowe
Email: rowe.james@epa.gov
- 21** Committee: Drinking Water Committee's Air Toxics Research Subcommittee
Topic(s): Air Toxics Multi-Year Plan and Research Strategy
Location: Research Triangle Park, NC
Chair: Dr. Rhodes Trussell, Trussell Technologies, Inc.
DFO: Dr. James Rowe
Email: rowe.james@epa.gov

To View Calendar of Future Meetings Click Here

Or

Go to the SAB website www.epa.gov/sab/mtgcal.htm

**COMMITTEE
ACTIVITIES
IN
MAY**



On May 1, the Clean Air Scientific Advisory Committee's (CASAC) Particulate Matter (PM) Review Panel met via public teleconference to conduct a consultation on the scope and approach of EPA's Risk Analysis Plans for Coarse Particulate Matter (PM_{10-2.5}) and PM₁₀. This draft document (which is available at the following Web address: <http://www.epa.gov/ttn/naaqs/standards/pm/spmcrtd.html>) outlines the overall scope proposed for the quantitative risk assessments for PM₁₀ and coarse-fraction particulate matter (PM_{10-2.5}) — including health endpoints to be analyzed, health studies that serve as the source of concentration-response functions, and cities to be examined — that will be conducted as part of the periodic review of the National Ambient Air Quality Standards (NAAQS) for PM, pursuant to Sections 108 and 109 of the Clean Air Act (CAA).

Representatives from the Agency's Office of Air Quality Planning and Standards (OAQPS/OAR) and the National Center for Environmental Assessment (NCEA-RTP/ORD) also participated in this teleconference, as well

as interested members of the public, although no formal oral public comments were presented. The PM risk analyses to be performed — along with CASAC PM Review Panelists' comments — will assist OAQPS in preparing the PM Staff Paper, the purpose of which is to evaluate the policy implications of the key scientific and technical information contained in the Agency's PM Air Quality Criteria Document (AQCD) and identify critical elements that EPA staff believe should be considered in reviewing the PM NAAQS.

On May 12-14, the Environmental Health Committee's Supplemental Guidance for Assessing Cancer Susceptibility Panel to review the draft Office of Research and Development document entitled "Supplemental Guidance for Assessing Cancer Susceptibility from Early Life Exposure to Carcinogens". The panel heard from numerous public commenters before beginning their deliberations. The panel spent the last two days of the meeting revising preliminary comments. Another meeting via teleconference is being scheduled to finalize the draft before submitting it to the SAB Executive Committee for approval.

On May 16, the Environmental Engineering Committee (EEC) met to plan the June 17-18, 2003 face-to-face meeting. This included briefings

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relevant to the leaching consultation as well as other items of committee business. In addition to the EEC and the Designated Federal Officer, almost twenty people attended the conference call, chiefly out of interest in the leaching consultation which will be conducted at the June meeting and for which the Office of Solid Waste staff, Greg Helms, gave an excellent background presentation.

Briefly, EPA uses the Toxicity Characteristic Leaching Procedure (TCLP) as a regulatory screening test to identify wastes with the potential for certain wastes to leach significant concentrations of toxic substances under plausible worst-case management conditions. While EPA believes that TCLP remains an appropriate and valid test in its regulatory functions, the Agency also believes that leach testing more tailored to known disposal conditions can be the basis for better environmental decision making, when regulatory programs allow such flexibility. Therefore, EPA has initiated both internal and external research to begin work toward a more comprehensive assessment framework and set of testing protocols for evaluation of leaching potential of waste materials under relevant environmental conditions. In part, this effort responds to the 1999 Science Advisory Board, *Waste Leachability: The Need for Review of Current Agency Procedures*.

Given the progress in both understanding leaching mechanisms and in test method development, EPA is now seeking input from the SAB on the direction of work performed to date and the Agency's consideration of recent and ongoing academic research. While many questions and much research remain, the Agency seeks an opportunity for a free and

vigorous exchange of ideas with a knowledgeable committee of the SAB, and the public, before it embarks on further work. The Agency does not look for consensus recommendations at this time. Instead it seeks a variety of perspectives to enrich its understanding of two issues. The first is Agency consideration of current research, and the potential to apply it to improve particular programs, specifically programs that do not now require the use of the TCLP. The second is the direction for long-term research work to further develop fundamental understanding of leaching that would improve the predictive capability of test suites or testing frameworks.

On May 28, the Advisory Council on Clean Air Compliance Analysis (Council), Special Council Panel for the Review of the Third 812 Analysis held a public teleconference. The purpose of the teleconference was to: clarify the charge question related to "Benefits and Costs of the Clean Air Act 1990-202; Revised Analytical Plan for EPA Second Prospective Analysis;" (2) understand recent Agency decisions to defer several charge questions and revise review material and; (3) discuss scheduling of review activities, given a previously announced public meeting of the Council Special Panel on June 11-13, 2003 in Washington, DC, in light of recent Agency decisions to defer 20 charge questions and to revise related sections of the analytical plan.

Based on background information provided by the Agency concerning its decision, the Special Panel of the Council decided to cancel the joint meeting planned for June 11-13, 2003 for the Special Panel and its two

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Subcommittees, the Health Effects Subcommittee and the Air Quality Modeling Subcommittee. The Chair of the Council asked the AQMS chair to consider, during the planned AQMS public teleconference call on May 30, 2003, whether to proceed with a short meeting of that group during the June 11-13, 2003 window, given that many of the 17 charge questions not deferred concerned AQMS issues. The DFO was asked to canvass members of the special panel, AQMS, and HEES concerning members' availability for another meeting in the July, August, and September time frame. The Agency promised a revised analytical plan and charge questions within a three to four week time frame.

On May 29, the Advisory Council on Clean Air Compliance Analysis (Council), Special Council Panel for the Review of the Third 812 Analysis held a public teleconference. The purpose of the call was to provide the Health Effects Subcommittee (HES) with the opportunity to: (1) clarify the charge question related to the "Benefits and Costs of the Clean Air Act 1990-202; Revised Analytical Plan for EPA Second Prospective Analysis"; (2) understand recent Agency decisions to defer several charge questions and revise review material and; (3) discuss scheduling of review activities, given a previously announced public meeting of the HES on June 11-13, 2003 in Washington, DC, where it was to meet jointly with the Council and the Council's other subcommittee, the Air Quality Modeling Subcommittee, in light of recent Agency decisions.

The Agency provided background on its decisions affecting the Council and the HES and the Designated Federal Officer committed to providing options for a rescheduled meeting, based on information provided concerning the availability of members of the Council, the HES, and members of the Air Quality Modeling Subcommittee of the Council for a future joint meeting.

On May 30, the Advisory Council on Clean Air Compliance Analysis' (Council) Subcommittee on Air Quality Modeling Subcommittee (AQMS) met via teleconference to: (1) clarify the charge question related to the "Benefits and Costs of the Clean Air Act 1990-2002; Revised Analytical Plan for EPA Second Prospective Analysis;" (2) understand recent Agency decisions to defer several charge questions and revise review material and; (3) discuss scheduling of review activities, given a previously announced public meeting of the AQMS on June 11-13, 2003 in Washington, DC in light of recent Agency decisions.

The Agency provided background on its decisions to revise parts of the review document that did not directly pertain to emissions inventories and air quality modeling, the principal review responsibilities of the AQMS. The AQMS decided to hold a one-day meeting on June 12, 2003 in Washington, DC to receive briefings on the topics of concern to the subcommittee and topics of most immediate importance to EPA's work on the Section 812 Analysis of Benefits and Costs, and to prepare for a report to a future Council meeting.

STATUS OF FORMATION OF SAB PANELS

The Board has developed a revised Panel Formation process for the recruitment of ad-hoc review panels. For the latest detailed information, please visit our website, www.epa.gov/sab/panels/paneltopics.html.

REPORTS UNDERDEVELOPMENT



CASAC

- 1) Ozone Air Quality Criteria Document Development Plan

EHC

- 2) Human Health Research Strategy

RAC

- 3) Consultations on Draft Multi-Agency Radiological Survey & Site Investigation Manual
- 4) Review of the Multi-Agency Radiological Laboratory Protocols (MARLAP) Manual

COMPUTER NEWS



(1) SAB Website is within the EPA Home Page. You are invited to visit the SAB Website at URL: <http://www.epa.gov/sab>

The site offers such features as:

- (a) Full-text reports for FY1994-FY2003
- (b) Background information about the structure, function, and membership of the SAB
- (c) A projected calendar of SAB meetings
- (d) Recent issues of HAPPENINGS
- (e) Draft/final agendas of upcoming meetings and draft/final minutes of past meetings.

(2) SAB Listserver - By subscribing to the free SAB Listserver, you will automatically receive copies of all Federal Register notices announcing SAB meetings, together with brief descriptions of the topics to be covered at the meetings. These notices will be e-mailed to you within 24-hours of their publication in the Federal Register.

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STAFF NEWS

Dr. Phil Sayre joined the SAB Staff Office on detail from the Office of Pollution Prevention and Toxics (OPPTS), where he currently serves as the Associate Division Director in the Risk Assessment Division (RAD). He has also been an acting branch chief there and a senior microbiologist in the same division. Beyond OPPTS, he is currently the co-chair of the EPA's Remediation Technology Development Forum's Phytoremediation group which is field-testing grasses and other plants across the U.S. for their abilities to assist in the degradation of petroleum hydrocarbon-contaminated soils. Dr. Sayre was until recently an adjunct professor in the George Washington University's Chemical, Mechanical, and Environmental Engineering Department where he taught a graduate-level microbiology and bioremediation course. He is currently on a four-month detail to the SAB where he serves as a Special Assistant to the Director of the SAB Staff Office. His interests include homeland security, regional science issues, and other emerging science topics of interest to the SAB.

Ms. Beth Sickelka began an internship with the SAB on June 2, 2003 through a cooperative agreement with the Washington

Center. She will be involved in planning the project on "Valuing the Protection of Ecological Systems and Services." Next fall, she will be a junior at Iowa State University majoring in Political Science with a minor in Criminal Justice. At Iowa State, she is involved extensively with the Office of Admissions as well as many clubs and organizations.

BON MOT

As a senior citizen was driving down the freeway, his car phone rang. Answering, he heard his wife's voice urgently warning him, "Herman, I just heard on the news that there's a car going the wrong way on Interstate 280. Please be careful!"



"It's not just one car," said Herman. "It's hundreds of them!"