



*A Letter from
the Director,
Office of Science Policy*

Happy New Year! As a new fiscal year begins, I am pleased to announce that OSP's reorganization has been approved by Paul Gilman and is anticipated to be implemented soon by the Agency. A major component of the reorganization is the move of the Hazardous Substance Technical Liaison Program (HSTLs) to the Regional Team in the Cross Program Staff. In addition, the Planning Staff will be renamed the Research Coordination Staff and the Theme Planners now will have Research Coordinator as their title. A copy of the updated office functional statement that accompanied the reorganization package is included in this edition of the *OSP Update* for your information.

I am very aware of all the hard work being performed by each and every one of you as we carry out our functions in support of our customers: the Office of the Science Advisor, ORD, and EPA's Program and Regional Offices. We can and should take pride in the many expressions of appreciation received from these groups as we focus on the opportunities and challenges that lie ahead. As always, I look forward to hearing your thoughts and ideas.

Director
Office of Science Policy

Update on the Internal OSP Reorganization

The Immediate Office of the Assistant Administrator (IOAA) has approved the OSP reorganization package, which is now awaiting implementation by the Agency. The reorganization has been approved by both Paul Gilman and the union.

OSP is reorganizing to move the Hazardous Substance Technical Liaison (HSTL) function from the Program Support Staff to the Cross Program Staff/ Regional Team. While this action does not impact any staff job title, series, grade level, promotion potential, or geographic location, it does impact the HSTLs with a change in supervisor.

The decision to make this change to OSP's organization was made after many discus-

sions with the HSTLs, the OSP management team, our Regional partners, and Office of Research and Development (ORD) senior management. We believe that this move will enhance coordination, communication, and integration within our Regional support programs and ultimately, better serve the Regions.

A few other housekeeping changes are included in the reorganization such as changing the name of the Planning Staff to the Research Coordination Staff and changing the names of the Theme Planners to Research Coordinators. We also are taking this opportunity to revise the OSP functional statement (see Insert) to better reflect our function, which has grown and matured since our big reorganization a few years ago. ■

Science Policy Council Moves to OSA

The Science Policy Council (SPC) staff recently has made a transition from its location in OSP to the newly formed Office of the Science Advisor (OSA). The OSA was established in response to former Administrator Whitman's May 30, 2002 memorandum on "Strengthening Science at the Environmental Protection Agency." Paul Gilman, the EPA Science Advisor, heads the OSA, which ensures consistent cross-Agency

application of strategic planning for research and the use of science in EPA policies and regulations. Additionally, Dr. Gilman chairs the Agency's SPC, a forum for senior-level policy deliberation and coordination on selected science policy issues, especially those that are cross-media, cross-program, and interdisciplinary.

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Science Forum 2004

Mark your calendars for the 2004 EPA Science Forum and consider spending Memorial Day weekend in Washington, DC.

That's right! This event is scheduled to begin on the Tuesday following Memorial Day Weekend. The location of this year's event is the brand new Mandarin Oriental Hotel – a new luxury hotel located on the Tidal Basin in Washington, DC, opening in the spring of 2004.

The Mandarin will offer the government rate to Forum participants for the entire event, from May 29 through June 6. Take advantage of this opportunity to experience Memorial Day in Washington, DC, in a new luxury accommodation at the government rate! Bring your family to the historic dedication of the World War II Memorial, and/or visit the many

other monuments and memorials in and around the Washington, DC, area.

The Forum agenda currently is under development, but the overarching theme will relate to Human Health & Environmental Solutions for States.

When: June 1-3, 2004

Where: Mandarin Oriental Hotel
Washington, DC

(The hotel will be accepting reservations shortly – information will be provided on the Forum Web Site.)

Details will be posted as they become available, so please be sure to visit the Forum Web Site for updates at <http://www.epa.gov/ord/scienceforum>. ■

ORD/OPPTS Seminar Series

September 3, 2003 – Ecological Impacts from Biotechnology Plants: Using Risk Assessment Concepts to Develop Monitoring Strategies

Author: Bob Frederick, Ph.D, Senior Scientist, National Center for Environmental Assessment

Environmental monitoring programs in association with field releases of genetically engineered organisms have been called for, explicitly or implicitly, as a part of risk assessment/management schemes or regulatory agendas. For example, the development of insect resistance to pesticidal proteins such as the toxins from *Bacillus thuringiensis* was identified as a concern as early as 1991, and field monitoring has been a requirement in EPA registrations for plant incorporated protectant (PIP) crop plants. Although the single best example of science-based monitoring associated with these plants, insect resistance is only one of many potential ecological concerns associated with these crops. With limited empirical evidence for ecological impacts, designing strategic monitoring efforts geared toward environmental protection continues to present a significant challenge. To meet this challenge, scientists have proposed a variety of principles to guide the design of monitoring programs and the selec-

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If you have an article or information that you would like to have published in the next issue of the *OSP Update*, please contact Susan Peterson at 202-564-1077 or peterson.susan@epa.gov.



Mandarin Oriental Hotel, Washington DC (opening in spring 2004)



Program Support

As a core office in EPA's Action Development Process, ORD is required to participate in the development of most Tier 1 and Tier 2 activities. The Program Support Staff leads the effort on these activities. ORD concurred without comment on the Combustion Turbines MACT rule, the Dyes and Pigments Restart Project, and the Coke Ovens Batteries Residual Risk Rule-making, which is the first of many residual risk projects to come. Support also was provided for three Options Selection meetings. Additionally, ORD is participating in the following new Tier 2 activities:

- Quantity Allocation of Methyl Bromide After the Phaseout for Critical Use Exemptions
- Mineral Wool Production Residual Risk Standard
- 5-Year Review of MACT Standards for Large MWC
- NESHAP for Flexible Polyurethane Foam Production
- Residual Risk Standards, Proposed Revision to EPA's Implementing NEPA Regulations

- Mercury Action Plan
- Residual Risk Standards, Pharmaceuticals Production
- Regulatory Determinations Regarding Contaminants on the Second Drinking Water Contaminant Candidate List.

ORD also is participating in the development of nine new EPA Tier 3 activities.

The Program Support Staff also marked the first anniversary of the implementation of the Information Quality Guidelines. During this period, the Agency received a total of 16 requests for correction, 2 of which were appealed according to the procedures outlined in the Guidelines. EPA closed all but four of these requests. ORD received two of the requests for correction on chemicals listed in EPA's Integrated Risk Information System (IRIS), and participated on the appeals panel for one of the requests for reconsideration.

Other Program Support Staff activities include the development of 15 two-page fact sheets on the impact of science to Agency decision-making, 11 of which are finalized and available on the OSP shared

drive. The remaining four are expected in the near future. In addition, staff reviewed and commented on analytic blueprints, data gathering plans, and other documents; and prepared briefings of Assistant Administrators, the Acting Deputy Administrator Steve Johnson, Acting Administrator Marianne Horinko, and the Senate Environment and Public Works Committee.

One member of the Program Support Staff traveled with a group from the Homeland Security Research Center to Moscow, Obolensk, and Serpakov to meet with Russian scientists to discuss possible collaborative research projects. OIA also asked ORD to assist with the coordination of the Arctic Council's mercury project entitled, "A Reduction of Atmospheric Mercury Releases from Arctic States."

Finally, OSP presented its final two face-to-face sessions on the training course entitled, "ORD's Role in the Agency's Action Development Process" in Duluth, MN, and Washington, DC. The next phase of delivery of this course will be a Web-based, interactive session housed on OSP's Web Site, <http://intranet.epa.gov/ospintra.htm>.

International Activities

At the request of Judith Ayres, Assistant Administrator, Office of International Affairs, OSP staff have completed "A Compendium of International Activities—FY01 and FY02." The document provides information on the ORD international activities during fiscal years 2001 and 2002. ORD technical staff gathered the information, which includes a brief summary of the ORD organization, and lists of international data organized by Laboratory and Center. Projects are identified by type (collaborative research, conference/workshop/training, technical assis-

tance or other), title, countries/groups, and ORD and OIA contacts. There also are indexes of the projects by geography/country and subject.

The compendium data show that ORD participated in at least 93 collaborative research projects working with many individual countries and international organizations including the World Health Organization, the North Atlantic Treaty Organization, the European Union, and the Pan-American Health Organization. ORD also provided technical assistance in

another 58 activities working on projects such as hazardous waste site assessment and remediation, children's health assessments, and environmental impacts of endocrine-disrupting chemicals.

The document will be available soon in a Microsoft Access database and on a CD. The Compendium also will be posted on the OSP Web Site (<http://www.epa.gov/osp>). For further information on the Compendium of International Activities, contact Doug Steele at 202-564-6759 or steele.doug@epa.gov.

Inhalation Risk Assessment Workshop

The Regions/OSRTI/ORD Workshop on Inhalation Risk Assessment: A Superfund Focus was held on September 9-12, 2003, at the Washington Hilton Embassy Row in Washington, DC. The workshop was the twelfth in a series of Regional Science Topic Workshops sponsored by OSP with support from the Office of Superfund Remediation and Technology Innovation (OSRTI). More than 70 people participated in this EPA-only workshop representing EPA's Program Offices, Regions, and ORD Centers and Laboratories. The major objectives of the Inhalation Risk Assessment Workshop were to:

- Establish a better understanding of the science to conduct inhalation risk assessments.
- Apply this science to Superfund inhalation risk assessment paradigms.
- Assess these methods relative to those historically used at Superfund sites.
- Identify key gaps in the science.

- Discuss Superfund issues associated with implementation of the science relative to current guidance.

One outcome of the workshop was the formation of an OSRTI-lead workgroup charged with developing new Superfund guidance on inhalation risk assessment. This guidance was based on the conclusions reached at the September workshop. It is consistent with procedures used by other EPA Program Offices and other EPA guidance manuals, e.g., Risk Assessment Forum guidelines, Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry (1994), and Evaluating the Vapor Intrusion into Indoor Air (November 2002).

Details from the Inhalation Risk Assessment Workshop can be found on ORD's Regional Science Portal at <http://intranet.epa.gov/ospintra/scienceportal/html/complete.htm#inhale>. For more information on the workshop, please contact David Klauder at 202-564-6496 or at klauder.david@epa.gov. ■

New RSL Contact for Region 7

Welcome to our new Region 7 Regional Science Liaison (RSL), Dr. Brenda Groskinsky! She will serve as the liaison between ORD and Region 7, which includes Kansas, Nebraska, Iowa, and Missouri. She started her federal career with the U.S. Geological Survey, Water Resources Division in 1983. Since 1990, she has worked for the U.S. EPA Region 7 in several capacities, including serving as an Operations Research Analyst in several divisions integrating environmental data, models, and computing environments. She has worked as a co-team leader responsible for the implementation of R7's Critical Ecosystem Priority Theme. In 2003, she served in a temporary position as a senior program advisor in the Regional Administrator's Office. Ms. Groskinsky has a B.S. degree in Applied Mathematics and Statistics, an M.S. degree in Applied Mathematics, another M.S. degree in Computer Science, and is pursuing an interdisciplinary Ph.D. in Mathematics. ■

Emerging Pollutants Workshop

Chicago's Region 5 Office was the setting for the Region/ORD Emerging Pollutants Workshop held August 11-14, 2003. Approximately 120 people attended the workshop including representatives from all 10 Regions, ORD, several EPA Program Offices, and invited outside guests. The workshop presented data and information on: (1) the less-discussed emerging issues (e.g., disposal of electronic components, platinum group metals in sediments, bisphenol A); (2) more visible emerging issues (e.g., brominated flame retardants, hormones, pharmaceuticals, alkyl phenols, radium in oil piping, PFOA/PFOS, and phthalate esters); (3) re-emergent issues (asbestos returning in new forms—taconite, vermiculite); and

(4) a look into the future (genomics and nanotechnology).

The workshop included breakout and plenary discussions around the future risks, knowledge gaps, and pollution prevention/risk reduction options for each of the emerging issues. Janet Raloff, a journalist for *Science News*, offered her perspectives on some of the key issues presented at the workshop and provided advice on how EPA scientists and managers can work more effectively with the media. Follow-up activities will include an effort to further develop a process for identifying and prioritizing emerging pollutants and getting potential priority problems onto the agenda for Agency action.

Details from the workshop can be found on ORD's Regional Science Portal at <http://intranet.epa.gov/ospintra/scienceportal/html/complete.htm#emerging>. For more information on the workshop, contact David Klauder at 202-564-6496 or at klauder.david@epa.gov. ■

NOTE: Following the workshop Janet published an article in *Science News* highlighting a remote sensing technology being used by NRMRL to detect bioengineered crops before they become a potential environmental concern. Her article may be viewed at <http://www.sciencenews.org/2003080/food.asp>.



Science in Regional Decision Making

In September 2002, Region 4 hosted a 1-day Science Summit where senior Regional and ORD leadership discussed Regional science issues and ORD's ability to provide support. As a follow-up to that discussion, the Agency Science Advisor, Paul Gilman, requested that the Regions focus attention on the issue of Regional science by conducting a "45-day review" of how science is used in Regional decision making. This review was recently completed under the leadership of Region 4 and resulted in a report entitled "Science in Regional Decision Making."

The report addresses three questions identified by the Deputy Regional Administrators:

- How is science used in Regional decision making?
- What are the obstacles that prevent the Regions from using science in the most optimal manner?

- What options exist for overcoming the obstacles?

The report identifies how the Regions use science to formulate issues, gather data, generate information, and select solutions. The Regions identified numerous categories of decisions that are based on science such as permitting, compliance, and enforcement; NEPA assessments; water quality standards and TMDLs; Superfund assessment and remediation; state implementation plans; and quality assurance and peer review. Two examples, the Hudson River and the South Florida Everglades, are used in the report to illustrate the complexity of the problems faced by the Regions.

The report identifies 22 obstacles to the use of science in five categories: (1) scientific expertise, (2) data collection and analytical methods, (3) peer review, (4) science planning, and (5) Regional Science and Technology (RS&T) laboratory support.

Each obstacle is addressed by one or more recommendations to overcome the obstacle, for a total of 45 recommendations. It is noted in the report that although there is widespread agreement among the Regions on the report's contents, there is not total agreement on all recommendations in the report.

In response to the findings and recommendations presented, the SPC has initiated a cross-Agency workgroup to coordinate, prioritize, and track progress in implementing the recommendations. The workgroup is co-chaired by Alan Antley from Region 4 and our own Kevin Teichman.

If you have any questions about the report or ORD's Regional Science Program, please contact David Klauder at 202-564-6496 or klauder.david@epa.gov. A copy of the report is available on the Regional Science Portal at <http://intranet.epa.gov/ospintra/scienceportal/index.htm>. ■

Seminar Series

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tion of methods to successfully implement them. In this presentation, the rationale behind these principles is explained and expanded to consider ecological risk assessment concepts as helpful tools for defining monitoring objectives that are relevant and practical.

The presentation is available at <http://intranet.ord.epa.gov:9876/development/RCT/PestToxRCT.nsf/1d97341def1e57d185256a5c006ee712/3f6532652359cf7f85256d8d006e49af?OpenDocument>.

October 1, 2003 - Methods Development for the Analysis of Chiral Pesticides

Author: Elin Ulrich, Ph.D., National Exposure Research Laboratory

Chiral compounds exist as a pair of nonsuperimposable mirror images called enantiomers. Enantiomers have identical physical-chemical properties, but their interactions with other chiral molecules, toxicity, biodegradation, and fate are often different. Many pharmaceutical compounds are comprised of enantiomers; furthermore, 29 percent of 1,700 surveyed agrochemicals and their degradates are chiral. With increased regulatory pressure, specific enantiomers are beginning to be treated as separate com-

pounds. Single or enriched enantiomer formulations are becoming more prevalent, especially in Europe. The invention of chiral separation techniques significantly increased the development of methods for chiral compounds. The mechanism for enantiomer separation using derivatized cyclodextrin gas chromatography is not well understood, but is becoming a popular analytical tool. This presentation discusses the different types of columns, parameters affecting separation, and the peak fitting method for determining enantiomer fractions. Enantiomer fractions

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Seminar Series

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enantiomer / sum of (+) and (-) areas] can be used to differentiate between types of degradation pathways, implicate sources of contamination, and give a more complete picture of environmental contamination for more accurate risk assessments. Currently at EPA, these techniques are being employed in human exposure projects like the Children's Total Exposure to Persistent Pesticides and Other Persistent Organic Pollutants (CTEPP), and ecological research projects in sediment, plants, and biota.

The presentation is available at <http://intranet.ord.epa.gov:9876/development/RCT/PestToxRCT.nsf/1d97341def1e57d185256a5c006ee712/708363d37145c87485256dac00666739?OpenDocument>.

October 15, 2003 - Potential Applications of Remote Sensing to Bioengineered Crops

Author: John A. Glaser, Ph.D., National Risk Management Research Laboratory

Crops bioengineered to contain toxins derived from *Bacillus thuringiensis* (Bt) are subject to regulatory scrutiny by the U.S. EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) legislation. The Agency has declared these crops

to be "in the public good" based on the reduced use of pesticides required for management of these crops. Hence, they are environmental assets that are valued for crop protection having significant human health and ecological protection features in contrast to typical broad spectrum chemical pesticides.

From a sustainability perspective, it is important to protect these crops so that society can enjoy long useful lifetimes for these new forms of biotechnology. The major threat to extended crop lifetimes is the development of resistance toward the crop in pest populations for which the crop protects. Detection and monitoring of resistance development becomes crucial to avoid any premature crop loss due to pest resistance. The crop acreage in the United States for Bt corn is about 20 million acres in recent years. Any realistic attempt to sample such a large area for pest resistance is difficult and probably beyond the timeliness and cost that can be economically expected to be borne for resistance management.

A new approach to this problem that uses remotely sensed imagery is discussed. The remote sensing evaluation is coordinated with research efforts leading to the development of new detection technology

and standardization of more established detection technology that are important to the ability to sample for resistance at the field level. Simulation models for pest resistance prediction have been used to portray possible lifetime for these crops and to develop management options to lengthen their useful lifetimes. Verification and validation of the predictive strengths of the models are important to understanding the utility of these models to assist bioengineered crop management. Data derived from remote sensing imagery of bioengineered crops could significantly assist the verification of these simulation models. The research program designed to achieve these objectives is built from EPA interagency research alliances with the U.S. Department of Agriculture and the National Aeronautics and Space Administration.

The presentation is available at <http://intranet.ord.epa.gov:9876/development/RCT/PestToxRCT.nsf/1d97341def1e57d185256a5c006ee712/59590a1a0de4e91185256dba006a4747?OpenDocument>.

For further information on the ORD/OPPTS Seminar Series, contact Greg Susanke at 202-564-9945 or susanke.greg@epa.gov.

Science Policy Council

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OSA houses the Chief Scientist to the Science Advisor, Dr. William Farland, the Executive Assistant to the Science Advisor, Lisa Matthews, the Senior Scientist for Science Policy, Kerry Dearfield, the SPC staff, and the administrative support staff. The SPC staff directly supports the Science Advisor; coordinates and communicates with members of the SPC, the SPC Steering

Committee, and other supporting groups; provides meeting support; manages the process for review of work products and resolution of issues by the SPC; and assures completion of action items and assignments from the Council and the Steering Committee. SPC staff also participates in workgroups and provides other technical and logistical support.

OSP Update Contributing Writers

- Sarah Bauer
- Connie Bosma
- Dick Garnas
- Kathleen Graham
- Megan Grogard
- David Klauder
- Ruth Partridge
- Terry Simpson
- Doug Steele
- Paul Zielinski
- Kathleen Graham

For more information on the *OSP Update*, contact Susan Peterson at 202-564-1077 or peterson.susan@epa.gov

September thru November '03

OSP All-Hands Meeting

The OSP staff began the new fiscal year by gathering for an All Hands meeting at the F Street location, hosted by the Cross Program Staff. The office was transformed to the Great Northwest, complete with moose, bears, and lumber jacks. The afternoon's activities included trivia games, fishing, mural painting, and a pie-baking contest from Cross Program Staff entries (congratulations to Jason Edwards for his winning rhubarb pie!) The highlight of the event was recognition of OSP staff awards and "kudos" sent to OSP from across the Agency. In addition, Mimi Dannel presented follow-up information on OSP's survey results to

continue the discussion of how to maintain and improve OSP's results. Ken Sala followed Mimi and informed staff of ORD concepts being considered to support career development. From all indications, the last quarter was filled with many successful and exciting events and we are anticipating more for the coming months.

Welcome to Our New Folks!

Jason Edwards joined the Cross Program Staff on October 6th. He comes to us from the National Center for Environmental Research and will be supporting several Cross Program Staff activities including the Regional Science Portal, analysis of futures scanning results, the OSP Congressional database, and the RARE/RM programs.

Jace Cujé joined the Program Support Staff on October 20th, and is working on the Waste Media Team. Jace has a B.S. in Environmental Science and has spent the last 15 years working in the private sector. He fielded questions while working on EPA's RCRA/Superfund Hotline and provided technical support to the Department of Energy on many RCRA/ CERCLA issues.

Details/Training Assignments/ Students/Internships/Fellowships

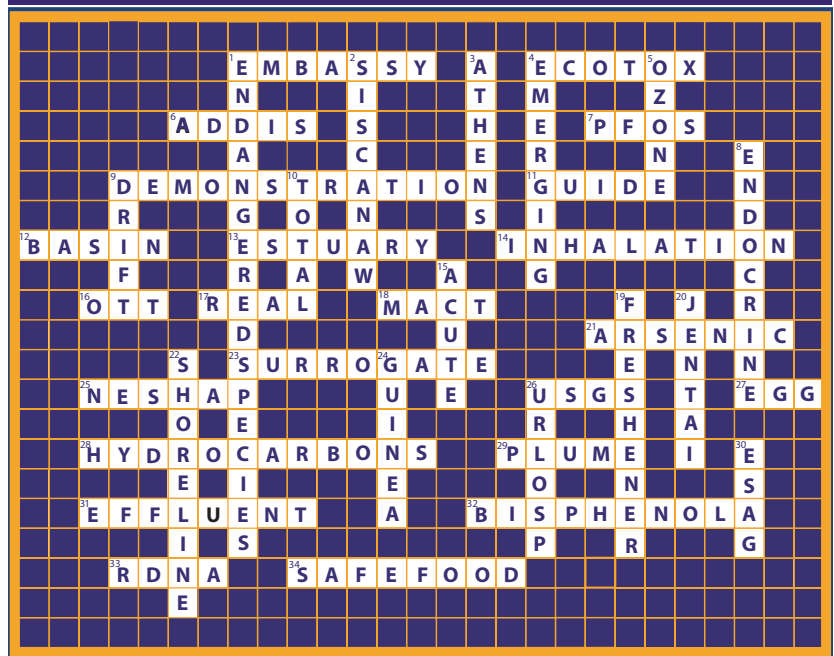
Laurel Schultz is serving as the Acting Research Coordination Staff Chief, and **John Meckley**, from the Office of Resource Management and Administration, is serving as the Air Theme Planner through December 20th. ■

Congratulations to Award Recipients!

Congratulations to the recipients of the Customer Service Peer Recognition Award, who were very deservedly recognized at the recent OSP All-Hands Social:



Solution to August 2003 OSP Update Puzzle





Agrochemical
Asbestos
Bacillus
Bioengineering
Biota
Biotechnology
Chiral
Crops
Cross Program Staff
Enantiomer
FIFRA
Hazard
Homeland Security

Insect Resistance
IOAA
IRIS
MACT rule
Mandarin Oriental
Mercury
Monitoring
MSTL
NASA
NEPA
NESHAP
OSP Reorganization
OSRTI

PFOA
Phenol
Pigments
Polyurethane Foam
Regulate
Research Coordinators
Science Forum
Seminar
Toxic
Toxins
USDA
Washington