

## AIBSnews

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# AIBS*news*

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## AIBS to Promote Public Understanding of Science in 2009 Activities

As scientists and educators are aware, understanding science requires more than the regurgitation of memorized facts. Science is a process and a method for explaining natural phenomena. An informed public understanding of the nature of science benefits all of society. A public with an appreciation of the nature of science contributes to the development of a skilled workforce that can compete in a knowledge-based global economy, individuals who can make more informed decisions about risk or medical treatments, and an electorate that can take part in the myriad public policy discussions involving science.

However, cultivating public understanding of science presents numerous challenges. Too few people actually understand the processes, nature, and limits of science—in other words, what science is as a field of human endeavor, and how science is done. In the absence of an improved public understanding and a willingness to engage the public on the part of the scientific community, special interests will continue to attempt to fill the void—witness the various efforts to introduce intelligent design/creationism into science curricula. In many circumstances, intelligent design advocates are able to gain sway by marketing a well-packaged campaign designed to sound like a scientific alternative to evolution.

Many members of the scientific community think that the challenges and decisions facing the public require a coordinated, sustained effort from scientists to better explain the nature of science. Leaders at the National Academies, which comprise the National Academy of Sciences (NAS), the National Academy of Engineering, the Institute of Medicine, and the National Research Council, are

exploring ways to address this issue by examining science from a variety of disciplines, using the unifying theme “How do we know what we know about x?” This approach could serve as a powerful cross-disciplinary basis for the participation of many professional societies and other organizations that are concerned about the public’s understanding, appreciation, and acceptance of science.

In May 2006, following a presentation by an NAS staff member to the AIBS Council of Member Societies and Organizations, the AIBS Council unanimously passed a resolution encouraging AIBS to work with other members of the scientific community to enhance the public’s understanding of science, and to make the year 2009—the 200th anniversary of Darwin’s birth and the 150th anniversary of the publication of his *On the Origin of Species*—a focal point for those efforts. In November 2006, the AIBS Board of Directors unanimously accepted the resolution from its Council.

AIBS and NAS representatives have initiated discussions with state and local scientists and education and outreach personnel from natural science museums to coordinate and enhance information exchange regarding public outreach efforts. They have also shared the concept of 2009 as a year to promote the public understanding of science with representatives from other national scientific organizations, including the Federation of American Societies for Experimental Biology, the Biotechnology Institute, the Geological Society of America, and the American Institute of Physics. The newly formed Coalition on the Public Understanding of Science ([www.copusproject.org](http://www.copusproject.org)) also wishes to be involved in 2009 events, as do the developers of Understanding Science, a Web site currently under construction by a team at the University of California—

Berkeley, with support from the National Science Foundation.

Plans for 2009 include the following:

- Programmatic activities will be designed to enhance public understanding of the nature of science—that is, how science helps us know what we know about the natural world.
- Participating scientific societies and organizations will share information with their membership and actively conduct or coordinate programs to highlight the year of public understanding of science, such as adopting that theme for 2009 annual meetings, addressing the topic in presentations at workshops, and so on.
- AIBS will develop a Web site for the use of participating scientific organizations and members of the general public to coordinate 2009 activities; the site will include a searchable database of events, an interactive map of events, case studies, how-to stories, a press room, public service announcements, and so on.
- AIBS will help lead many of the media-relations and public-policy activities in support of the year 2009 project.

Organizations participating in this year-long series of events will become part of an informal confederation. Members of this confederation will agree to use

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Recent Articles Online at [www.actionbioscience.org](http://www.actionbioscience.org)

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common branding tools and, through the activities they develop, support one or more of the themes of how we know what we know about a particular phenomenon or issue from the perspective of their organization or discipline. They will provide AIBS with information about their activities and any subsequent activities that are developed as a result of their participation in 2009 events.

In return, each participating organization will have access to the brands, logos, media coverage, other publicity, and databases that are developed for the confederation. They will receive regular updates on what member organizations will be doing for the year-long celebration and will receive assistance in planning events to conform to the overall themes to be used throughout 2009. Organizations that agree by June 2007 to participate will also be able to suggest which specific crosscutting themes will be developed for 2009.

At this time, the official involvement of additional scientific organizations as well as corporate entities and grant-making partners is sought. Contact Richard O'Grady, AIBS executive director, by e-mail ([rogrady@aibs.org](mailto:rogrady@aibs.org)) for further information.

### **Coalition on the Public Understanding of Science Forms, Calls for Organizations to Join Its Network**

AIBS is participating in the Coalition on the Public Understanding of Science (COPUS), a grassroots effort linking universities, scientific societies, science advocacy groups, science media, science educators, businesses, and industry in a consortium with the goal of greater public understanding of the nature of science and its value to society.

COPUS was formed by a group of professionals and scientific organizations in response to growing concern about declining US scientific and technical competitiveness and reports of disturbing trends in science education, low public scientific literacy, and lack of public support for the national scientific and technological enterprise. For example:

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- A recent National Science Board poll reports that two-thirds of Americans do not understand what science is, how it is conducted, and what one can expect from it.
- A recent Gallup poll reports widespread and increasingly prevalent belief in pseudoscience.
- The Business Roundtable, a consortium of CEOs of major US companies, notes that the scientific and technical building blocks of US economic leadership are eroding at a time when many other nations are gathering strength.

In response, the goals of COPUS include the following:

- Develop a shared appreciation of science, its contributions to the quality of life, and its underlying role in advances in technology and engineering.
- Inform and engage the public in and about science and its process and products—how science is done, how scientific issues can best be framed and communicated, what roles science and scientists play in society, and the benefits of using the process of science to make informed decisions and address challenges.
- Make science more accessible to everyone.

Accordingly, COPUS will develop a network among all interested stakeholders, including the scientific, education, policy, media, and business communities and the general public; create forums for sharing ideas, best practices, and resources; provide documents and materials that contain a consistent message about science and its value to society; sponsor, encourage, and broker events that showcase science and convey the coalition's common messages for use on regional to national levels; participate in the AIBS-organized project to mark 2009 the year for the public understanding of science; and provide access to the Understanding Science Web site, currently being constructed by a team at the University of California—Berkeley (with support from the National Science Foundation), which will provide user-friendly and engaging materials on how science works and its relevance to our lives.

Organizations that join the COPUS network will be able to use the COPUS

Web site and communications resources to support the development of regional coalitions and partnerships; share best practices and evaluation data on those practices with the rest of the COPUS network; and work with the COPUS network to develop common messages and themes promoting the full spectrum of science, technology, engineering, and mathematics as critical to our societal well-being.

The following individuals make up the 2006–2007 Organizing Committee for COPUS: Lee Allison, Arizona Geological Survey; Barbara Butler, Informal Learning consultant; Jack Hehn, American Institute of Physics; Judy Kass, American Association for the Advancement of Science; Michael Mayhew, Synoptic, LLC; Richard O'Grady, AIBS; Judy Scotchmoor, University of California Museum of Paleontology; and Richard Stucky, Denver Museum of Nature and Science.

To learn more about COPUS and about how to participate in the COPUS network, visit [www.copusproject.org](http://www.copusproject.org), or contact Lee Allison ([lee.allison@azgs.az.gov](mailto:lee.allison@azgs.az.gov)) or Judy Scotchmoor ([jscotch@berkeley.edu](mailto:jscotch@berkeley.edu)), organizing committee cochairs.

Planning for COPUS was supported by the National Science Foundation.

### Meet the CEO of NEON

NEON, Inc., is pleased to announce that David Schimel, senior scientist from the National Center for Atmospheric Research (NCAR), has been named CEO of NEON. Since 1992, Schimel has served as a terrestrial scientist in NCAR's Climate and Global Dynamics Division, as a member of Colorado State University's graduate degree program in ecology, and as a founding director of the Max Planck Institute for Biogeochemistry in Jena, Germany.

"It was an honor to be asked," says Schimel. "NEON is a critical step towards forecasting how ecosystems and organisms interact with changes in climate and land use, and the impact of these changes on people and their enterprises. And personally, the amazing NEON technology is like an irresistible, big, shiny science toy."

Schimel's scientific interests and research activities coincide with the broad spatial scale of NEON design and its focus on the interactions among ecosystems, climate, and land use. His interests are in biogeochemistry, the global carbon cycle and carbon cycle processes, climate impacts on ecosystems, and scaling ecological theory to the landscape and larger regions. In addition, his current interests include field and modeling studies of climate change and western US ecosystems, development of data assimilation techniques for ecological modeling, environmental history, and communication of ecological science to decisionmakers, especially in the non-federal arena.

His research has addressed plant-herbivore interactions, landscape and erosional controls over biogeochemistry, climate impacts on vegetation dynamics, soil processes and carbon budgets, and disturbance (cultivation and fire) effects on ecosystem processes.

"NEON is a natural evolution for me, given my career-long focus on quantifying ecological processes over landscapes and larger scales, and I am very aware of what NEON will mean to our field and the next generation of ecologists. Our community has created a compelling plan that I am excited to help execute. I'm looking forward to working to integrate and expand the NEON team, and to working with the broad community to make this happen," said Schimel.

Schimel has participated in or led numerous field programs in Texas, the US Great Plains and Rocky Mountains, Africa, and Asia. He participated in FIFE, the first of NASA's large land surface experiments, and was responsible for the spatial sampling design of that study. He recently led the pioneering Airborne Carbon in the Mountains study, the first attempt to make regional flux estimates in mountainous terrain. He is also known for his work in modeling and remote sensing; he has been a coauthor of the Century model, a principal investigator in NASA's Earth Observing System, and a pioneer in the use of "data assimilation" modeling in ecology.

In addition, Schimel served as the project scientist for the Climate Systems Modeling Project, which led to the development of the NCAR Community Climate System Model. He has also been involved in applications of ecology for many years, beginning with early work on agroecology, serving three times as convening lead author for the Intergovernmental Panel on Climate Change, and as a member of the US National Assessment Synthesis Team. He is currently co-lead author of the US Climate Change Science Program assessment report on climate impacts on US ecosystems and ecosystem services.

In recent years, Schimel has served on the National Research Council's Ecosystems Panel, Committee on Global Change Research, Earth Science and Applications from Space Decadal Survey, and Committee on Geophysical and Environmental Data; NOAA's Carbon Cycle advisory committee; the World Climate Research Program's Modeling Panel; and the National Science Foundation's Geosciences Directorate Advisory Committee. He has long played a role in the international arena, beginning with cochairing the SCOPE (Scientific Committee on Problems of the Environment) project "Exchange of Trace Gases between Terrestrial Ecosystems and the Atmosphere" in the 1980s, through his current service as founding cochair of the International Geosphere-Biosphere's Analysis, Interpretation, and Modeling of the Earth System core project. He is an elected member of the Max-Planck-Gesellschaft and the International Ecology Institute.

Schimel has been a faculty member at Colorado State University and regularly teaches at graduate institutes on atmosphere-biosphere interactions, modeling, and geographic information systems. He received his BA from Hampshire College in 1977, worked at the Marine Biological Lab's Ecosystems Center from 1977 to 1979, and received his PhD from Colorado State University in 1982. He is the author of 110 peer-reviewed articles and is an ISI Highly Cited author. He serves or has served on the editorial boards of *Science*, *Global*

*Change Biology*, *Annual Reviews of Environment and Resources*, and *Biogeochemistry*. He is currently editor in chief of *Ecological Applications*, a publication of the Ecological Society of America.

### **AIBS Attends NSDL Meeting**

Susan Musante and Oksana Hlodan from AIBS attended the National Science Digital Library (NSDL) 2006 annual meeting held October 18–20 at the American Association for the Advancement of Science in Washington, DC.

NSDL was launched by the National Science Foundation in 2000 to establish an online library of vetted resources for science, technology, engineering, and mathematics education and research (<http://nsdl.org/>). To date, NSDL offers 1.5 million resources, such as images, video, animation, audio, real-time data sets, software, journal articles, and lesson plans, as well as services such as “Ask an Expert.” Resource contributors include universities, museums, commercial publishers, government agencies, professional societies, and NSDL-reviewed Web sites. Articles and lesson plans published on ActionBioscience.org, the AIBS education Web site, are part of the library’s collection.

NSDL Pathways are portals to audience-specific digital resources, managed by organizations or institutions. One such pathway is the Biological Sciences Pathway—BioSciEdNet, or BEN for short ([www.biosciencednet.org/portal/](http://www.biosciencednet.org/portal/))—which provides resources, tools, and professional development for biological sciences educators at the high school and undergraduate levels. BEN is managed by the American Association for the Advancement of Science. In addition to ActionBioScience.org resources, BEN’s collection includes education articles published in *BioScience*.

More than two dozen sessions and workshops attracted educators, library media staff, collection builders, catalogers, IT specialists, and NSDL project partners to the October meeting. Topics ranged from how to promote the use of digital libraries to whether the NSDL community should align itself with the open-content movement. Welcoming

remarks were presented by Daniel Atkins, director of the National Science Foundation’s Office of Cyberinfrastructure, who also conducted the town hall meeting. He gave an overview of NSF’s “e-science” vision, the potential of technical and social architecture of distributed knowledge communities, and the future of NSDL. His presentation is available online at [http://nsdl.comm.nsdl.org/meeting/session\\_docs/2006/atkins.pdf](http://nsdl.comm.nsdl.org/meeting/session_docs/2006/atkins.pdf).

### **Executive Director’s Recent Blog Entries Online at <http://blogs.aibs.org/richardogrady>**

- Biologists in the public policy arena: Fellows or staff? Education or policy?

### **Recent Education Reports Online at [www.aibs.org](http://www.aibs.org)**

- AIBS Diversity Scholars application deadline is January 15
- 2007 AIBS annual meeting registration now open
- 2006 AIBS annual meeting lectures available online
- Call for proposals from NCEAS
- Canon National Parks Science Scholars Program: 2007 competition

### **Recent Articles Online at [www.actionbioscience.org](http://www.actionbioscience.org)** **Original articles in English**

- “Animals: Tracing Their Heritage,” interview with Nicole King, Departments of Integrative Biology and Molecular and Cell Biology, University of California, Berkeley
- “Exploring the Foja Mountains of Indonesia,” by Bruce M. Beehler, vice president for Pacific Island Programs at Conservation International, Washington, DC

### **Spanish translations of previously posted articles**

- “Ecología y Economía” [Ecology and Economics], interview with Stephen Polasky, Fesler-Lampert Chair in Ecological/Environmental Economics at the University of Minnesota, Departments of Applied Economics and Ecology, Evolution, and Behavior
- “El Bioterrorismo Agrícola” [Agricultural Bioterrorism], by

Radford G. Davis, assistant professor of public health at Iowa State University, College of Veterinary Medicine, Department of Veterinary Microbiology and Preventive Medicine

### **Recent AIBS Public Policy Reports Online at [www.aibs.org](http://www.aibs.org)**

#### **Public Policy Report for 18 December 2006**

- Congress adjourns, having completed little work
- GAO report reviews Smithsonian–Showtime partnership
- New House committee chairs named
- Governors expand competitiveness initiative
- Gates confirmed as secretary of defense
- Applications for 2007 AIBS Emerging Public Policy Leader Award now available
- From the *Federal Register*

#### **Public Policy Report for 4 December 2006**

- Supreme Court hears global warming case
- Appropriations update
- International students come back to U.S.
- Changes in air travel on the horizon
- New in BioScience: “Supreme Court Ruling Leaves Future of Clean Water Act Murky”
- Applications for 2007 AIBS Emerging Public Policy Leader Award now available
- From the *Federal Register*

#### **Public Policy Report for 20 November 2006**

- Voters support evolution education
- Democrats take control of Congress: New leadership for science and environment committees
- Climate change gets a “Stern” report
- Applications for 2007 AIBS Emerging Public Policy Leader Award now available
- From the *Federal Register*

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