

UN-Sigma Xi Group To Issue Report On Climate Change

For two years, a United Nations-Sigma Xi Scientific Experts Group has been developing practical policy responses to global climate change. The group was expected to present a 120-page report on its findings to the UN in February. The report covers an overview of the science of climate change and the challenges of stabilizing the climate system, as well as options for mitigation and adaptation.

An executive summary, which will appear in the May-June issue of *Sigma Xi Today*, integrates material from the report, stresses the urgent need to act and presents a “road map” of specific high-priority actions for governments and the UN system.

The UN-Sigma Xi SEG includes experts from around the world, among them Nobel laureate Mario Molina, Sigma Xi past-president Peter Raven and Zara Khatib of Shell International, representing a variety of scientific disciplines and backgrounds.

As the international honor society of science and engineering, Sigma Xi was in a unique position to bring together experts from different fields to consider practical ways of addressing global climate change. The Society's more than 500 chapters and nearly 60,000 members also provide an effective network for disseminating information.

The UN-Sigma Xi SEG did not debate how much of climate change is attributable to human influence, and how much of it is the result of natural variability. Instead, the group sought to develop actionable recommendations based on existing technologies and tailored to a range of social, political, economic and geographic circumstances. •



From the President

Transnational Scientists

Science is universal. Unfortunately, much science thinking is based on national programs and funding. A concerted effort to transform science into a dynamic transnational enterprise would benefit scientists and non-scientists alike, essentially everywhere on the globe.

Major trends today reflect a shift to transnational science and to a much more inclusive global science outlook. Two recent examples illustrate the point:

Climate Change Report. The United Nations-Sigma Xi Scientific Experts Group (SEG) has been studying methods to ameliorate and modify climate change trends. Since Sigma Xi is multi-disciplinary and transnational, the Society was able to bring together members knowledgeable in the many disciplines involved in climate change science and representing non-parochial views. SEG members reside and work in Japan, Germany, Australia, Russia, the United States and United Arab Emirates. Their report examines, argues and recommends steps to accentuate the positive and ameliorate negative effects through modification of perceptions, policies and actions that affect the physical causes of climate change. The intended audience for the report consists of, at least, national policy institutions, regional resource management organizations, manufacturers and commercial advocacy groups, climate scientists, astute scientists and engineers in general, along with the public. This effort represents transnational science at its best.

Workforce Sustainability. The U.S. National Science Foundation commissioned Sigma Xi to conduct a workshop on creating a globally engaged workforce. To maintain a robust scientific workforce, the workshop's conclusions argue for a conscious transnational brew of interaction among policy bodies, research institutions, laboratories, professors, postdoctoral fellows, graduate students and, yes, even undergraduates. U.S. policy and practices are not, and should not be, insular. The best intellectual and technical preparation for continued preeminence depends upon global scientific awareness and multifaceted interaction. National actions should augment rather than circumvent global influences to produce a sustainable technical workforce within the U.S. This conclusion recognizes the importance of transnational science.

The scientist as diplomat is not a new concept. Ben Franklin was, arguably, the first and best example. Nowadays, fusion physics research, high energy particle research and control of AIDS and HIV are examples of efforts beyond any one nation's capability. Scientists and engineers flow back and forth among uncounted international laboratories. Graduate and undergraduate students enjoy stints in laboratories outside their native countries in ever increasing numbers. Laboratories in universities, government research units and the private sector are substantially stocked with scientists and engineers born if not trained in other lands. There exists an army of science diplomats serving science and humanity. This phenomenon is global science.

Many science societies are effectively transnational. Sigma Xi consists of more than 500 chapters in colleges and universities, government and private settings, most in the U.S. and Canada, but with a significantly influential group overseas in Bangkok, New Zealand, Romania, Switzerland and Moscow, to name a few. Pluralism and understanding of differing circumstances are essential.

Science professional groups headquartered in the U.S. long ago transcended their “American” constituency and have members “everywhere.” Those that have local chapters assiduously cultivate affiliates or working groups in science centers around the globe. The American Chemical Society, the Optical Society of America and SPIE-International Society for Optical Engineering are examples. Science is universal.

Science is a rationalist philosophy. Adherents are not restricted to a particular religion, culture, nationality, age, gender or discrete set of interests. Scientists function within a transnational intellectual atmosphere embracing a multitude of viewpoints, cultures and practices. Would that our non-scientist brethren around the globe could be persuaded by example and discourse to act in a similarly tolerant and encompassing way. Pass it on!

James F. Baur



2007 Sigma Xi Awards Honor Scientists and Journalists

Duke University ecologist Stuart L. Pimm, Conservation International president Russell A. Mittermeier, inventor Stanford R. Ovshinsky and University of Florida psychologist Lise Abrams have been selected to receive Sigma Xi's top annual awards. In addition, science journalists K.C. Cole and Rosalind Reid have been tapped for induction as honorary life members.

Stuart Pimm

Stuart Pimm, Doris Duke Professor of Conservation Ecology at Duke, will receive Sigma Xi's highest honor, the **William Procter Prize for Scientific Achievement**. His



expertise lies in species extinctions and what can be done to prevent them. He also studies the loss of tropical forests and its consequences to biodiversity.

The Procter Prize has been presented annually since 1950 to an outstanding scientist or engineer who is known for effective communication of complex ideas. The prize includes a Steuben glass sculpture and \$5,000. The recipient also selects a young colleague to receive a \$5,000 Sigma Xi Grant-in-Aid of Research.

Russell Mittermeier



Russell Mittermeier, president of Conservation International in Arlington, Virginia, will receive the **John P. McGovern Science and Society Award**, presented

annually since 1984. The award consists of a medal and a \$5,000 honorarium.

Mittermeier is a prominent primatologist, herpetologist and wildlife conservationist. Having served as CI's president since 1989, he is the only active field biologist

to head an international conservation organization. Mittermeier's fieldwork has been on primates, protected areas and other conservation issues in Brazil, Suriname, Madagascar and more than 20 other countries.

Stanford Ovshinsky

Stanford Ovshinsky will receive Sigma Xi's 2007 **Walston Chubb Award for Innovation**.

Designed to honor and promote creativity among scientists and engineers, the award carries a \$4,000 honorarium. This is only the second time this new award has been presented.



Award-winner profiles will be featured in upcoming issues.

Ovshinsky is president and chief scientist and technologist of Energy Conversion Devices, Inc. (ECD Ovonic) in Rochester Hills, Michigan. He is a self-taught engineer, inventor and physicist. His invention of amorphous semiconductor materials gave rise to a whole new segment of material engineering, aiding in the construction of semiconductors, solar energy and electric cars. These materials are used in computers, photocopiers, fax machines and LCD displays.

Lise Abrams



Lise Abrams, an associate professor of psychology at the University of Florida, will receive Sigma Xi's 2007 **Young Investigator Award**. The award includes \$5,000 and a certificate of recognition. Sigma Xi

members within 10 years of their highest earned degree are eligible for this award.

Abrams is the director of the Cognition and Aging Laboratory, where she is investigating memory and language processes and the effects of aging on them. Her research focuses on naturally-occurring retrieval problems, such as word retrieval failures and spelling errors, both of which increase with normal aging.

K.C. Cole and Rosalind Reid

K.C. Cole and Rosalind Reid will be inducted as **Sigma Xi's newest honorary members**.

An award-winning journalist and author, Cole teaches science journalism at the University of Southern California. Her latest book is *Mind Over Matter: Conversations with the Cosmos*.



Reid has been editor of *American Scientist* since 1992. Under her leadership, Sigma Xi's illustrated magazine of science and technology has

won a number of awards and launched a suite of online services. She also presents workshops for scientists on communicating research in words and pictures.

Since 1983 some of the nation's top science journalists, as well as others who have made important contributions to science or Sigma Xi, have been elected honorary members.

The 2007 Sigma Xi awards will be presented at the Society's Annual Meeting and Student Research Conference in Orlando on November 1-4, 2007. Profiles of award winners will appear in upcoming issues of *Sigma Xi Today*. •

New Directors Take Office in July

Four directors and five associate directors were elected by Sigma Xi's 2006 Assembly of Delegates in Detroit, all to serve three years starting July 1, 2007.

C. Clifton Chancey, from the University of Northern Iowa Chapter, will be the director for the Comprehensive Colleges and Universities Constituency Group. He is a professor and physics department head at Northern Iowa.

Kelly O. Sullivan, from the Tri-Cities, Washington Chapter, will represent the Area Groups, Industries, State and Federal Laboratories Constituency Group. She is director of institutional partnerships at Pacific Northwest National Laboratory.

Linda K. Meadows and **Donald J. McGraw** were elected to the board as directors of the North Central and Southwest regions, respectively. Meadows is from the Ohio State University Chapter, and McGraw, the San Diego Chapter.

Meadows recently retired as assistant vice president for research at Ohio State. McGraw is former associate provost and professor of biology at the University of San Diego.

New associate directors include **Andrew J. Velkey II** from the Tidewater Virginia Chapter, for the Mid-Atlantic Region, and **Pamela Kerrigan** from the Manhattan College Chapter, for the Northeast Region.

Velkey is an associate professor of psychology at Christopher Newport University in Newport News, Virginia. Kerrigan is an associate professor in the Joined Departments of Chemistry and Biochemistry at Manhattan College/College of Mount Saint Vincent.

William R. Klemm, a professor of neuroscience at Texas A&M University, was elected associate director of the Southwest Region. He is a past president of the Texas A&M Chapter.

Joanne Kivela Tillotson from the SUNY at Purchase Chapter was elected associate director of the Baccalaureate Colleges Constituency Group, and **Geza Gordos** from the Hungary Chapter was elected associate director of the Canadian/International Constituency Group.

Tillotson is an associate professor of biology at SUNY Purchase, and Gordos is a professor and head of the Department of Telecommunications and Media Informatics at the Budapest University of Technology and Economics.

Sigma Xi Staff Changes

There have been a couple of changes on the Sigma Xi staff. **Laura J. Nigro**, formerly director of membership and chapter programs, is now responsible for the development of Sigma Xi's Public Understanding of Science Program.

Roger Harris, formerly manager of chapter relations and support, has taken the role of director of membership and chapters. A Sigma Xi member since 2004, Roger has also been contributing editor of *American Scientist* magazine. He continues to write the occasional book review and contributes to the Science Observer column.

Although his academic background is in the life sciences, he has a wide range of scientific interests. Roger's experience includes science education and development of science-related educational Web sites. •

Board Establishes Grant-in-Aid Fund Honoring Ferguson

The Sigma Xi Board of Directors has established a named Grant-in-Aid of Research fund in honor of long-time deputy executive director Evan Ferguson, who retired last spring.

"The Evan Ferguson Grant-in-Aid of Research Fund is in appreciation for his almost 24 years of service to the Society," says Executive Director Philip B. Carter. "This is especially fitting in light of his longstanding interest in Sigma Xi's education programs."

The fund will show preference to grant applications in the life sciences in recognition of Ferguson's background in biomedicine.

A native of Nebraska, Ferguson came to Sigma Xi in 1982 from the University of Texas Health Science Center at Dallas, where he was a research assistant professor of medicine and director of the Cell Physiology Laboratories at the Veterans Administration Medical Center. He is also a former research scientist at Warner-Lambert Research Institute in New Jersey.

Those wishing to contribute to the Ferguson GIAR Fund are urged to contact Sigma Xi's director of development at development@sigmaxi.org or 800-243-6534. Any individual or organization may establish a named fund by contributing a minimum of \$5,000 to the endowment within a three-year period. The donor may designate the field of research that the fund will support. •

SAVE · THE · DATE



2007 Sigma Xi
Annual Meeting &
Student Research
Conference

November 1-4

Rosen's Shingle Creek
Resort and Golf Club

Orlando, Florida

Call for Officer Nominations

April 1 is the nomination deadline for Sigma Xi **president-elect and regional and constituency group elections**, to take place at the Assembly of Delegates during the 2007 Sigma Xi Annual Meeting and Student Research Conference in Orlando November 1-4.

Candidates are being sought for directors in the following geographic regions and constituency groups: Mid-Atlantic Region, Northeast Region; Membership-at-Large Group and Research and Doctoral Universities Group.

Associate directors will be elected for the Northwest Region; Southeast Region; Area Groups, Industries, State and Federal Laboratories Group; and Comprehensive Colleges and Universities Group.

Committee on Nominations seats are open for the North Central Region, Southwest Region, Baccalaureate Colleges Group and Canadian/International Group.

Nominations should be sent to Lana Barnwell at lbarnwell@sigmaxi.org.



Sigma Xi Grants Support Student Research

Sigma Xi **Grants-in-Aid of Research** have been providing valuable educational experiences to undergraduate and graduate students for more than 80 years.

March 15 and **October 15** are the application deadlines annually for research grants of up to \$1,000 to support investigation in any field of science and engineering, including the social sciences.

Special funds allow grants of up to \$5,000 for astronomy and \$2,500 for eye or vision related research. Grant proposals are judged by a volunteer committee of Sigma Xi members solely on the basis of their scientific merit. Visit www.sigmaxi.org for details.

Monie Ferst Award Honors Inspiring Teachers

March 1 is the nomination deadline for Sigma Xi's **Monie Ferst Award**, which honors science and engineering teachers who have inspired their students to significant research achievements.

This national award is sponsored by the Georgia Institute of Technology Chapter of Sigma Xi and recognizes those who have made "notable contributions to the motivation and encouragement of research through education."

The Ferst Award consists of a medal and \$5,000. An appealing feature is its presentation during a day-long symposium focusing on the achievements of the winner's former students. Visit www.sigmaxi.org for details.

Recent recipients of the award include Texas A&M University chemist **F. Albert Cotton**, Indiana University Bloomington chemist **Gary M. Hieftje**, University of California Berkeley electrical engineer **Chenming Hu**, University of California Los Angeles computer scientist **Leonard Kleinrock**, University of Kentucky plant pathologist **Joseph A. Kuc** and University of California San Diego chancellor **Marye Ann Fox**. •



IRA Donations

A tax-saving opportunity signed into law last year provides new incentives for charitable gifts for donors who are 70½ or older, or will turn 70½ on or before December 31, 2007.

The Pension Protection Act allows the use of funds from an IRA to make a lifetime charitable gift to a public non-profit charity (such as Sigma Xi) *tax free*.

One of the key benefits of the new law concerns those who are receiving minimum distributions from an IRA as part of retirement income after turning 70½. Even if you do not need these IRA distributions, by law you must take them *and* pay income tax on them.

Under the new law, transferring those minimum distributions to a charity allows you to avoid paying income tax on them.

For more information on the tax benefits and applicable rules, contact Sigma Xi's development director at development@sigmaxi.org, or call 800-243-6534. •