sigma xi today
September–October 2007 · Volume 16, Number 5

Society Honors John Ahearne

John F. Ahearne has been named Executive Director Emeritus of Sigma Xi in recognition of his many contributions to the Society. He served in that position from 1989-1997 and has directed Sigma Xi's ethics program since then.

"John is the first to be accorded this honor," says Treasurer Richard L. Meyer. "It is a tribute to his many years of dedication as well as the multiple capacities in which he has served the Society—from relocating our administrative offices to Research Triangle Park, organizing major forums and writing a new ethics booklet, to serving on panels and being a resource for succeeding executive directors."

A member of the National Academy of Engineering and a former chairman of the U.S. Nuclear Regulatory Commission, Ahearne is an expert on nuclear power and nuclear weapons. He was an adjunct professor of civil and environmental engineering and lecturer in public policy at Duke University and is an adjunct scholar for Resources for the Future.

His popular ethics booklet, *The Responsible Researcher: Paths and Pitfalls* (1999), updates and complements Sigma Xi's widely-circulated guidebook, *Honor in Science.*

A physicist, Ahearne has also served as U.S. Deputy Assistant Secretary of Energy and Acting Assistant Secretary of Defense and has been active on National Research Council and National Academy of Sciences committees.

A past president of the Society for Risk Analysis, he is a fellow of the American Physical Society, the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He was inducted into Sigma Xi in 1964. •

From the Treasurer

Global Engagement

Between 1998 and 2003, it's estimated the U.S. lost nearly 300,000 high-tech jobs to competition abroad, and today American companies often cannot fill their scientific and technical personnel needs domestically. At the same time, only about 21 percent of U.S. citizens hold passports. Meanwhile, it is becoming increasingly clear that success in a global economy will require that U.S. scientists and engineers achieve "global competence."

That means being able to work in international settings and adapt to diverse cultures, perceptions and approaches; having a familiarity with the major currents of global changes and the issues they raise; and being able to communicate across cultural and linguistic boundaries.

Many nations are investing time and resources in the four pillars of a knowledge economy: education and training, information infrastructure, economic incentive and institutional regimes, and innovation systems. China, India and Japan are challenging U.S. preeminence in providing centers of excellence for research and development. Many countries are now competing to provide a highly skilled workforce to meet the needs of the future.

Against this backdrop, Sigma Xi brought together a group of 70 researchers, educators and industry representatives, along with 40 National Science Foundation (NSF) staff members, for a three-day workshop last September called "Assuring a Globally Engaged Science & Engineering Workforce." Meeting at NSF headquarters in Arlington, Virginia, they were asked to consider how best to cultivate and promote a globally competent U.S. science and engineering workforce.

Funded by an NSF grant to Sigma Xi, the workshop looked at the challenges of globalization and what's needed to ensure that we don't fall behind in science and technology. Visiting Sigma Xi Scholar Elizabeth J. Kirk served as the principal investigator. A summary of the workshop is included in this issue of *American Scientist*; the full report is available online at www.sigmaxi.org.

A number of key recommendations came out of this meeting. They were based on the premise that our scientists and engineers must be able to work with researchers around the world, so that they can tap into and actively participate in the creation of new knowledge and innovation wherever and whenever it is occurring.

Sigma Xi has actively pursued international science networking for more than 20 years. A vital part of the Society's mission is to foster worldwide interactions among scientists and engineers through our network of more than 500 Sigma Xi chapters at universities, colleges, government laboratories and industry research centers. Working in all fields of science and engineering, Sigma Xi's membership represents more than 100 different countries.

Membership in Sigma Xi is meant to foster a sense of companionship among colleagues who, no matter what their field of study, share a common interest in promoting research. Because science is a global activity, Sigma Xi is working to coordinate and emphasize the global voice of scientific and engineering research. We also want to improve the global network of scientists and engineers across disciplines and encourage interdisciplinary dialogue.

We want to facilitate cooperation and a greater sense of community among scientists and engineers globally, and bring scientists of developing nations more effectively into research endeavors. And, finally, we want to provide encouragement, companionship and support to younger scientists and engineers abroad, just as we do to those in North America. These and other activities will serve to keep Sigma Xi robust and relevant in a rapidly changing world.

Richard L. Meyer

award winners

Stanford Ovshinsky to Receive Walston Chubb Award

One of America's most prolific inventors, **Stanford R. Ovshinsky** of Rochester Hills, Michigan, has been compared to such icons as Thomas Edison. A self-taught engineer and physicist who holds hundreds of patents, Ovshinsky is the co-founder of Energy Conversion Devices (ECD Ovonics).

His discoveries over a long and fruitful career have led to inventions that are revolutionizing everything from batteries and hydrogen storage to solar cells and computer memory.

Ovshinsky will receive Sigma Xi's 2007 Walston Chubb Award for Innovation at the Society's Annual Meeting and Student Research Conference, set for November 1-4 in Orlando. The annual award is designed to honor and promote creativity among scientists and engineers. This is only the second time it has been presented.

Ovshinsky and his late wife, Iris, founded ECD in 1960 to continue his work in the field of amorphous and disordered materials, which he originated in 1955, with the goal of "using creative science to solve societal problems."

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.

Wong Wins 2007 Monie Ferst Award

C. P. Wong at the Georgia Institute of Technology is an industry legend who fundamentally changed semiconductor packaging technology while at AT&T Bell Labs, pioneering new materials ranging from polymers to nanotechnologies.

This fall, he will receive Sigma Xi's 2007 Monie A. Ferst Award, given annually to an educator in engineering or science who has made "notable contributions to the motivation and encouragement of research through education." The award is administered by the Georgia Tech Chapter of Sigma Xi, of which Wong is a past president.

Wong is a Regents Professor and holder of the Charles Smithgall Institute Endowed Chair at Georgia Tech's School of Materials Science and Engineering. He dramatically reduced the cost of manufacturing large volumes of the high-performance electronic components widely used in today's telecommunications, computer networks and other consumer electronics areas. He is the author or co-author of four definitive books on polymeric materials and packaging technologies.

In the past 10 years since joining Georgia Tech, Wong has advised numerous graduate and undergraduate students and mentored many postdocs. Over 400 manuscripts have been submitted from work in which he and his students participated. He has also made more than 250 presentations and 36 U.S. Patent applications during this period. •

sigma xi deadlines

Grants-in-Aid of Research

October 15 and March 15 are the annual application deadlines for Sigma Xi Grants-in-Aid of Research. Student researchers can apply for funding to support investigation in any field of science and engineering, including the social sciences.

Awards Nominations

October 1 is the deadline to nominate someone for the Society's prestigious annual awards. Sigma Xi awards include the William Procter Prize, John P. McGovern Award, Walston Chubb Award, Young Investigator Award and Honorary Membership.

Student Research Conference

Several deadlines are approaching for the annual Sigma Xi Student Research Conference, to be held November 2-3 in conjunction with the Society's annual meeting in Orlando. This is primarily an undergraduate conference. A limited number of submissions will be accepted from high school students and first year graduate students as space allows. September 28 is the deadline to submit abstracts for inclusion in the conference program. October 5 is the hotel registration deadline to receive the discounted rate.

More information on all of these deadlines is available at www.sigmaxi.org.

In June, the Sigma Xi Center hosted the first official **gathering of honorary members** to talk about science and the media. Shown are (back row, left to right) Sigma Xi President James F. Baur, with honorary members Robert Teer, Jr. and Brian Hayes, and (front row) Cristine Russell, Joanne Rodgers, Sidney Harris, Rosalind Reid and Claudia Dreifus.