

Sigma Xi Today

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James F. Baur Elected Sigma Xi President

In November, the Assembly of Delegates elected physicist James F. Baur president-elect of Sigma Xi. He will begin serving as president-elect in July and succeed Lynn Margulis as president in July 2006.

Baur's experience includes college physics teaching, fusion energy research in small and large groups, management of international technical projects and 20 years of committed service to Sigma Xi.

Since 1990, he has been president of Science Solutions Inc., a technology management company concentrating on joint research and development projects with research groups of or related to the former Soviet Academy of Sciences.

While at General Atomics Company in San Diego, Baur had a range of assignments in the Fusion Division that provided insight and experience in many aspects of research.

Earlier in his career, following assignment as a staff officer in an Engineer Group supporting the U.S. Army VII Corps in Germany, he taught physics at the U.S. Military Academy at West Point for three and a half years, receiving the Army Commendation Medal for professional activities.

The University of Florida Chapter of Sigma Xi inducted Baur in 1962. He became active in the San Diego chapter in the early 1980s, serving as president in 1987 and again in 1997. He has also served in a variety of roles at the Society level, including chair of the International Committee.

Baur says he plans to champion a number of ideas while in office.

Among other things, he will advocate establishment of a "Sigma Xi Global Fund" with contributions



James F. Baur

from multinational corporations that do business and have an interest in fostering science in developing countries as a means to supplement—not completely absorb—the dues of members in overseas chapters.

Baur observes that holding an occasional Society annual meeting in international locales would help support international expansion.

The promotion of regional Sigma Xi consortia, an idea that has met with success in Connecticut, Southern California and Arizona, will also be high on his list.

"When three to six chapters work together in planning joint programs, it can lead to increased attendance and companionship among members," Baur says. "I advocate more chapter open house activities, especially ones that involve local industry and government laboratories."

He encourages members and officers to share ideas and speak their minds by calling or e-mailing the president, any director or relevant administrative staff. "Sigma Xi would be the better for that effort."

UN-Sigma Xi Experts Address Climate Change

There is broad consensus that a global response to climate change is needed and that a wide range of options already exist to mitigate, or slow down, the warming trend and adapt to those impacts of climate change that are already underway.

To help develop a slate of practical responses, the United Nations Division for Sustainable Development and Sigma Xi have formed a Scientific Expert Group (UN-Sigma Xi SEG). The group will undertake a rigorous review of the existing scientific literature and discuss new and innovative ways to combat climate change.

The group kicked off that process at its inaugural meeting December 3-5, 2004 at the Sigma Xi Center in Research Triangle Park, North Carolina.

Over an 18-month period, the UN-Sigma Xi SEG will identify the most promising technologies and methods the world can effectively employ, and will make concise recommendations to the UN Commission on Sustainable Development.

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Chapters Honored at Annual Meeting

Certificates of Excellence

The following chapters received awards at Sigma Xi's 2004 Annual Meeting for overall outstanding activity during the past year.

The **East Carolina University Chapter** held lunchtime lectures, recognized outstanding research among faculty and graduate students and sponsored a public lecture that drew an appreciative audience.

The **Rockefeller Chapter** continued to support and honor outstanding high school research interns with an event that also included their parents and local dignitaries.

South Florida Water Management District Chapter members served as judges for science fairs, provided expert advice to the media and partook in a dialogue with members of the Chinese Academy of Science.

A chapter-sponsored research day highlighted the activities of the **Southern Illinois University-Carbondale Chapter**, which also sponsored several lectures and gave awards for faculty research and high school teaching.

As part of its revitalization efforts the **Tampa Bay Chapter** created a panel of past presidents to act as chapter advisors, presented four community-wide brown bag research lunches and sponsored a lecture by a NASA researcher.

The **Tidewater Virginia Chapter** hosted a behind-the-scenes tour of the Virginia Living Museum for members and their families and sponsored a nanotechnology forum that utilized local experts.

The **University of Nebraska Chapter** sponsored a graduate student research competition with over 90 students presenting research, instituted a new series of public lectures and presented travel awards to 11 graduate students.

The **University of Toledo Chapter** celebrated the 25th anniversary of its student research symposium by expanding the event to include a public

lecture, plenary lecture, leadership lunch and poster session.

Chapter Program Awards

Presented in recognition of a single, outstanding program during the past year.

The **Carleton College Chapter** sponsored a panel discussion at which panelists with diverse science backgrounds and career paths described their experiences.

Ford Motor Company Chapter instituted a new community-service program that provides community college students with real-world scientific research experience.

Increasing the involvement of community members in chapter activities was one of the primary goals of the **Mesa State College Chapter** last year. Speakers and topics for talks were chosen to reflect current public policy issues that are rooted in science.

In an effort to encourage an interest in science education for home schooled children, the **Ohio Northern University Chapter** sponsored a science fair that included home schooled children.

As part of the chapter's commitment to K-12 science education, the **Princeton Chapter** worked with the CONNECT-ED program to team K-12 teachers with Sigma Xi members for professional development.

The **East Carolina Chapter** and the **Tampa Bay Chapter** also won Chapter Program Awards.

Diversity Program Awards

Awarded for organizing an outstanding program that promotes diversity within the research communities.

The **South Texas Chapter** co-sponsored BrainsRule!, a program that acquaints school children with the nervous system. The school that participated has an enrollment that is 83 percent Hispanic and 15 percent African-American.

The **Ford Motor Company Chapter** and the **Rockefeller Chapter** also won Chapter Diversity Awards.

Climate Change

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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 is in a unique position to bring together experts to consider practical ways of addressing global climate change," according to Executive Director Patrick D. Sculley. "In addition, our 500 chapters and more than 70,000 members also provide an effective network for disseminating information."

The UN-Sigma Xi SEG will 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 will make actionable recommendations based on existing technologies and tailored to a range of social, political, economic and geographic circumstances.

The UN-Sigma Xi SEG recommendations will be part of a written report delivered to representatives who sit on the UN Commission on Sustainable Development.

"The recommendations can then be deployed throughout the world," says Raven, director of the Missouri Botanical Garden, "to scale back various influences on climate change and to prepare for its effects.

"Some degree of uncertainty will always be attached to the study of climate change, or almost any science, for that matter," Raven continues. "But since science and economic considerations should inform the policy crafted to address climate change, decision makers may have to forego absolutes."

Visit the "News from Sigma Xi" link at www.sigmaxi.org for more information, including a list of participants.

Gary Hieftje Receives Monie Ferst Award

Distinguished analytical chemist Gary M. Hieftje at Indiana University, Bloomington received the 2004 Monie A. Ferst Award, which recognizes those who have made notable contributions to the motivation and encouragement of research through education.

Administered by the Georgia Institute of Technology Chapter of Sigma Xi, the award is made annually to a person who has touched and inspired his or her research colleagues in a manner that can be documented by their subsequent scientific accomplishments.

Hieftje's contributions to the field of analytical chemistry encompass the training of excellent students, the production of texts and scholarly books, the performance of fundamental research to characterize the field and the development of new techniques and instrumentation.

These activities have yielded more than 450 publications, 10 books, many text chapters and a number of patents. More than 100 postdoctoral associates and graduate students have trained under his direction.

Hieftje is perhaps best recognized for his work in chemical instrumentation and atomic spectrometry. His group has long been active in the study of events that lead to atom formation, excitation and ionization in flames and high-frequency plasmas and in the development of new kinds of plasma sources, sample-introduction devices, and both optical and mass spectrometers.

He is widely known for his invention of a method for background correction in atomic-absorption spectrometry and for the coupling of time-of-flight mass spectrometry to atomic ion sources.

Several national and international awards, including the American Chemical Society Award in Analytical Chemistry, have already recognized Hieftje's contributions. He is only the fourth person ever to win both awards



Gary M. Hieftje

offered by the sponsoring organizations of the Pittsburgh Conference: the Pittsburgh Analytical Chemistry Award (1986) and the Pittsburgh Spectroscopy Award (2001).

Hieftje is a graduate of Hope College and received his Ph.D. from the University of Illinois in 1969, the same year he was inducted into Sigma Xi. He became a full professor at Indiana University in 1977 and was named a Distinguished Professor in 1985. He currently holds the Robert and Marjorie Mann Chair in Chemistry.

Postdoc Survey Supplement Planned

American Scientist will publish the summary findings of the Sigma Xi Postdoc Survey as a supplement to its May-June 2005 issue.

This study is the first national, scientific and comprehensive survey of postdoctoral researchers in the United States.

Designed to assess postdoctoral training of scientists and engineers, the supplement identifies best practices, enables institutions to benchmark their existing practices against those of their peers and provides a better understanding of the current state of postdoctoral training.

For the survey, Sigma Xi contacted more than 22,000 postdocs at 46 universities and research institutions, including 18 of the largest academic employers of postdocs and the National Institutes of Health, the largest government employer of postdocs.

The responses provide insight into postdocs' career goals, research productivity levels, relations with advisors, training needs and demographics. The survey supplement will also be available online at www.sigmaxi.org as a PDF. The postdoc survey is funded by the Alfred P. Sloan Foundation.

Planned Giving: A Lasting Legacy

A bequest is a unique opportunity to support Sigma Xi for many years to come. The outcome is a legacy of giving that benefits future generations of scientists and engineers and honors a life's work.

Longtime Sigma Xi member Mildred E. Hamilton of Cherry Hill, New Jersey, was a respected educator who taught psychology at Queens College, City University of New York. Through a generous bequest, she provided general unrestricted support for the programs and operations of Sigma Xi.



Mildred E. Hamilton
1915-1998

For more information about planned giving, visit www.sigmaxi.org or contact:

Office of Development and Communications
Sigma Xi, The Scientific Research Society
P.O. Box 13975, Research Triangle Park, NC 27709
800-243-6534, development@sigmaxi.org

Sigma Xi News Briefs

New Membership Director

Nearly two decades after being inducted into Sigma Xi, Laura J. Nigro has joined the Society staff as the new director of membership and chapter programs.



Laura J. Nigro

A graduate of Wellesley College, she earned an MS in physics from the University of Colorado at Boulder, interning with seismologist Charles Archambeau, whose research with other U.S. and Soviet scientists enabled seismic verification of international nuclear test-ban treaties.

Nigro spent her early career in geophysical modeling and mapping and also taught undergraduate physics. She then spent 12 years in communications, outreach and public relations with The Colorado Mountain Club, The American Mountaineering Center and VSA Arts (based at the John F. Kennedy Center for the Performing Arts). Most recently she was a regional federation marketing director within the United Jewish Communities network.

Volunteer Database

The new Sigma Xi Volunteer Online Database is a convenient way for scientists and engineers to work with K-12 teachers and their students. Volunteers enter information about their availability, location and interests.

A volunteer can remove his or her listing or modify it at any time. You can also indicate temporary unavailability, a feature that would be useful during a period of heavy work commitment or travel, for example.

Visit www.sigmaxi.org for more on this new resource.

Student Grant Deadline Nears

March 15 is the next deadline for Sigma Xi's popular Grants-in-Aid of Research program. Undergraduate or graduate students in a degree program are eligible to apply. Research awards are made to support scientific investigation in any field.

Grants-in-Aid of Research guidelines, an interactive application form and tips on preparing a successful application are available online at www.sigmaxi.org, along with a list of grant recipients and research project titles from the past three grant cycles.

TOYchallenge Showcases

The Sigma Xi Center in Research Triangle Park, North Carolina, and the San Diego Aerospace Museum will host National Showcases for the 2005 Sally Ride TOYchallenge™ on May 7 and April 30, respectively.

Sigma Xi is pleased to be a principal sponsor again this year for this innovative toy- and game-design competition that encourages mid-

dle school students, and especially young women, to excel in science and technology.

The competition was developed by former astronaut and longtime Sigma Xi member Sally Ride and Smith College's Picker Engineering Program as an outreach activity to engage students in science and engineering and inspire them to pursue careers in those fields. For details, visit www.sigmaxi.org.

American Scientist Update

Get a jump on each issue of *American Scientist* magazine with a free subscription to *American Scientist Update*, a new electronic newsletter that summarizes the contents and alerts subscribers when a new issue appears online.

Hotlinks provide access to full text articles, book reviews and other features of special interest to Sigma Xi members.

Visit www.americanscientist.org to add or cancel a subscription any time via the "Subscribe to Our Free E-Newsletters" link.

2004 Annual Meeting & Student Research Conference

Canadian scientist/broadcaster David Suzuki (center) gave an engaging talk at the 2004 Sigma Xi Annual Meeting & Student Research Conference in Montreal. He is shown here with University of Waterloo students (left to right) Kuo-Bao Tong, Sameer Rehman, Jessica Poon, Wendy Chen and Timothy Szeto. More than 200 undergraduates participated in the two-day student conference, with major support from the National Institute of Environmental Health Sciences. The 2005 Student Research Conference will be held in Seattle.

