

Sigma Xi Today

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Williams Elected Sigma Xi President

Ann Houston Williams, field studies coordinator for the U.S. Environmental Protection Agency's Human Studies Division in Chapel Hill, North Carolina, was elected president of Sigma Xi at the Society's 2006 Annual Meeting and Student Research Conference in Detroit. She will begin serving as president-elect in July 2007 and succeed James Porter as president in July 2008.

A 31-year member of Sigma Xi, Williams has served as a chapter officer, on the Society's board of directors and on Sigma Xi's administrative staff as director of chapter programs.

A graduate of the University of South Carolina, she has a Masters of Arts in Teaching (MAT) in biological sciences from Duke University and a Ph.D. in zoology from the University of North Carolina at Chapel Hill. Two Sigma Xi Grants-in-Aid of Research helped her conduct an experimental study of a coral reef community in Jamaica for her doctoral research.

After teaching at Southwestern at Memphis (now Rhodes College) in Memphis, Tennessee, she became head of Auburn University's marine biology program and served as secretary of the Alabama Academy of Science.

Williams was the graduate program officer for the Auburn Department of Zoology and Wildlife Sciences and served on the board of the Organization for Tropical Studies.

As chair of the Auburn University Sigma Xi Chapter's Committee on Awards, she facilitated the annual selection of outstanding theses and dissertations. She was elected president of the chapter in 1989, but her relocation to North Carolina with her husband prevented her from serving.

In 1990, Williams joined the staff of Sigma Xi in Research Triangle Park. Over the next nine years, she visited Sigma Xi chapters throughout the U.S., providing support for existing groups and assisting others in securing charters for new chapters.



Ann H. Williams

She served as staff liaison to the Committee on Regions, Committee on Qualifications and Membership and the International Committee and was also instrumental in the formation of the Society's Committee on Diversity.

A past president of the N.C. Academy of Sciences, Williams got back into active research in 1999 when she became project director for the Carolina Mammography Registry at UNC-Chapel Hill. She assumed her current position with the EPA in 2002.

In 2005, Williams received a laboratory-wide award for developing a computer-assisted fish consumption survey for members of Tribal Nations. And, in 2006, she was recognized with an EPA laboratory-wide award for her revitalization of the UNC-Chapel Hill Chapter of Sigma Xi, for which she serves as secretary-treasurer.

On the Society level, she has been the associate director and director of the Southeast Region. Her service also includes the Society's Strategic Planning, Finance and Nominations committees.

Workshop Examines Global Engagement

A three-day workshop, "Assuring a Globally Engaged Science and Engineering Workforce," at the National Science Foundation (NSF) in September examined global engagement for scientists and engineers from the perspectives of the individual, institution and workforce.

Approximately 70 people participated, representing educational, research and industrial institutions and associations, along with approximately 40 NSF staff members.

The workshop involved several keynote speakers, 12 panels, luncheon roundtables and poster sessions. It was funded by an NSF grant to Sigma Xi, with Visiting Sigma Xi Scholar Elizabeth J. Kirk as the principal investigator.

Several panelists presented models or programs that encourage students, faculty and researchers to participate in international collaborations. These include virtual learning experiences, long-term research collaborations and models for attracting foreign researchers and businesses to specific areas.

Workshop findings will be presented in a technical report that will be posted on the Sigma Xi Web site.

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Sigma Xi Chapters Honored at Annual Meeting

Certificates of Excellence

The following Sigma Xi chapters were acknowledged at the 2006 Annual Meeting for exceptional activities, innovative programming and community leadership during the past year.

Clemson University continued its well-attended lecture series along with a science as art program using visual representations of science and technology that provided a valuable connection between scientists, artists and the general public.

Washington College offered a wealth of programs, from promoting undergraduate psychology and chemistry research, to a fall family day research symposium.

The **Alaska Chapter** has focused on its Alaska Statewide High School Science Symposium/National Junior Science and Humanities Symposia, which have continued to grow through the years.

The **University of Toronto** has an excellent series of public lectures covering topics on the Human Body, Tsunami!, Geology and Society in Ancient Egypt and Extreme Life, to name a few.

The **State University of New York at Oswego** has focused on student programs, including a regional poster competition, student research awards and a trip to the Sigma Xi annual meeting, along with the regular chapter programs.

Program Awards

The following chapters were honored for outstanding programs, especially ones which other chapters can emulate.

Chs-Sci-Net, a listserv open to anyone with an interest in science, is an outreach tool to the local community hosted by the **Charleston Chapter**. In addition to Sigma Xi members, participants include a large number of public school teachers and other educators.

The **Central Arkansas Chapter** sponsored the 12th annual Science-in-Society Debate involving area high school

students. Preliminary judging of winners from various schools leads to two finalists competing at the chapter's spring banquet. This year's topic was "Resolved that protection of natural habitat for endangered species should be a higher priority for Arkansas than economic development." Financial awards were presented to participating students.

The **National Institute of Standards and Technology Chapter** Colloquium Series invites Sigma Xi members to give formal oral presentations on scientific research or scientific policy issues of immediate importance to the NIST community. The general public is also invited to attend.

The **Mayo Foundation Chapter** hosts five public lectures each year on a variety of topics. Lectures are attended by high school students, teachers, chapter members and others. A videotape or DVD of each lecture is given to the local public library and to the public schools.

Over a two day period, **Northern Michigan University** hosted and Sigma Xi co-sponsored a set of four Webcasts by experts in the field of evolution. The Webcasts were made available to Northern Michigan University students and faculty as well as area science teachers.

The **Marquette University Chapter** co-sponsored a Future "Potential in IT" program with Microsoft and the Society for Information Management, in an effort to recruit students to majors and careers in STEM, especially in IT-related fields.

The **Texas A&M University Chapter's** Educational Outreach Committee seeks to centralize educational outreach and build on each other's ideas to promote better outcomes for TAMU and K-12 education throughout the state.

The **University of Texas at Arlington Chapter's** Annual Celebration of Excellence by Students is a combined graduate and undergraduate

research forum in which about 150 students present their work orally or by posters.

Chapters that win awards are not eligible to win again for three years. However, some continue their meritorious work. The **Saint Joseph's University, McGill-Montreal** and **Tidewater Virginia** chapters were honored with letters of recognition for their ongoing achievements in 2006.

Diversity Awards

Sigma Xi Diversity Program Awards were presented this year to two chapters that have organized outstanding programs that promote diversity within the science, engineering and research communities.

The **Rockefeller University Chapter** continued to support the Harlem Children Society as it grows and expands globally. Starting six years ago with three students, the program now has 183 students from minority backgrounds who are mentored by 250 scientists and engineers in 50 institutions. Students have been encouraged to compete at several regional and national science conferences and competitions, with many going on to win prestigious awards and internships at institutions in the U.S. and Africa.

The **University of California-Berkeley Chapter** co-sponsored a variety of one-hour professional development workshops targeting diversity science students. Topics included "Research Presentations Do's and Don'ts," "How to Write a Sigma Xi Mini Grant" and "Designing Professional Research Posters." Since October 2005 the UC Berkeley chapter has successfully nominated more than 50 diversity science students from nine University of California campuses, while establishing partnerships with the UC Leadership Excellence through Advanced Degrees (LEADS) program and the NSF California Alliance for Minority Participation in the Sciences (California AMP) program to recruit students.

Education Grant Funds Chapter Workshop

The Sigma Xi Georgia International Partner has been awarded a \$1,000 Science, Math and Engineering Education (SMEE) grant from Sigma Xi to help support an international workshop called "Georgia-Armenia-U.S.-Alliance for Education and Economic Development."

With additional funding from the Science Education for New Civic Engagement and Responsibility (SENCER) Program, the workshop will bring together scientists, educators, government officials and students from Georgia, Armenia, Azerbaijan and the United States.

They will share information on science education reforms in their respective countries. The Sigma Xi SMEE grant will be used to train 26 university students from Georgia in grant writing and fundraising skills.

Sigma Xi chapters and partners are invited to apply for SMEE grants to support science education projects. These grants provide "seed" mon-

ey to initiate innovative programs; matching support from other resources greatly enhances the priority of a grant application for the limited funds that are available.

Financial support normally is for one time only to assist in the initiation of new projects. The maximum amount for an individual grant is \$1,000. Applications may be submitted at any time. Chapters are usually notified of decisions within 60 days from receipt of the application.

Visit the Education Program under the Programs section at www.sigmaxi.org for more information, including an application form.

Sigma Xi Chapter Program Support

Sigma Xi strives to support chapter program development through a variety of grants, endowments and institutional partnerships. Visit the Chapters link at www.sigmaxi.org for details.

Multi-Chapter Granting Program: This funding opportunity supports chapter collaborations at a maximum of \$1,000 annually for a two-year activity (\$2,000 total per collaboration). Up to five new multi-chapter initiatives are funded each year. The application deadline is March 1.

Distinguished Lectureships: Since 1937, Sigma Xi has offered its chapters access to engaging speakers at the forefront of science and technology. Speaker profiles appear in the January-February issue of *American Scientist*. March 1 is the deadline for chapters to apply for a subsidy to host a lecturer.

Grants-in-Aid of Research: March 15 and October 15 are the annual deadlines for this funding opportunity for undergraduate and graduate student research. Sigma Xi grants are available in every area of science and engineering. Applications are judged based solely on their scientific merits.

Two Members Win Nobel Prize

When John C. Mather and George F. Smoot won the Nobel Prize for Physics in October, they joined more than 200 Sigma Xi members who have received science's highest honor.

Mather is senior astrophysicist at NASA's Goddard Space Flight Center in Greenbelt, Maryland. He was inducted into Sigma Xi in 1968 by the Swarthmore College Chapter.

Smoot is a professor of physics at the University of California, Berkeley. He was inducted in 1966 by the Massachusetts Institute of Technology Chapter.

They won the prize for their collaborative work on understanding the Big Bang. Mather and Smoot analyzed data from NASA's Cosmic Background Explorer (COBE), which studied the pattern of radiation from the first few instants after the universe was formed.

In 1992, the COBE team announced that they had mapped the primordial hot and cold spots in the cosmic microwave background radiation.

These spots are related to the gravitational field in the early universe, only instants after the Big Bang, and are the seeds for the giant clusters of galaxies that stretch hundreds of millions of light years across the universe.

The team also showed that the Big Bang radiation has a spectrum that agrees exactly with the theoretical prediction, confirming the Big Bang theory and showing that the Big Bang was complete in the first instants, with only a tiny fraction of the energy released later.

15 Chapters Recognized

The following chapters were recognized at the 2006 Sigma Xi Annual Meeting for initiating the most new members last year.

Princeton
Brown University
Williams College
Claremont Colleges
Smith College
Delta
Swarthmore College
Oberlin College
University of Chicago
McGill-Montreal
Bucknell University
Washington University
Union College
Carleton College
Mount Holyoke College

Leroy Hood Wins 2006 Heinz Award

Sigma Xi member Leroy Hood, genomic biologist, inventor and president of the Institute for Systems Biology in Seattle, was among the five winners of the 2006 Heinz Awards.

The \$250,000 prizes are awarded in five areas of particular interest to John Heinz, the late U.S. Senator for whom the awards are named.

Hood won the award in Technology, the Economy and Employment for groundbreaking work that led to the onset of a new field called systems biology, which soon spawned an array of commercial applications.

Hood owns 14 patents in the biomedical arena, including the DNA sequencer that laid the foundation for the Human Genome Project. He founded Applied Biosystems, a world leader in molecular instrumentation, and later created 10 other companies.

He has been Sigma Xi member since 1964, when he was inducted by the California Institute of Technology Chapter.

Grants-in-Aid Centennial Campaign



GRANTS-IN-AID OF RESEARCH

S I G M A X I

Since 1922, Sigma Xi members and friends have made a difference for nearly 30,000 undergraduate and graduate students through the Grants-in-Aid of Research program.

Supported by member dues and voluntary contributions, Sigma Xi grants often provide "seed money" to help launch research careers.

Competition for grant funds, especially among beginning researchers, has never been more intense. Sigma Xi wants to help even more promising young research students in the years ahead.

To celebrate the Grants-in-Aid of Research centennial, and to increase the investment in the future of science and engineering the program represents, a campaign is being launched to raise grant endowment to \$22 million by the year 2022.

Help continue Sigma Xi's proud tradition of supporting promising students at the outset of their research careers. By supporting the Grants-in-Aid of Research Centennial Campaign you will change lives, challenge thinking and encourage innovation.

To contribute to the campaign or receive information on endowing a named Grant-in-Aid of Research in perpetuity, contact Sigma Xi's development director at development@sigmaxi.org or 800-243-6534.

Would you consider making a planned gift to Sigma Xi if we could show you how?

If you believe in Sigma Xi's role as a leading advocate for the value and promise of science, you can help support our programs with gifts other than cash. Your gift can make a difference.

Please call Kristen Greenaway, Director of Development, at 800-243-6534, e-mail kgreenaway@sigmaxi.org or return the reply card next to the inside back cover.

Sigma Xi is a 501(c)(3) not-for-profit. All donations made are tax-deductible in the U.S. and Canada.

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SIGMA XI
THE SCIENTIFIC RESEARCH SOCIETY



Fifty students from the Harlem Children Society mentoring program attended Sigma Xi's Annual Meeting and Student Research Conference in Detroit. Rockefeller University Sigma Xi Chapter President Satyajit Bhattacharya (standing, far left) founded the non-profit society to open opportunities in science to young minority people. The chapter has won Sigma Xi Diversity Program Awards for this initiative. Visit www.sigmaxi.org for more photos from the annual meeting.