

Sigma Xi Today

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James Porter Elected Society President

In November, the Assembly of Delegates elected University of Georgia marine ecologist James W. Porter president-elect of Sigma Xi. He will begin serving in July and succeed James Baur as president in July 2007.

After he earned a B.S. in biology at Yale University, a summer of fieldwork at the Smithsonian Tropical Research Institute in Panama inspired an interest in the ecology and physiology of marine invertebrates. Porter went on to earn his Ph.D. at Yale.

His first academic appointment was as an assistant professor of natural resources at the University of Michigan.

In 1977, he moved to his present position in the University of Georgia's Institute of Ecology, serving in a variety of administrative posts, including curator of invertebrates at the Georgia Museum of Natural History. In 2004 he became Meigs Professor of Ecology.

A life member of Sigma Xi since 1972, Porter is president of the University of Georgia Chapter.

He believes communication is a cornerstone of science and makes an effort to share his research findings with the general public and elected officials. He has testified before Congress and conducted many media interviews.

His widely reported discovery of a fecal coliform bacterium as the causal agent of coral disease in the Florida Keys influenced the upgrade of wastewater treatment facilities there.

Porter is a fellow of the American Association for the Advancement of Science as well as the American Society of Naturalists and is also an active member of the Explorers Club. He received the 2005 Eugene



James W. Porter

P. Odum Award from the Ecological Society of America.

An official organizer of the Eleventh International Coral Reef Symposium (Boca Raton, 2008), he has also served as director for the International Union for the Conservation of Nature/World Wildlife Fund's Marine Campaign.

His recent books include *The Everglades, Florida Bay, and Coral Reefs of the Florida Keys* (with K.G. Porter) and *The Ecology and Etiology of Newly Emerging Marine Diseases*.

"Sigma Xi needs to help the public understand what science is," Porter says. He embraces the Society's willingness to articulate a scientific perspective on global challenges.

He believes Sigma Xi should also be a leader in promoting quality science education.

"The assault on what may be taught in schools and printed in textbooks strikes at the heart of the next generation's ability to lead in an increasingly technological and globalized society."

New Annual Award Honors Innovation

Sigma Xi has established a new annual prize, called the Walston Chubb Award for Innovation, to honor and promote creativity among scientists and engineers.

The award carries a \$4,000 honorarium and an invitation to present the Walston Chubb Award Lecture at Sigma Xi's annual meeting.

April 7 is the nomination deadline for the 2006 award, which is open to any U.S. citizen. After 10 years, U.S. citizenship will no longer be required. Membership in Sigma Xi is not a requirement.

For the purposes of the award, innovation is defined as research into new areas of potential scientific importance, a novel approach to a long-standing problem in science or engineering or research that may create a new methodology of importance to science or engineering.

In addition, application of expertise and insights from one area to advance another scientific discipline, or creative solutions to an important interdisciplinary problem also qualify as innovations.

Awards are to be made no sooner than one year after the innovation has been

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Astronomy Research Grants Increase

Astronomy research grants of up to \$5,000 are now available for undergraduate and graduate students in North America and abroad through Sigma Xi's Grants-in-Aid of Research program, for which the application deadlines are March 15 and October 15 annually.

This represents a doubling of the maximum amount for individual grants in astronomy provided through special National Academy of Sciences (NAS) research funds that are managed by Sigma Xi.

March 15 and October 15 annually are also the deadlines for Sigma Xi grants of up to \$1,000 to support investigation in any other field of science and engineering, including the social sciences. Special NAS funds allow grants of up to \$2,500 for eye or vision related research.

Visit www.sigmaxi.org for complete grant guidelines, an interactive ap-

plication form and helpful tips on preparing a successful application.

Undergraduate or graduate students in a degree program are eligible. Membership in Sigma Xi is not a requirement for NAS-funded Grants-in-Aid in astronomy or eye or vision research.

Approximately 75 percent of funds for research in other fields are restricted for use by dues-paying student members of Sigma Xi or students whose project advisor is a dues-paying member.

There are no citizenship restrictions. International students and non-U.S. citizens are encouraged to apply. A volunteer Sigma Xi committee judges student grant proposals solely on the basis of their scientific merit.

A portion of each Sigma Xi member's dues, voluntary contributions and endowment interest fund the bulk of Society grants.

Three Members Receive Nobel Prizes

In October, physicists John L. Hall, Roy J. Glauber and Theodor W. Hänsch joined more than 200 Sigma Xi members who have received the Nobel Prize.

They won the prize for their work in applying modern quantum physics to the study of optics. Engineers have used their observations to improve lasers, Global Positioning System technology and other instruments.

Glauber, 80, of Harvard University, took half of the 2005 Nobel in physics for showing how the particle nature of light affects its behavior under certain circumstances.

Those conditions are rarely observed in nature, but they are often relevant in sophisticated optical instruments.

Glauber was elected to Sigma Xi in 1944 at Harvard University.

Hall, 71, of the University of Colorado, and Hänsch, 63, of the Ludwig-Maximilian-Universitaet in Munich, won "for their contributions to the development of laser-based precision spectroscopy, including the optical frequency comb technique."

The technique makes it possible to carry out studies of, for example, the stability of the constants of nature over time and to develop extremely accurate clocks and improved GPS technology.

Hall was elected to Sigma Xi in 1960 at the Carnegie Institute of Technology, and Hänsch, in 1971 at Stanford University.

Hall works for JILA, an institute run by the University of Colorado and the National Institute of Standards and Technology.

Walston Chubb Award

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reported in a peer reviewed journal and research required for the basic functionality of the innovation completed.

A letter of nomination should explain why the individual merits the award, with specific attention to their scientific accomplishments and the relevance of their innovation.

Two supporting letters of recommendation should be included. (It is preferred that one of them be from someone outside the nominee's institution.) Also submit a copy of the nominee's current curriculum vita or resume.

Forward complete nomination packet to: Sigma Xi Committee on Awards, P.O. Box 13975, Research Triangle Park, NC 27709.

The nomination deadline for the 2007 Walston Chubb Award for Innovation is October 2, 2006. After that, the deadline will be October 1 annually. The Committee on Awards will select an honoree at its November meeting for the following year's prize.

The award is named for a retired consultant on nuclear materials and radiochemistry who established an endowment fund at Sigma Xi to support it.

Chubb spent most of his career with Westinghouse working on nuclear reactor materials. A graduate of the University of Missouri-Rolla, he has published more than 40 scientific papers and holds 10 patents.

"We are grateful to Mr. Chubb for establishing this important award," said Sigma Xi Executive Director Patrick D. Sculley. "The Walston Chubb Award for Innovation is a tangible expression of Sigma Xi's mission to honor and encourage excellence in science and engineering."

Other annual Sigma Xi awards include the William Procter Prize for Scientific Achievement, John P. McGovern Science and Society Award and Young Investigator Award.

Outstanding Chapters Honored at Annual Meeting in Seattle

A number of outstanding chapters were singled out for special recognition at the 2005 Sigma Xi Annual Meeting and Student Research Conference in Seattle.

Each year, only the top two or three percent of Sigma Xi chapters receive a Certificate of Excellence.

This award salutes exceptional chapter activity, innovative programming and true community leadership, especially where they support the Society's mission.

The following chapters were so honored:

University of Delaware

The chapter has worked hard to revitalize, showing steady growth through implementation of a Student As Teacher Program and an Undergraduate Thesis Award. Allying with the Thomas Jefferson University Chapter to win the first multi-chapter grant from Sigma Xi resulted in a joint program on student-led, problem-based learning on research ethics.

Texas A&M University

The chapter has a range of programs with excellent member participation, including a middle school outreach program that features essay and drawing contests.

Ohio State University

Ohio State has focused on networking and recognition programs for the chapter at various events. The chapter surveyed its members to tap demographic and employment information and to assess member interest in various activities. Based on this input, the chapter created a regular electronic newsletter and made the annual banquet its primary social activity.

Food and Drug Administration

This hardworking chapter has produced a wide range of public activi-

ties promoting research and collaboration with other chapters, with a range of audiences. The chapter has provided great service and support for science fairs and expositions.

New Orleans

Despite its small size, the New Orleans Chapter has increased its potential through collaboration with other societies in many varied activities. The group has an enterprising business outreach committee.

Charleston

The chapter continues to grow thanks to new and varied programs, Darwin Week being the best attended, with more than 500 participants. The chapter listserv Chs-Sci-Net is a science outreach tool to the local community. Subscription is open to all. In addition to Sigma Xi members, the list includes many public school teachers and other educators.

Southern Oregon

Southern Oregon offers a dynamic schedule of Friday seminars and other programs, considering the small number of active members there. The chapter has shown steady growth, often working in collaboration with AAAS.

Chapter Program Awards

Given for a single outstanding program, especially one that other chapters can emulate, Sigma Xi Chapter Program Awards recognize initiatives that support the Society's mission. The following chapters received 2005 Program Awards:

Alaska

Alaska's Statewide High School Science Symposium, a Sigma Xi/University of Alaska-Fairbanks educational outreach program, celebrated its 19th year with Sigma Xi affiliation. The chapter gave tuition and financial-aid scholarships to 28 statewide winners. Students also had

the opportunity to give presentations and win additional scholarship money at national meetings.

Charleston

Darwin Week offers a series of public lectures and activities commemorating the birthday of Charles Darwin. Lecture titles included "Climate Instability: Sun, Sea, and Snow," "Evolution, Creation and Eternity," "Teaching about Evolution" and "Historical Geology." Approximately 500 people attended the lecture series.

Sigma Xi Georgia Partner

The Sigma Xi Georgia International Partner co-organized a conference of young brain researchers with the International Brain Research Organization (IBRO) Georgia Branch. Several Sigma Xi Georgia members were speakers, and participants included undergraduate and graduate students as well as neuroscientists from Tbilisi.

Tidewater Virginia

The first Café Scientifique for Hampton Roads focused on a stem cell research segment that aired on the PBS program NOVA *scienceNOW*, following which J. Matthew Velkey of the University of Michigan-Ann Arbor covered some of the basics of stem cell biology. The discussion then turned to their therapeutic uses and research potential in developmental biology and other areas. Throughout the evening, the audience had a chance to ask questions, which facilitated a greater understanding of the topic.

University of Washington

The University of Washington Chapter proposed to institute an Office of Postdoctoral Affairs, after postdoctoral researchers there formed an association, and also provided financial support for the group's first social event, a picnic for all UW post-docs and their families.

New Marketing Director

After working for Sigma Xi for nearly three years in the business department of *American Scientist*, Katie Lord has been promoted to director of marketing and communications, a new position on the Society's administrative staff. Katie has also taken on the duties of associate publisher for the magazine.

She has an extensive background in marketing and publishing, having been the marketing director of the *Marin Independent Journal*, a Gannett newspaper in Marin County, California, and director of strategy and development for Knapp Communications, the former publisher of *Architectural Digest*, *Bon Appetit* and *HOME* magazines in Los Angeles.

Des Moines Chapter Wins Diversity Program Award

At the 2005 Sigma Xi Annual Meeting and Student Research Conference in Seattle, the Greater Des Moines Area Chapter received a Diversity Program Award for organizing an outstanding program to promote diversity within the science, engineering and research communities.

In partnership with the Des Moines University Department of Microbiology and the Multicultural Educational Programs, the chapter created the George Washington Carver Academy of Science. This is a fun, structured and hands-on program for low-income and multicultural pre-college students to learn about science and explore careers in health-related fields.

During the school year, students come to the university once a month to participate in lectures, discussions and laboratory sessions. Most of the presenting faculty are Sigma Xi members, and Des Moines University Medical students act as facilitators and mentors.



More than 200 student researchers from over 100 institutions in North America and abroad participated in the 2005 Sigma Xi Annual Meeting and Student Research Conference in Seattle. Shown here with their professor, Diana Lizarraga, and her father, Ben Norman, are (left to right) University of California at Berkeley students Christian Chanco, Francisco Ponce, Salvador Barriga, Ronald Page, Aditya Adiredja and Tiyu Wang. Norman, a delegate from the UC-Davis Chapter, has been a Sigma Xi member for 35 years. Lizarraga has been a member for nine and is vice president of the UC-Berkeley Chapter.

Scientists, Artists to Work Together On Visual Communication Project

Sigma Xi is joining forces with the National Science Foundation, the Massachusetts Institute of Technology and Harvard University on a groundbreaking new project to improve the visual communication of scientific concepts and technical information.

This initiative is an outgrowth of the international Image and Meaning 2 (IM2) Workshop held in Los Angeles in June 2005, conceived of and organized by acclaimed MIT science photographer Felice Frankel, whose "Sightings" column is a regular feature in *American Scientist*.

Scientists from many disciplines, graphic designers, computing experts, science communicators and science-center professionals came together at the workshop to address the problems of visualizing science for various audiences.

Now, Sigma Xi plans to share what was learned at the IM2 Workshop with a broader community through IM2.x, a series of regional mini-work-

shops supported by a grant from the National Science Foundation, with additional funding from the Initiative for Innovative Computing at Harvard University.

As part of its Public Understanding of Science program, Sigma Xi will administer these hands-on workshops through its chapters, pulling together researchers and other professionals involved in communicating science.

Participants will submit specific problems they have come across in their own efforts to make pictures that convey complex information. Mini-workshop groups will collaborate on solutions and hone their own skills, acquiring the tools, knowledge and relationships necessary to build a community of practitioners.

The first workshop, to be held at the Sigma Xi Center in March, will be accessible via Internet videoconferencing. Look for further details in the March-April issue of *Sigma Xi Today*.