

Crosby Elected Sigma Xi President



Michael P. Crosby was elected the 74th president of Sigma Xi at the Society's 2009 Annual Meeting in The Woodlands, Texas. He will serve as president-elect in FY 2011.

He is the interim vice chancellor for research and economic development at the University of Hawaii at Hilo and is currently on leave from his position as executive director for the National Science Board.

Crosby has more than 30 years of research, teaching, science management and leadership experience. During much of the past 20 years, he has played an active role in leading national and international multi-disciplinary research programs, as well as developing national policy and administrative aspects for our country's science programs.

He has held a number of positions with the National Oceanic and Atmospheric Administration (NOAA), including senior advisor for international science policy. He also served as executive director for the NOAA Science Advisory Board, national research coordinator for ocean and coastal resource management and chief scientist for sanctuaries and reserves.

Prior to joining NOAA, he held numerous faculty positions with the Baruch Institute for Marine Biology and Coastal Research at the University of South Carolina, the Department of Marine Science at Coastal Carolina University, the Graduate Program at the University of Charleston, and Salisbury State University. He has also had previous positions with the National Marine Fisheries Service, the U.S. Army Corps of Engineers and the National Cancer Institute.

Crosby obtained an M.S. in biology from Old Dominion University and a Ph.D. in marine-estuarine-environmental sciences at the University of Maryland. He is a member of Sigma Xi, National Shellfisheries Association, Estuarine Research Federation and is a fellow of the Royal Linnean Society of London. He is also on the board of governors for the U.S.-Israeli Binational Science Foundation and the board of directors for the Pacific Congress on Marine Science and Technology. •

From the President

The Meaning of Membership

What does membership in Sigma Xi mean?

The single major issue confronting Sigma Xi today is membership. Like many of our brother scientific societies, we face erosion in our membership, which is fueled by both the aging of our membership base and our inability to induct and maintain the next generation of scientists as members. I serve Sigma Xi today because of my commitment to the value and role that I hold for Sigma Xi, both in the scientific endeavor and in my personal life. However, to deal with the issues at hand, I have attempted to step out of my level of comfort with Sigma Xi and ask the question what does membership in Sigma Xi mean? I don't pretend to have the answers, but I do hope this will initiate the debate.

Sigma Xi was founded as a chapter-based honor society for science and engineering, which grew and flourished on the model that camaraderie and collegiality combined with the desire to improve and support the scientific enterprise would attract and fulfill generations of scientists and engineers. Sigma Xi became known for its recognition of excellence and honor in science, its support of ethics in science, its involvement in promoting the understanding of science, scientific literacy and the appreciation of the scientific method, and for its support of young scientists through its Grants-in-Aid program and through mentoring of young scientists. Have our values changed so radically that these goals are no longer relevant to the next generation of scientists, or have we simply not delivered on the promise of Sigma Xi? Is it the model or the implementation of the model that is causing our membership problem?

While the model for Sigma Xi was built around chapter membership, it is clear that we each have our own personal reason for accepting and continuing our relationship with Sigma Xi. For example, the fastest growing constituency in Sigma Xi is the members-at-large category, where there is no chapter association at all. Furthermore, many members will remain active after leaving even a successful chapter without moving their affiliation to a new chapter in their area. Finally, we see that many members retain their active status even if their own chapter fails to meet the basic standards required to remain in good standing. This dichotomy between chapter association and membership is striking and raises a number of questions.

What are the personal benefits that keep members active outside of chapters? Is it our belief in the mandates of Sigma Xi, regardless of the presence of a chapter to support our values, that fulfills our needs? Is it, as our Executive Director Jerry Baker points out in his report to the annual assembly of delegates, because of what membership in Sigma Xi says about you? Membership in Sigma Xi doesn't define your area of scientific research but rather speaks to the values you hold as a person and as a scientist and of your personal commitment to science and engineering. The personal, tangible value of membership in Sigma Xi is very real for each of us, and therefore we must look at the sustainability of the Society we have chosen to represent our goals and values. This brings us full circle to a discussion of membership.

Membership is generally considered a chapter activity and for the most part it is. We induct students and honor them with membership to initiate their growth toward becoming committed scientists and engineers. However, I would like to encourage the concept of the individual's role and responsibility in sustaining Sigma Xi. I further encourage you to personally reach out to kindred spirits and honorable colleagues to bring them into a society that you value and support. Share your reasons for supporting Sigma Xi and share not only your values with the next generation of scientists and engineers but also the opportunity for them to become involved and make a difference.

Howard Ceri



Awards Recognize Outstanding Sigma Xi Chapters

Certificates of Excellence were awarded to six Sigma Xi chapters at the 2009 Annual Meeting and International Research Conference.

The annual awards recognize exceptional chapter activity, innovative programming and community leadership during the past fiscal year.

Nominees are chosen by the Constituency Directors based on chapter annual reports, and winners are selected by the Committee on Qualifications and Membership.

Award-winning chapters for 2009 included **Charleston, Duke University, Ohio State University, Purdue, Research Triangle Park and University of California, Merced.**

Program Awards

Also presented at the Annual Meeting, Chapter Program Awards recognize chapters for a single outstanding program, especially one that other chapters can emulate.

Nominees are chosen by the Regional Directors based on chapter annual reports, and winners are selected by the Committee on Qualifications and Membership.

2009 Program Awards went to **Rice University-Texas Medical Center** for creating the DREAM (Designing with Rice Engineers) STEM Diversity through Mentorship Outreach Program, in which Rice University STEM undergraduates mentor and teach students at three Houston public schools.

Research Triangle Park was honored for its Science Café program; **Duke University**, for partnering with WiSE to sponsor a Women's Networking Event at ScienceOnline'09; and the **Mayo Foundation**, for developing a promotional video to showcase the founding of its chapter, the mission and the benefits of Sigma Xi membership.

Also receiving Program Awards were the **Claremont Colleges**, for hosting an

ice cream social designed to increase student involvement in the chapter and to foster communication between the members at the five colleges; **Northwestern University**, for its Junior Science Café program, geared toward middle and high school students and their parents, teachers and grandparents.

Diversity Awards

Diversity Program Awards are presented annually to chapters that have organized outstanding programs to promote diversity within the science, engineering and research communities.

Nominees are chosen by the Regional Directors based on Chapter Annual Reports and Diversity Award applications. Winners are chosen by the Society's Diversity Committee.

This year the committee singled out **Rockefeller University** for its efforts to increase awareness in the sciences, especially in the under-resourced and underrepresented sections of our society. The chapter has been working closely with the Harlem Children Society over the past several years with outstanding results. The aim of these efforts is to increase awareness in the sciences, engineering and mathematics and provide opportunities for students (grades 7-12) and their families living in under-resourced and under-served communities in the U.S. and around the globe.

Top Electing Chapters

The following chapters were recognized for initiating the most new members in 2008-2009: **Princeton, Brown University, Claremont Colleges, Union College, Amherst College, Washington University, Oberlin College, Smith College, Carleton College, Loyola Marymount University, Mount Holyoke College, Denison University, Swarthmore College, Williams College, Lafayette College and McGill-Montreal.** •

Frank Gilmore Elected Treasurer

Also at the 2009 Sigma Xi Annual Meeting, **W. Franklin (Frank) Gilmore**

was elected Society treasurer. He is chancellor and the 10th campus CEO of Montana Tech, an institution started 100 years ago as the Montana School of Mines.



Prior to coming to Montana Tech, he was the executive vice president and vice president for academic

affairs at West Virginia University Institute of Technology.

For 26 years he was a professor, chair and research professor in the Department of Medicinal Chemistry at the University of Mississippi.

A native of Mississippi, Gilmore earned a B.S. in chemistry at Virginia Military Institute and a Ph.D. in organic chemistry at the Massachusetts Institute of Technology. As a graduate student at MIT, he was elected to full membership in Sigma Xi in 1960.

After service in the Army, he spent a postdoctoral year with DeLos DeTar at the Institute of Molecular Biophysics at Florida State University.

He also attended law classes at the University of Missouri at Kansas City while working for the Midwest Research Institute and later attended the Institute of Educational Management at Harvard University.

He is a charter member of the University of Mississippi Chapter of Sigma Xi and served as chapter president on two occasions.

He has served Sigma Xi in many capacities including President (2002-2003), regional director and committee chairs.

He is a life member of Sigma Xi and currently a member of the Montana Tech of The University of Montana Chapter. •

American Scientist Pizza Lunch Talks Now Available Online

American Scientist magazine's Pizza Lunch lectures are now available online as podcasts. The series features compelling talks by scientists to science journalists and science communicators at the Sigma Xi Center in Research Triangle Park, North Carolina.

The goal of these informal talks is to expand scientific understanding among people professionally engaged in explaining science to others.

In September, *American Scientist* editors expanded the audience for the talks by posting them as podcasts, along with speakers' slides when possible, on the magazine's Web site at www.americanscientist.org.

"The *American Scientist* Pizza Lunch series has been popular among science communicators locally for more than a decade," says David Schoonmaker, the magazine's editor. "We are pleased to offer these talks to a much wider audience via the Internet."

The first podcast is of a talk titled "Everything Is Dangerous: A Controversy" by S. Stanley Young, director of bioinformatics at the National Institute of Statistical Sciences.

In his presentation, Young critiques statistical analysis by some epidemiologists, especially their multiple testing of data sets obtained from observational studies.

A talk called "From Cloning to Stem Cells: How Can Pigs Help Us Solve Problems in Human Medicine?" is by Jorge Piedrahita, professor of genomics at the North Carolina State University College of Veterinary Medicine.

He describes his research with cloned swine and how their abnormal growth provides insight into human placental defects, the ways transgenic pigs may help grow human tissue and



how pigs could help advance stem cell therapies.

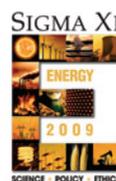
The first scheduled talk in the 2009-2010 season was by University of North Carolina at Chapel Hill chemist Thomas J. Meyer, who leads a new research center that this year landed a \$17.8-million federal grant to develop solar fuels and next-generation photovoltaic technology.

The center's vision is that solar fuels one day could use the sun's energy to make fuels from water and carbon dioxide for heating, transportation and energy storage. The center also expects that next-generation photovoltaics could generate electricity by inexpensive "solar shingles" on the roofs of buildings.

In the October lecture, Steven E. Churchill, an associate professor of evolutionary anthropology at Duke University, discussed the prehistoric origins of projectile weapons. Using forensic experiments on pig carcasses, Churchill has gathered evidence that anatomically modern humans may have deployed their projectile weaponry against Neanderthals.

The 2009-2010 season of the *American Scientist* Pizza Lunch series is sponsored by the North Carolina Biotechnology Center. •

Comment on Energy Crisis White Papers



As part of its Year of Energy, Sigma Xi invited members and the public to share their energy expertise by submitting white papers that present solutions to some aspect of the energy crisis.

We had an excellent response, and all accepted white papers are posted online at <http://energy.sigmaxi.org> where readers can download, rate and comment on the papers.

There are also several guest blog entries and other energy resources at the site. Below is a list of white papers available online:

Renewable and Sustainable Production of Practicable Fuel, J. A. Van Vechten

Technology to Reduce Energy Demand in Steel Plants, Saurabh H. Mehta

Potential Applications of Hydrogen Generation from Cheap Forms of Aluminum Reacting With Water, Solomon Zaromb and Joseph R. Stetter

Systems Analysis and Recommendations for R&D and Accelerated Deployment of Solar Energy, Kevin DeGroat, Joseph Morabito, Terry Peterson, and Greg P. Smestad

Combined Thin Film Photovoltaic and Reflective 3D Parabolic Panels for Utility-Scale Solar Dishes, James C. Townsend and Francis C. W. Fung

Fuels from Municipal Waste, David W. Emerson, Jacimaria R. Batista, Samir F. Moujaes, Thomas A. Nartker, and Spencer M. Steinberg

Cradle to Cradle: Turning Nuclear "Waste" Into Nuclear Fuel, Marilyn Waite

Where is the Concern for Ecology in the Energy Debate?, Norman D. Meadow, William H. Biggley and Ajax Eastman

Fungi in Bioremediation of Oil Polluted Environments, Omokaro Obire and Ramesh R. Putheti

Renewable Energy: How Much of an Option Is It?, Stan Jakuba •

Science Festival, Affinity Programs and More

Sigma Xi has joined more than 200 organizations to participate in the **Inaugural USA Science & Engineering Festival**. The festival will be the country's first national science festival and will be held in Washington, D.C., in the fall of 2010. Its mission is to re-invigorate the interest of our nation's youth in science, technology, engineering and math by offering a multi-cultural, multi-generational and multi-disciplinary celebration of science in the United States. The culmination of the festival will be a two-day expo in the nation's capital that will give more than 500 science and engineering organizations from all over the country the opportunity to present a hands-on, fun science activity to inspire the next generation of scientists and engineers. Keep an eye out for more information on the Sigma Xi exhibit booth that will be hosted by the District of Columbia Chapter.

Affinity Programs

Sigma Xi offers a number of affinity programs that include stimulating opportunities for travel and reduced rates on auto insurance and car rentals, among other benefits.

For example, Sigma Xi Expeditions offers special trips at special prices for Sigma Xi members. Recent destinations have included China, South Africa, Sicily, New Zealand, Nepal and Costa Rica.

Sigma Xi Clothing

Don't miss our new collection of Sigma Xi and *American Scientist* clothing that we have launched in association with NonprofitWebstores.com.



From embroidered polo shirts to a variety of T-shirts with favorite *American Scientist* covers, our new online store offers a great selection of branded apparel.

Automatic Dues Renewal

Many Sigma Xi members are opting for the convenience of automatic membership renewal. You can now have your annual dues paid automatically every year via credit card or bank draft.

An e-mail notification of the dues deduction will be sent to you after your credit card or bank account has been charged.

Wealth Preservation

Over the past 10 months, Sigma Xi has created an online resource center called Wealth Preservation & Philanthropic Planning that provides regular updates on impending changes in the U.S. Tax Code. Our resource partner is Crescendo Interactive. If you are unfamiliar with the projected changes, we encourage you to visit sigmaxi.giftlegacy.com and explore the archive of both the public debate and the private sector analysis. •

Society Directors Elected

During the 2009 Sigma Xi Annual Meeting in The Woodlands, Texas, chapter delegates elected members to the Society's Board of Directors.

The following directors of geographic regions and constituency groups will serve three years beginning July 1, 2010.

Area Groups, Industries, State & Federal Laboratories

Kelly Sullivan
Tri-Cities, Washington

Comprehensive Colleges & Universities

Regina McClinton
Grand Valley State University

North Central Region

Lynn Elfner
Ohio State University

Southwest Region

Carter Tiernan
University of Texas at Arlington

The following associate directors will also serve three years beginning July 1, 2010.

Baccalaureate Colleges

Joanne Tillotson
SUNY at Purchase

Canadian/International

Paul Kettler
Nordic Chapter

Comprehensive Colleges & Universities

Thomas Sasek
University of Louisiana at Monroe
(Election to fill vacancy; term begins immediately and ends June 30, 2011)

Mid-Atlantic Region

Geraldine Twitty
Howard University

Northeast Region

Pamela K. Kerrigan
College of Mount Saint Vincent