



Constitution and Bylaws Are Modified

During the 2010 Sigma Xi Annual Meeting, a number of resolutions were presented to the Assembly of Delegates for changes to the Society's constitution and bylaws. Most of these changes were related to voting procedures.

The bylaws were amended so that the election of Society officers, directors, associate directors and members of nomination committees is open to all active (dues-paying) members and associate members. The ballots may now be electronic, and the voting will be completed within 30 days of the Assembly of Delegates.

Previously, only the designated chapter delegates who attended the annual meetings were allowed to participate in these votes. (*Bylaw III, Section 3, Subsection C*)

The bylaws were modified to allow the Board of Directors (with recommendations from the finance committee) to set the annual membership dues and associated fees. In addition, the board will allocate the amount of local chapter support. Previously, the board put forth a motion at the annual meeting, and the fees were voted on by the Assembly of Delegates. (*Bylaw IV, Section 1, Subsection A*)

The constitution was amended to prevent members of the Board of Directors from serving dual roles at the Assembly of Delegates. The language in the constitution did not limit a board member from also serving as a voting delegate at the assembly. It was argued that wearing the "two hats" of leadership at the same time can create conflicts of interest, where the board member has conflicting loyalties to the board and to his/her region or constituency.

Board members are encouraged to lobby vigorously for the interests of those who elected him or her during board meetings, but once a board decision is made, the board member must support the board's position and the Society as a whole, not a special-interest group. In the future Board members will not be permitted to be the voting delegate at the assembly for a chapter. (*Article III, Section 2, Subsection D*)

Finally, the Board of Directors approved the change of venue for the annual Assembly of Delegates from face-to-face meetings to electronic/virtual meetings beginning in 2012. The assembly will be held the first Saturday in November beginning at 12:00 pm Eastern Time. •

From the President



Looking to the Future

This year Sigma Xi celebrates its **125th anniversary**—a major milestone for any society. We have a rich history filled with honored members and honorable achievements. In each issue of *American Scientist* published this year, we will be profiling a segment of our history—from the chapters that were installed to the services that it provided to the members who were awarded the Nobel Prize. But, as we honor our past, we also want to look to our future.

And our future depends upon you, our members. From its beginning, the Society has looked to its members to help formalize the direction of its programs and its mission, and starting in 2011, all members and associate members will be able to vote directly for their regional and constituency directors as well as for the president-elect and treasurer of the Society.

This change in the Society's bylaws allows us to be more member-driven and to enlist all members in our revitalization.

As one of our member-based efforts to revitalize Sigma Xi, a broad cross-section of the Society has been engaged in what we envision as a forward-looking strategic planning process. The Strategic Planning Committee has been working in earnest since given their charge under the leadership of Chair Bert Little. They should be commended for their unwavering commitment and contributions to this vital process of outlining a framework for Sigma Xi's future.

As current president, it is my view that this is only a starting point. The document resulting from the efforts of the committee and participating Sigma Xi stakeholders should be considered a "living document"—one subject to refinement and change over time as the organization and succeeding leadership continue to evolve and ensure its place in the forefront of the scientific and educational arenas.

We reached out to individuals and members at all levels of the Society in an attempt to gather input from a wider cross-section of Sigma Xi constituents. Admittedly, this all-inclusive approach has been less effective than anticipated. Some members have been more reactive rather than creative and original in their suggestions and recommendations. But we will continue to encourage our members to participate in developing the future direction of our Society.

Be assured, the current leadership values all members' input—from constructive criticisms to game-changing visionary suggestions. All ideas will be considered and incorporated, where appropriate, into plans for the Society's stability and long-term sustainability. As we move forward through this period of introspective reflection, transition and change, we are looking forward to the ongoing contributions of all our members.

Do you know the difference between a dream and a goal? A plan. And we now have a strategic plan, a "living document" that will help to shape our future, but only with your continued support.

Joseph A. Whittaker

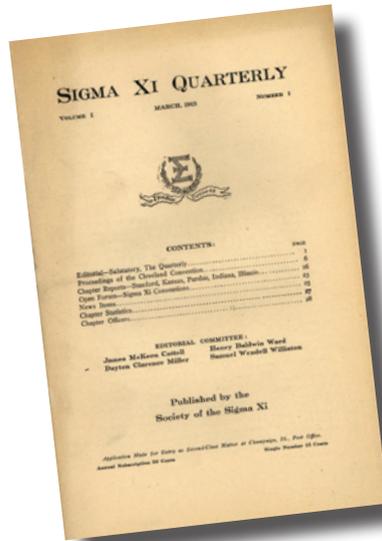
Sigma Xi Grows with the 20th Century

This is the second in a series of articles about Sigma Xi's history as part of our 125th anniversary celebration.

At its quarter-century anniversary in 1911, Sigma Xi had about 2,000 active members in 28 chapters. Two years later, former Sigma Xi president Samuel W. Williston urged the establishment of a *Quarterly Bulletin*, which would, he argued, “create further interest in the Society and increase its usefulness.”

This publication would later become known as *American Scientist*, which today is a bimonthly, illustrated magazine that communicates the latest developments in science and technology across disciplinary lines.

As Sigma Xi grew, it came to play a prominent role in scientific affairs. In 1916, the newly-formed National Research Council asked Sigma Xi's “cooperation...in organizing... research facilities” in preparation for the country's expected entry into World War I, and the Society enthusiastically agreed. In the decade after the war, Sigma Xi experienced rapid growth, adding 26 new chapters.



By 1927, Sigma Xi had firmly committed itself to awarding small grants to young scientists through the Grants-in-Aid of Research Program (which continues today) to help advance their careers. By the end of the decade, Sigma Xi had about 9,000 members in 51 chapters and 22 clubs.

In the 1930s, 26 chapters were chartered, including significant academic locations such as at Harvard, Princeton and Massachusetts

Institute of Technology. Society members at leading women's colleges like Smith, Bryn Mawr and Wellesley also established chapters.

During this time the “promotion of research” was stressed, and many chapters adopted programs that demonstrated Sigma Xi's concern for younger scientists: awarding research prizes, offering fellowships and raising money to support Sigma Xi grants. As the Great Depression worsened, several chapters instituted loan funds for needy students.

Sigma Xi's Distinguished Lectureships Program, begun in the late 1930s, also supported the Society's outreach efforts and increased its visibility. The 1937 and 1938 Lectures appeared in print in a volume titled *Science in Progress*, edited by President George A. Baitsell, a Yale biologist. Reviews in the *Saturday Review* and the *Christian Century* noted how it conveyed “the surge of discovery” to nonscientific readers, a purpose that *Science in Progress* served in 15 subsequent volumes and is continued today by *American Scientist* magazine.

American Scientist,
September-October 1986 •

1886

Sigma Xi is founded at Cornell



1888

Five women are inducted into Sigma Xi



1906

Sigma Xi members reconstruct Stanford's campus after earthquake



1907

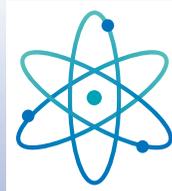
Albert Michelson (SX 1903) becomes the first Sigma Xi Nobel laureate

Nikola Tesla patents an alternating current induction motor

1889

Marie Curie is the first woman to be awarded a Nobel Prize

1903



Niels Bohr publishes his model of atomic structure

1913

Sigma Xi Chapters • 1911-1936

District of Columbia	Johns Hopkins University	University of Wyoming
University of Texas at Austin	University of Virginia	Washington State University
Mayo Foundation	New York University	Harvard
University of North Carolina- Chapel Hill	University of Cincinnati	University of Pittsburgh
University of North Dakota	Michigan State University	Princeton
Iowa State University	Kansas State University	Duke University
McGill-Montreal	Lehigh University	University of California- Los Angeles
Rutgers	University of Arizona	Tulane*
University of Idaho	University of Illinois at Chicago	Massachusetts Institute of Technology
University of Kentucky	University of Maryland	Smith College
Swarthmore College	Bucknell University	Wesleyan University
University of Oregon	Pennsylvania State University	Carleton College
California Institute of Technology	University of Oklahoma	SUNY at Buffalo
	University of Rochester	

* Now part of the Greater New Orleans

Errata: In the January-February 2011 issue, Iowa State University was incorrectly mentioned as one of the 1886-1911 chapters. University of Iowa was founded 1900. •

Sigma Xi Nobel Laureates

Chemistry

1926	The Svedberg
1932	Irving Langmuir
1934	Harold C. Urey
1936	Peter Debye

Physics

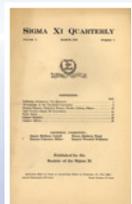
1907	Albert A. Michelson
1921	Albert Einstein
1923	Robert A. Millikan
1925	James Franck
1927	Arthur H. Compton
1936	Carl D. Anderson

Physiology or Medicine

1912	Alexis Carrel
1920	August Krogh
1922	Archibald V. Hill
1922	Otto Meyerhof
1933	Thomas H. Morgan
1934	George R. Minot
1934	William P. Murphy
1934	George H. Whipple
1936	Otto Loewi

1913

Sigma Xi quarterly, forerunner to *American Scientist*, begins publication



1913

Julian Herman Lewis becomes the first African American inducted into Sigma Xi



1922

Grants-in-Aid of Research program is founded



Georges Lemaître proposes the idea of an expanding universe

1927

1930

Distinguished Lectureships program is founded



Arthur Tansley introduces the term "ecosystem"

1932

Hans Krebs identifies the Urea Cycle

1935

Baker Elected AAAS Fellow

Sigma Xi
Executive
Director

Jerome F. Baker

has been elected a Fellow of the American Association

for the Advancement of Science (AAAS). Election as a Fellow is an honor bestowed upon AAAS members by their peers.

He was cited "for distinguished contributions to the field of animal genetics, and for scientific leadership as CEO of Sigma Xi and the Federation of Animal Science Societies."

This year 503 members have been awarded this honor because of their scientifically or socially distinguished efforts to advance science or its applications.

Baker came to Sigma Xi in 2008 from the Federation of Animal Science Societies in Savoy, Illinois, where he was chief executive officer. He has more than 25 years of professional experience as an animal scientist.

He is a former executive director and treasurer of the American Society of Animal Science and has been a faculty member at the University of Georgia, Texas A&M University and the University of Nebraska.

A native of Sibley, Iowa, he received his M.S. and Ph.D. degrees in animal breeding from Texas A&M University. •



2011 Sigma Xi Awards Announced

Engineer-physicist **Supriyo Datta** at Purdue University will receive Sigma Xi's 2011 William Procter Prize for



Scientific Achievement, the Society's highest honor. Datta has been called "one of the most original thinkers in the field of nanoscale electronics."

He is the Thomas Duncan Distinguished Professor of Electrical and Computer Engineering at Purdue University and is known for developing an original conceptual framework that has had enormous impact on condensed matter science and electronic device technology.

His books, based on his own groundbreaking research, have become standard references. His unique approach has had a significant impact on teaching and curriculum development.

Casimer DeCusatis,



Distinguished Engineer for IBM in Poughkeepsie, New York, will receive the 2011 Walston Chubb Award for Innovation.

He currently serves at IBM as an architect for network and I/O solutions, including extended distance connectivity. He is an IBM Master Inventor with more than 85 patents and the recipient of numerous industry awards.

He is co-author of more than 100 technical papers, book chapters and encyclopedia articles, and editor of the *Handbook of Fiber Optic Data Communication*.



And cognitive scientist **Teenie Matlock** at the University of California, Merced, will be honored with Sigma Xi's 2011 Young Investigator Award.

Teenie Matlock is an associate professor at the University of California, Merced. Her main line of research is psycholinguistics. She is best known for her work on spatial language, especially motion verbs, but in her latest research, she is investigating language in the political realm, specifically, how the linguistic details of campaign ads influence attitudes about electability. •

Magazine Article Wins Sidney Award

Darin L. Wolfe has received a 2010 Sidney Award for his *American Scientist* article "To See for One's Self" about the decline of the autopsy (May-June issue). The award is presented by David Brooks of the *New York Times* for the best magazine essays of the year.

"We knew when we decided to publish Dr. Wolfe's article that the topic would be a sensitive one for many people, but we decided that it was too important to put aside," said *American Scientist* Editor David Schoonmaker. "I'm pleased that David Brooks sees it that way as well."

Brooks said about the article: "Autopsies frequently reveal major diagnostic errors and undiscovered illnesses, yet the number of autopsies performed each year is plummeting. Medical training no longer relies on this hands-on exercise. Doctors are afraid of information that might lead to malpractice suits. Medicare won't pay for them. A form of practical inquiry is being lost."

In the article, Wolfe, who is board certified in both anatomic and clinical pathology, introduces the reader to the current art and science of autopsy, taking special note of the troubling decline in its frequency, with its associated costs in terms of scientific and educational opportunities lost.

To orient readers, he reviews the history of autopsy, discusses the leading techniques and looks to the future at upcoming "minimally invasive" procedures such as biopsy-autopsy, MRI autopsy and virtopsies.

He colors the article with observations from his own career and from the careers of the leaders in the field. Readers will learn that advanced technology has not replaced the senses and experience of the pathologist.

Wolfe is laboratory medical director, director of infection control and chief pathologist at Morgan Hospital and Medical Center in Martinsville, Indiana. •

Sigma Xi Grants Support Student Research

From its beginnings in 1886, Sigma Xi has sought to foster and encourage research among investigators from all scientific disciplines.

Grants-in-Aid of Research, one of the Society's most successful programs, has been a tangible expression of this purpose for several generations of scientists and engineers.

Since 1922, Sigma Xi grants have helped advance the careers of more than 30,000 student researchers.

March 15 and October 15 are the annual application deadlines for grants of up to \$1,000 to support undergraduate and graduate student research projects in any field of science and engineering, including the social sciences. Special funds allow grants of up to \$5,000 for astronomy and \$2,500 for eye or vision related research.

Visit www.sigmaxi.org for guidelines and an online application form.

Grant proposals are judged by a volunteer committee of Sigma Xi members solely on the basis of their scientific merit. While Sigma Xi membership is not a requirement to apply, approximately 75 percent of Grants-in-Aid funds are restricted for use by dues-paying student members or students whose project advisor is a dues-paying member. Formal enrollment in a degree program is required.

Most applicants are from the United States and Canada, but awards have been made to students in many other countries, including Argentina, Australia, Brazil, Costa Rica, Estonia, Great Britain,



**GRANTS-IN-AID
OF RESEARCH**
S I G M A X I

Israel, Italy, Korea, Mexico, the Netherlands, Nigeria, Romania, Russia, Trinidad and Tobago, Turkey and Zambia.

Sigma Xi grants often provide the "seed money" that enables promising researchers to gather the initial data they need to launch their careers and position themselves to

compete for larger grants.

As an independent endorsement of research potential, Grants-in-Aid of Research also have a value that goes beyond financial considerations. Receiving a Sigma Xi grant has been an early milestone in many distinguished research careers.

Sigma Xi Grants-in-Aid of Research are funded by several sources. Along with funding from the Society and its members' contributions, the National Academy of Sciences has contracted with the Sigma Xi to distribute the Academy's funds designated for research since 1984.

Within the Grants-in-Aid of Research endowment are a number of named funds designated in support of general research or specific fields of investigation.

Any individual or organization may establish a named fund by agreeing to contribute \$5,000 to the endowment within a three-year period. The donor may designate the field of research that the fund will support.

For more information on establishing a named fund, contact Sigma Xi's Office of Marketing, Communications and Development at 800-243-6534, 919-549-4691 or development@sigmaxi.org.

Call for Nominations

April 1 is the nomination deadline for Sigma Xi president-elect and regional and constituency group elections.

Elections will take place electronically next fall. This will be the first opportunity for all members and associate members to participate in the election of regional and constituency directors and associate directors as well as nomination committee members.

Candidates are being sought for **directors** in the following geographic regions and constituency groups:

- Northwest Region
- Southeast Region
- Baccalaureate Colleges
- Canadian/International

Associate directors will be elected for the:

- North Central Region
- Southwest Region
- Research and Doctoral Universities Constituency Group

Committee on Nominations seats will open (as of November 2011) for the:

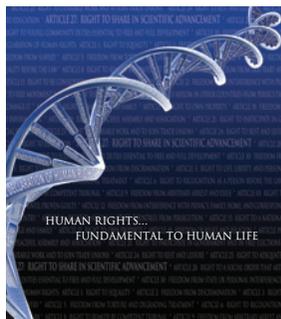
- Mid-Atlantic Region
- Northeast Region
- Southwest Region
- Multi-Institutional Constituency Group

Nominations for these positions should be sent to Renee Wilkins at Sigma Xi headquarters, rwilkins@sigmaxi.org.

**Deadlines for GIAR applications:
March 15 and October 15, 2011**

Sigma Xi Partners with AAAS to Address Human Rights

In April 2009, Sigma Xi joined the newly formed American Association for the Advancement of Science's Science and Human Rights Coalition (SHRC). The goal of the coalition is to facilitate communication and partnerships on human rights within and across the scientific community, and between the scientific and human rights communities.



A great deal of work remains to be done in clarifying the meaning of the right to benefit from scientific progress, and Sigma Xi can help by providing input into what this right means within the disciplines or professional areas we represent. In the near future we will provide a link to a survey to collect information from Sigma Xi members.

These goals are consistent with the mission and purpose of Sigma Xi, particularly in the areas of ethics and improving the human condition.

Since joining the coalition, Jeffrey Toney at Kean University and Jerry Baker, Sigma Xi executive director, have served as representatives of Sigma Xi on the SHRC Council and have been serving on workgroups and contributing to the development of new programs and resources.

One such resource is the Starter Kit on Helping Your Scientific Society Promote Human Rights. The purpose of the kit is to provide resources, tools, models and background information on how to address human rights within an organization such as Sigma Xi.

In addition to the kit, the coalition has been busy working on Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) Initiative to help realize the human right to “the benefits of scientific progress.”

First internationally recognized in the Universal Declaration of Human Rights (1948, Article 27) and subsequently elaborated as part of the internationally binding International Covenant on Economic, Social and Cultural Rights (1966, Article 15), the right to the benefits of science remains one of the least well known and understood aspects of the international human rights framework.

In 2007, UNESCO initiated a process to elucidate the meaning of the right, leading to the adoption in July 2009 of the “Venice Statement,” which outlines the core content of the right. The Venice Statement also calls upon the scientific community, among others, to contribute to the further elucidation and promotion of the right, and to monitoring of its implementation.

We will also be hosting a focus group to discuss science and human rights. If you have thoughts or comments about what the benefits of scientific progress mean for your discipline/field/profession, we would very much appreciate hearing from you. Please contact Jerry Baker at ExecutiveOffice@SigmaXi.org.

This input from Sigma Xi members will be synthesized with that of other coalition organizations and will ultimately lead to a presentation of findings and recommendations to the Office of the United Nations High Commissioner for Human Rights in December 2011. •

Sigma Xi's Year of Ethics

In light of the ongoing need to cultivate high standards of professional ethics among all scientists, Sigma Xi has declared 2011 the Year of Ethics.

Throughout the year, *American Scientist* magazine is featuring a series of special essays on research ethics with a focus on peer review and authorship. Expert columnists will examine authors' and reviewers' roles and responsibilities in contexts such as international research collaborations, developing ethical guidelines and improving the performance of peer review.

Sigma Xi aims to raise awareness of these issues because responsible peer review and authorship are crucial to the creation of a reliable scientific record in which researchers, policymakers and the public can trust.

Nevertheless, the range of actual and accepted practices in scientific publication—from author order to peer-review training—are not well documented across countries and disciplines. This information void was emphasized at Sigma Xi's Ethics Summit, when a group of advisors met at the Sigma Xi Center to discuss peer review and authorship.

The summit was the first step in developing a new program of research that will assess international and interdisciplinary norms in scientific publication. The results will form the basis of checklists and educational materials to help researchers successfully navigate scientific publication, especially in diverse collaborations.

If the project is funded, we anticipate holding pilot focus groups and discussions at the 2011 Annual Meeting, and ultimately providing Sigma Xi chapters with a workshop curriculum to help distribute the new materials in a meaningful context. •

PRI's The World Science

The World Science podcast recently celebrated its 100th episode. The program delves into fascinating and timely topics, from the neuroscience of magic tricks to the growth of nuclear power in Asia.

Sigma Xi's Elsa Youngsteadt is a regular guest on the podcast, where she discusses new research with host Rihitu Chatterjee. And the show doesn't end when you take out your earbuds.

An expert guest is always available online in The World Science Forum to discuss ideas heard on the podcast.

Listen and discuss at:
theworld.org/science

Facebook:
[facebook.com/theworldscience](https://www.facebook.com/theworldscience)

Twitter: [@worldscipod](https://twitter.com/worldscipod) •