

Sigma Xi Today

JULY/AUGUST 2006 · VOLUME 15, NUMBER 4

Alan Lightman Among Detroit Speakers

A talk by physicist and best-selling novelist Alan Lightman, winner of the 2006 John P. McGovern Science and Society Award, promises to be a highlight of Sigma Xi's Annual Meeting and Student Research Conference in Detroit on November 2-5.

The McGovern Award has been presented annually since 1984. Recent recipients include oceanographer Sylvia Earle and Canadian broadcaster David Suzuki.

Currently an adjunct professor of the humanities at the Massachusetts Institute of Technology, Lightman has had a stellar career as a researcher, educator and writer.

From an early age, he was entranced by both science and the arts. While in high school he began conducting independent science projects and writing poetry.

He went on to graduate from Princeton University, earning his Ph.D. in theoretical physics from the California Institute of Technology.

Lightman served on the faculty at Harvard University and for 10 years was a research scientist at the Harvard-Smithsonian Center for Astrophysics, focusing on gravitation theory, the structure and behavior of accretion disks and stellar dynamics, among other areas.

He chaired the science panel of the National Academy of Sciences' Astronomy and Astrophysics Survey Committee for the 1990s. He is a past chair of the High Energy Division of the American Astronomical Society.

In 1981, Lightman began publishing essays about science, the human side of science and the "mind of science," beginning with *Smithsonian Magazine*



Alan Lightman

and moving to *Science* 82, *The New Yorker* and others.

Since then, his essays, short fiction and reviews have also appeared in *The American Scholar*, *The Atlantic Monthly*, *Daedalus*, *Discover*, *Harper's*, *Nature* and *The New York Times*, to name only a few.

His 1993 novel, *Einstein's Dreams*, has been translated into 30 languages and was adopted for campus-wide readings at many colleges and universities.

His other books include *The Diagnosis*, *Reunion*, *A Sense of the Mysterious*, *Great Ideas in Physics* and *The Discoveries*.

In 1995, Lightman was appointed John E. Burchard professor of humanities at MIT. He co-founded the Graduate Program in Science Writing there in 2001 and resigned his position the following year to allow more time for writing.

Lightman has received numerous awards and honors. He is a fellow of the American Physical Society, the American Association for the Advancement of Science and the American Academy of Arts and Sciences.

Postdoc Forum Report Now Online

A report of highlights from a two-day forum at the Sigma Xi Center on postdoc policies and issues has been published online.

Titled *Professionalizing the Postdoctoral Experience*, it summarizes discussions by more than 80 research administrators and postdocs who addressed issues raised by the landmark Sigma Xi Postdoc Survey.

As a result of the forum, at least 24 research institutions are planning to establish new policies for postdoctoral training or modify existing practices, according to a follow-up survey of participants.

"Postdocs do much of the scientific research in this country," said Sigma Xi Scholar Geoff Davis, principal investigator for the survey and one of the forum organizers. "Not enough has been done to make sure that they are as productive as possible. This conference changes that."

"The forum served as an important catalyst for action in implementing the National Postdoctoral Association's Recommended Practices," noted NPA Executive Director Alyson Reed.

Visit www.sigmaxi.org to download a PDF of *Professionalizing the Postdoctoral Experience*.

I N S I D E

A Family Tradition	382
Banquet at Ford Museum	383
Members Elected to NAS	383
Sigma Xi News Briefs	384

Four Generations Maintain Strong Sigma Xi Tradition

In the author's note to his article "Winning the Accuracy Game" in the March-April 2006 American Scientist, Hugh G. Gauch, Jr. at Cornell University mentioned that he is a fourth-generation Sigma Xi member. A family tradition that strong seemed worthy of elaboration, which follows.

My great-grandfather, Charles Wesley Rolfe, entered the first class of the University of Illinois and graduated with 19 other men in 1872. After teaching school for several years, he returned and was a distinguished professor and then professor-emeritus for half a century. While head of geology, he collected the materials for the first topographic survey of Illinois and established the ceramics department. He also taught physiology and veterinary science. He even taught bookkeeping and was vice-president of a local bank. Charles Wesley Rolfe was inducted into Sigma Xi as a founding member of the University of Illinois Chapter in 1903.

I never met my great-grandfather, but I remember well visiting my great-aunts in his grand home with its lovely gardens. The original owner's son, Lorado Taft, became a famous painter. The Taft House, as it's called, is now occupied by the university's Vocational Agriculture Service. My great-grandfather married Martha Kinsman Farley, a native of Boston. They had four daughters, and all four graduated from the University of Illinois.

My grandmother, Susan Farley Rolfe (later, Mrs. Horace Graham Butler), also earned an M.A. degree in botany at the University of Illinois. I remember her great fondness for formal gardens and enjoyed reading her thesis about the effects of light and gravity on the direction

of growth of oat coleoptiles. She became a Sigma Xi member at the University of Illinois in 1909.

My father, Hugh Gilbert Gauch, was professor and chair of botany at the University of Maryland. He did his M.S. work at Kansas State University,

With my grandmother and both parents all being botanists, my destiny was sealed. I majored in botany at the University of Maryland and did graduate studies in plant genetics at Cornell. But much earlier, a lifelong interest in science had been instilled as a youngster. I nearly failed first grade, but then my parents suggested to my second-grade teacher that I be given science books to read (instead of Jack and Jill going up and down the hill!), and that was a great success.

One of my favorite toys was a Gilbert Chemistry Set in its bright red wooden box. My father would frequently supplement my set by bringing home extra chemicals, which generated exciting new possibilities (although fortunately no explosions!). Once he brought home a solution of platinum chloride. When a copper penny was dropped into this clear solution, metallic platinum precipitated onto the coin, which was a wonder and delight to me.

I was inducted into Sigma Xi in 1980 at Cornell University. My research specialty at Cornell has been statistical analysis of ecological and agricultural data, which has resulted in about 70 papers, two books and software that has gone to over 4,000 laboratories. During the past two decades, I have also been keenly interested in philosophy of science from a distinctively practical perspective. This resulted in a book called *Scientific Method in Practice*.

As I continue to enjoy my career in science, my appreciation grows for the generations of scientists who preceded me.

—Hugh G. Gauch, Jr.



Four generations of Sigma Xi members are shown above, clockwise starting top left: Charles Wesley Rolfe, Susan Farley Rolfe (later, Mrs. Horace Graham Butler), Hugh Gilbert Gauch and Hugh G. Gauch, Jr. Charles Rolfe photo courtesy of the University of Illinois Archives.

where he was inducted into Sigma Xi in 1937. His Ph.D. was from the University of Chicago, where he met my mother, also a graduate student in botany (after earning her B.S. at Cornell University). My father published about 200 papers in plant physiology and an important book on plant nutrition. He was especially dedicated to the education of foreign graduate students as a means of strengthening agriculture worldwide. My mother was also an active scientist at the University of Maryland, writing computer programs and publishing several papers in the department of animal husbandry.

Annual Meeting Banquet Planned at the Henry Ford Museum

The world famous Henry Ford Museum in Detroit will host this year's banquet for Sigma Xi's Annual Meeting and Student Research Conference, to be held November 2-5.

Banquet attendees will have full access to all exhibits, including Buckminster Fuller's Dymaxion House, Heroes of the Sky and the Automobile in American Life. Visit www.thehenryford.org for more information.

Each November, Sigma Xi leaders and highly motivated students gather to network with one another at the Annual Meeting and Student Research Conference. This year, the multifaceted event will be held at the GM Renaissance Center on the redeveloped Detroit International Waterfront. Online registration opens August 1.

Industry, innovation and interdisciplinary investigation are the triple themes this year. Research presentations by members and talks by Sigma Xi award winners will showcase outstanding researchers and science communicators.

Speakers will include Massachusetts Institute of Technology (MIT) biologist Susan Lindquist, winner of the Procter Prize; and McGovern Award recipient Alan Lightman, an MIT physicist and best-selling novelist.

Oak Ridge National Laboratory astrophysicist W. Raphael Hix, winner of this year's Young Investigator Award, will give a talk on his research.

Sigma Xi chapter delegates will attend workshops on leadership, chapter management and major issues facing the research enterprise.

At the student conference November 3-4, undergraduate and graduate students will present research, attend career advancement workshops and participate in mentoring and networking activities, panel discussions and other events.

Tentative content for Saturday science sessions includes:

- An interdisciplinary panel on brain trauma research, combining investigations in neuroscience and clinical neurology with new findings from anthropology, psychology and biomechanical engineering
- An alternative fuels panel
- Advances in cancer technology
- A report on the Sigma Xi-United Nations initiative on global climate change

Visit www.sigmaxi.org for more information and online registration.

Sigma Xi Members Elected to National Academy of Sciences

Twenty-two Sigma Xi members were among 72 new members and 18 foreign associates elected in April to the National Academy of Sciences.

Jillian F. Banfield, professor of earth and planetary sciences, University of California, Berkeley.

David E. Clapham, A.R. Castenada Professor of Cardiovascular Research, Harvard Medical School.

Roy H. Doi, Distinguished Professor of Molecular and Cellular Biology, University of California, Davis.

Donald W. Forsyth, James L. Manning Professor of Geological Sciences, Brown University.

James G. Fujimoto, Professor of electrical engineering and computer science, Massachusetts Institute of Technology.

Douglas J. Futuyma, Distinguished Professor of Ecology and Evolution, State University of New York, Stony Brook.

Charles D. Gilbert, professor of neurobiology, Rockefeller University.

Steven M. Girvin, professor of physics, Yale University.

Stephen P. Goff, professor of biochemistry and molecular biophysics, Columbia University College of Physicians and Surgeons.

David H. Haussler, professor of computer science, University of California, Santa Cruz.

Brian M. Hoffman, professor of chemistry, Northwestern University.

David M. Karl, professor of oceanography, University of Hawaii at Manoa.

John E. Kutzbach, professor emeritus of environmental studies, University of Wisconsin, Madison.

Richard E. Lenski, John A. Hannah Professor of Microbial Ecology, Michigan State University.

Ann E. McDermott, professor of chemistry, Columbia University.

E. Ward Plummer, Distinguished Professor of Physics, Oak Ridge National Laboratory.

David W. Russell, McDermott Distinguished Professor of Molecular Genetics, University of Texas Southwestern Medical Center.

John W. Saunders Jr., professor emeritus of biological sciences, State University of New York, Albany.

David A. Tirrell, Ross McCollum-William H. Corcoran Professor of Chemistry and Chemical Engineering, California Institute of Technology.

Elizabeth S. Wing, professor of anthropology and zoology, University of Florida.

Newly elected foreign associates and their affiliations:

Eugenia M. Del Pino, professor of biological sciences, Pontificia Universidad Católica del Ecuador.

Ragavendra Gadagkar, professor of ecological sciences, Indian Institute of Science.

Sigma Xi News Briefs

Evan Ferguson Retires



Evan R. Ferguson

After almost 24 years on the staff of Sigma Xi, Evan R. Ferguson has retired from his post as deputy executive director and director of the Sigma Xi Center.

For many years his main areas of responsibility included the Society's educational activities on both the undergraduate and K-12 levels.

More recently, Ferguson managed Sigma Xi's five pillar programs: research ethics, science and engineering education, the public understanding of science, international networking and the health of the research enterprise. He also served as acting executive director in 2001-02.

Known far and wide as "Mr. Sigma Xi," Ferguson has been lauded through the years as "our institutional memory" and "the linchpin of Sigma Xi."

According to Executive Director Patrick D. Sculley, "Evan's commitment and dedication to Sigma Xi's traditions and mission, as well as his insights into the Society's history, have been crucial to understanding and realizing its potential. His combination of perspective and good nature has been a mainstay for members, staff and the Society as a whole."

Chapter President Honored

Rockefeller University Sigma Xi Chapter President Satyajit Bhattacharya received the 2006 Archie Lacey Award from the New York Academy of Sciences in recognition of the Harlem Children Society's mentoring program.

Bhattacharya founded the non-profit society in 2000 to open opportunities in science to minority young

people. He is a research scientist at Memorial Sloan Kettering Cancer Center. This is the same program for which his chapter won a 2003 Sigma Xi Diversity Award.

With the help of the Harlem Children Society, this year 103 outstanding students from 35 high schools conducted their own research projects under the mentorship of scientists at 45 leading institutions.

Heineken Prizes

Stuart Pimm and Mary-Claire King were among those to receive \$150,000 Heineken Prizes this year from the Royal Netherlands Academy of Arts and Sciences.

A Sigma Xi member since 1972, Pimm is on the faculty at Duke University and has studied threatened and endangered species around the world. A recurring theme in his work, including his book *The World According to Pimm*, is the impact of human beings on the natural environment.

King is a professor at the University of Washington, Seattle, and won the award for proving the existence of the first hereditary breast cancer gene. She is currently researching the genetic basis of human deafness and HIV. King was inducted into Sigma Xi in 1988.

Rintoul Joins Staff

John W. Rintoul has joined the staff of Sigma Xi as chief counsel and director of center programs.

He brings to Sigma Xi extensive administrative and legal knowledge gained from his experience with grants and contracts management, business administration and regulatory compliance.

Over the past three years, Rintoul periodically served Sigma Xi as a consultant. He received a B.A. and J.D. from the University of Kansas and previously worked as senior contracting officer and counsel for international operations with RTI International.

Making a Difference

The inaugural issue of Sigma Xi's development magazine, *Making a Difference*, is available online in a PDF format at www.sigmaxi.org. Or to receive a printed copy by mail, contact development@sigmaxi.org or 800-243-6534.

Making a Difference includes updates on Sigma Xi programs, plus an Honor Roll of those who have supported the Society with their gifts during the past 19 months. The financial support of members and friends is vitally important to the work of the Society.

The Annual Futures Fund, Grants-in-Aid of Research and Planned Giving are among ways to support Sigma Xi. All contributions are tax-deductible in the U.S. and Canada.

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.

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

EIN: 06-0655494

SIGMA XI
THE SCIENTIFIC RESEARCH SOCIETY