

Teenie Matlock Wins Young Investigator Award



Sigma Xi's 2011 Young Investigator Award goes to cognitive scientist **Teenie Matlock** at the University of California, Merced.

She is an associate professor whose main line of research is psycholinguistics.

Matlock 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.

She has published more than 50 articles. Her research combines theory from cognitive linguistics and methods from experimental psychology. Many of her projects address the understanding of meaning. Originally from Mariposa in the Sierra Nevada foothills, Matlock came to nearby UC Merced as a founding faculty member in 2004, after completing postdoctoral research at Stanford University.

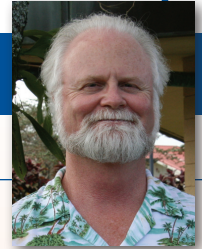
She received her Ph.D. in cognitive psychology at UC Santa Cruz in 2001 after completing earlier graduate work at UC San Diego and undergraduate work at California State University, Fresno. Her work has been funded by grants from the National Science Foundation and the University of California.

She is also on the affiliate faculty in the Institute of Cognitive and Brain Sciences at UC Berkeley and serves as a standing member of the National Institute of Health's Language and Communication panel. UC Merced's Academic Senate honored her in 2008-09 with the Distinguished Undergraduate Teaching Award.

"My research is a mesh of cognitive linguistics, experimental psychology and

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From the President



Research Conference in Transition

In my last letter I presented a Framework for Action that briefly described three core actions needed to enable long-term growth and achievements consistent with our Society's mission and vision.

One of these core actions is the transition of our annual meeting and international research conference format. I am very pleased that the transition of Sigma Xi that began at the grassroots level of our chapters and regional meetings has positively impacted the format for our November 2011 meeting and research conference.

With your continued support, the time is indeed at hand when our proceedings at these events will be re-focused on our core values of fostering cooperation among scientists and engineers, promoting honor, integrity and honesty in all scientific activities, and nurturing the next generation of zealous companions in research around the world.

The core of our Annual Meeting and International Research Conference in Raleigh, North Carolina, November 10-13, 2011 will include speakers and panels, featuring prominent leaders in, institutions of higher education, government and private enterprise.

The panel sessions will focus on

- 1) Ethics & Integrity in Conducting and Reporting Research,
- 2) The Intersection of Science, Culture, Religion and Ethics,
- 3) Ethics & Integrity in Peer Review and Authorship, and
- 4) Accuracy of Reporting Research Results and Science in Popular Media.

Please visit www.sigmaxi.org for updated details on invited and confirmed speakers, plus bios and accomplishments of this year's Sigma Xi award winners:

- Engineer-physicist **Supriyo Datta** at Purdue University: William Procter Prize for Scientific Achievement, providing an outstanding contribution to scientific research while demonstrating an ability to communicate the significance of this research to scientists in other disciplines
- Former astronaut **Kathryn Sullivan**: John P. McGovern Science and Society Award
- IBM Distinguished Engineer **Casimer DeCusatis**: Walston Chubb Award for Innovation, honoring creativity in science and engineering
- University of California, Merced, cognitive scientist **Teenie Matlock**: Young Investigator Award, recognizing excellence in research by a member of Sigma Xi within 10 years of his or her highest earned degree
- U.S. Congressman **David Price** (D-North Carolina): Honorary Membership

We also plan to hold some of our conference functions at the Sigma Xi Headquarters building in Research Park Triangle, North Carolina.

Please join us in Raleigh to celebrate the 125th anniversary of Sigma Xi, The International Scientific Research Society, when we will honor the past and look to the future with a conference theme focus on fostering integrity in science.

Michael Crosby

Sigma Xi History • 1986-2011

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

The discussions that took place during Sigma Xi's centennial in 1986 set the stage for its outreach during the balance of the 20th century. In June 1989, the board approved plans for a move of headquarters to Research Triangle Park (RTP), North Carolina. When the Society moved to North Carolina in 1990, it leased office space in RTP, though long term plans called for building a free-standing headquarters.

Over the next few years under its new executive director John F. Ahearne, Sigma Xi strengthened its presence as a strong voice supporting science education and the importance of fostering research. A highly successful forum was staged in 1993, with the theme "Ethics, Values, and the Promise of Science," echoing the dedication of Sigma Xi to high standards.

Sigma Xi received a major boost in heightened general public awareness in the spring of 1994, when *American Scientist* began general newsstand distribution and sales to the public. Articles of interest were immediately picked up by news services and the venture was successful in building public awareness.

Held in 1995, the forum titled "Vannevar Bush II: Science for the 21st Century," addressed many of the critical

issues involved in the ongoing debate on the role of research. On the heels of this came a second popular forum, "Science, Technology, and the Global Society," which explored where science and technology would take Sigma Xi over the subsequent 25 years and how societal constraints would affect them.

With the closing of the century came a new focus on the internationalization of Sigma Xi's endeavors. The society made concerted efforts to reach out to colleagues across the globe, helping to form international chapters. In addition, members of underrepresented groups became an ongoing priority to further diversify Sigma Xi's membership.

The formation of constituent groups was one of the major structural changes to take place in Sigma Xi as it moved into the new millennium. Improvement of website communications fostered an increase in speed and quality of communications among chapters internationally. Outreach to scientists in developing countries through the "International Science Networking Initiative" utilized electronic communications as a primary means of collaboration.

The support of the National Science Foundation in underwriting a pilot workshop, "New Ethical Issues in Science and Technology," an innovative Chapter Workshop Series, demonstrated Sigma

Xi's continued presence as an authoritative voice in ethics.

In 2002, *American Scientist* launched its first robust website, increasing its members' and the public's access to cutting edge scientific research. Furthermore, after a decade of fund raising for Sigma Xi's new home, the organization's leadership took a bold step. In April 2003, ground was broken for a new office building.



The Sigma Xi Center opened on December 1, 2003 and provided attractive new quarters for

Sigma Xi, *American Scientist* and a meeting facility where chapters, the Board of Directors and other groups could convene. One striking feature of the new building was the Hall of Honor, saluting Sigma Xi's now more than 200 Nobel Laureates.

Sigma Xi continues to be a dynamic organization that expands and contracts as necessary to integrate new technology and the needs of its members. Programming reflects these changes with the establishment of the Student Research Conference, Science Cafés and the Affiliate Circle.

Sigma Xi has taken advantage of new technologies in communications,

1988

Ray Fuller (SX 1960) invents Prozac, the first selective serotonin re-uptake inhibitor



1990

Sigma Xi headquarters moves to Research Triangle Park, North Carolina



1991

Gertrude Elion (SX 1991), becomes the first woman to be inducted into the National Inventors Hall of Fame

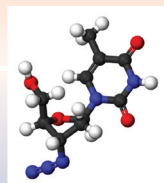


1993

Global Positioning Systems (GPS) is invented by Ivan Getting (SX 1937) and the U.S. Department of Defense



English Channel Tunnel opens



FDA approves anti-AIDS drug AZT

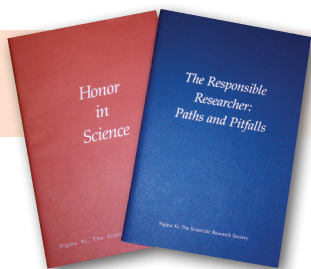


Hubble telescope is deployed

1987

1990

1994



New Sigma Xi Chapters • 1986-2011

formulating science news in a variety of formats. *Science in the News* is a daily subscription e-mail featuring top science and technology stories. *The Scientist's Bookshelf Monthly* offers book news, discussions and reviews, and downloadable podcasts provide yet another resource for members to keep abreast of information from both Sigma Xi and nearby research institutions. Social media has also been integrated with a strong presence on Facebook, Twitter, LinkedIn and ResearchGATE.

Perhaps nothing has done more to build Sigma Xi's reputation than the many forums and proceedings held over the years, strong publications in ethical issues and the society's stance on critical issues in science. The publications *Honor in Science* and *The Responsible Researcher* provide authoritative guidance to the entire spectrum of research in scientific endeavor, and the landmark postdoc survey *Doctors without Orders* and the high-level study *Confronting Climate Change* have helped direct the ongoing discussions affecting global populations.

Today, Sigma Xi continues to hold true to its founding mission of supporting and rewarding scientific research and providing a forum where scientists of many disciplines meet as companions in zealous research. •

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| Allegheny Univ. of Health Sciences
Australian
Four Corners
Univ. of NC-Wilmington
Univ. of NE at Kearney
Univ. of NC-Asheville
CA State Univ.-Long Beach
Greater Baltimore-Univ. Of MD
Savannah
Eastern OR Univ. Kirksville
Univ. of CA-Santa Cruz | Villanova Univ. William Paterson Univ.
Woods Hole
Shenandoah Valley
Southern Maine
B. P. America
Research Triangle Park
Univ. of CA-Irvine
South FL Water Management District
Swiss
Waterways Experiment Station
Northern KY Univ.
Southern Oregon Univ. of Alberta | Mesa State College Clear Lake
Kalamazoo, MI
Lawrence Livermore National Lab
Northwest Indiana
NC Central Univ.
Prague Institute of Advanced Studies
Baylor College of Dentistry
Hungarian
New Zealand
SUNY at Purchase
Eastern IL Univ.
Barry Univ.
Emporia State Univ.
Grove City College | St. Mary's College of CA
South Texas
Kennesaw State Univ.
Fairfield Univ.
WA College
Carthage College
Tarleton State Univ.
Berry College
WA State Univ. Vancouver
CINVESTAV
UNAM
Mercer Univ.
Univ. of TX at Brownsville
Univ. of MO-St. Louis | Iberian Florida Intl Univ.
Univ. of CA, Merced
Providence College
College of Mt. St. Vincent
Nordic
North Shore
The Univ. of Findlay
<i>International Partners</i>
Sigma Xi Georgia
Sigma Xi Moscow
Sigma Xi Romania
• now part of the Drexel University Chapter
♦ disbanded |
|--|--|---|---|--|

Sigma Xi Nobel Laureates

Chemistry

- 1987 Donald J. Cram
- 1989 Sidney Altman
- 1990 Elias James Corey
- 1992 Rudolph A. Marcus
- 1993 Kary B. Mullis
- 1993 Michael Smith
- 1994 George A. Olah
- 1995 Mario J. Molina
- 1995 F. Sherwood Rowland
- 1996 Robert F. Curl, Jr.
- 1997 Paul D. Boyer
- 1998 Walter Kohn
- 1998 John Pople
- 1999 Ahmed Zewail
- 2000 Alan Heeger
- 2000 Alan G. MacDiarmid
- 2001 William S. Knowles
- 2002 John B. Fenn
- 2004 Irwin Rose
- 2008 Osamu Shimomura
- 2010 Richard F. Heck
- 2010 Ei-ichi Negishi
- 2010 Akira Suzuki

Economics

- 1994 John F. Nash, Jr.
- 1997 Robert C. Merton
- 2001 George A. Akerlof
- 2002 Daniel Kahneman
- 2007 Leonid Hurwicz
- 2010 Peter A. Diamond

Peace

- 2007 Albert A. Gore, Jr

Physics

- 1988 Leon M. Lederman
- 1988 Melvin Schwartz
- 1988 Jack Steinberger
- 1989 Hans G. Dehmelt
- 1989 Norman F. Ramsey
- 1990 Henry W. Kendall
- 1990 Richard E. Taylor
- 1993 Joseph H. Taylor, Jr.
- 1994 Clifford G. Shull
- 1995 Martin L. Perl
- 1995 Frederick Reines
- 1996 David M. Lee
- 1997 William D. Phillips

- 2000 Herbert Kroemer
- 2002 Raymond Davis, Jr.
- 2002 Masatoshi Koshiba
- 2005 Roy J. Glauber
- 2005 John L. Hall
- 2005 Theodor W. Hänsch
- 2006 John C. Mather
- 2006 George F. Smoot
- 2008 Makoto Kobayashi

Physiology or Medicine

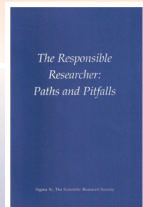
- 1988 Gertrude B. Elion
- 1988 George H. Hitchings
- 1992 Edmond H. Fischer
- 1992 Edwin G. Krebs
- 1994 Alfred G. Gilman
- 1998 Robert F. Furchgott
- 1998 Louis J. Ignarro
- 1999 Günter Blobel
- 2000 Paul Greengard
- 2002 H. Robert Horvitz
- 2003 Paul C. Lauterbur
- 2007 Oliver Smithies

1999



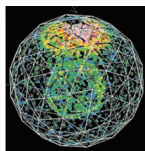
Dolly the sheep, the first mammal to be successfully cloned from an adult cell, is born

Sigma Xi publishes *The Responsible Researcher: Paths and Pitfalls*



2002

Raymond Davis Jr. (SX 1942) & Masatoshi Koshiba (SX 1954) show that neutrinos have a mass



2003

Sigma Xi Center is built



2011

Sigma Xi celebrates 125th Anniversary



Mars Rovers *Spirit* and *Opportunity* is launched by NASA



The Large Hadron Collider (LHC) particle accelerator and collider at CERN begins proton beam tests

1996

2004

2008

European Regional Sigma Xi Conference Held in Helsinki

In May, Sigma Xi held its first European Annual Meeting and Research Conference at Aalto University in Espoo, to the west of downtown Helsinki.

The conference followed the successful Second Annual Meeting and Research Conference of the Nordic Sigma Xi Chapter the previous day in the same venue.

Vice President of Academic Affairs Heikki Mannila of Aalto University welcomed the combined conferences. Sigma Xi Executive Director Jerry Baker from Sigma Xi headquarters in Research Triangle Park, North Carolina, delivered the keynote address, as he had for the Nordic meeting, to the assembled European participants from Switzerland, Spain, Denmark, Finland and Norway, with visitors from the United States.

Host of the European event was Antonio Pita, Sigma Xi International Committee Chairman, Executive Committee member and director of the Canadian/International Constituency Group. Paul C. Kettler, associate director of the constituency and founder of the Nordic Chapter, assisted in the preparations. Nordic member Tapio Ala-Nissilä of Aalto University provided all local organization for both conferences.

Sigma Xi President Joseph Whittaker made a presentation via Skype. Other speakers included Magdalena Navarro of the National Institute of Standards and Technology, Carl Johannessen of the University of Oregon, Bert Little of Texas A&M University and Iberian Chapter President Urbano Fra Paleo.

Visit www.sigmaxi.org for speaker abstracts and other information. •



awards and prizes

Millicent Goldschmidt Receives Evan Ferguson Award

Millicent Goldschmidt, a professor in the Department of Microbiology and Molecular Genetics at the University of Texas-Houston Medical School, has been selected to receive the 2011 Evan Ferguson Award for service to Sigma Xi.

A Sigma Xi member since 1949, she has served the Society in a variety of capacities over the years. The award citation reads in part: "As a world traveler and consummate educator, Millicent Goldschmidt serves as an emissary of outstanding service in various fields of science, often through her membership and leadership in Sigma Xi, but also through her enthusiastic dedication of more than 60 years to education, research and publication."

Goldschmidt's name will be added to the Evan Ferguson Award plaque on permanent display at the Sigma Xi Center in North Carolina. She also will receive a certificate of recognition, as well as a lifetime subscription to *American Scientist*.

Goldschmidt began her career in science at Flora Stone Mather College of Case-Western Reserve University, where she earned her bachelor's degree.



She then entered Purdue University to work toward a masters and Ph.D. "Biology in general always interested me and I took many subjects until microbiology became the scientific area of greatest excitement," she once said. "The depth in biochemistry, mycology, and bacteriology

[at Purdue] provided me with a background that enabled me a broad choice of future research and teaching areas. I have taught beginning freshman chemistry as well as medical microbiology to medical, dental and graduate students."

Teaching has always been an integral part of her career. In addition to her position at the University of Texas Health Center, she holds an adjunct professorship in the Department of Laboratory Medicine at the University of Texas M.D. Anderson Cancer Center. Among her other honors, the Texas Branch of the American Society for Microbiology has honored her with a "Lifetime Achievement Award."

Known as "Mr. Sigma Xi," the late Evan Ferguson (1944-2007), for whom the award is named, was highly regarded for his dedication to Sigma Xi's traditions and mission. •

Young Investigator Award

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human-computer interaction," Matlock said. "Many of my projects focus on the interaction of language with spatial imagery, visual processing, or physical movement. At UC Merced, I teach Introduction to Cognitive Science and Introduction to Language and Linguistics, and co-coordinate Mind, Technology and Society, a talk series sponsored by Cognitive Science and Computer Science and Engineering."

Since 1998, Sigma Xi's annual Young

Investigator Award has recognized excellence in research and includes a certificate of recognition and a \$5,000 honorarium. The recipient is invited to present a lecture at the Sigma Xi Annual Meeting.

Any active (dues-paying) member of Sigma Xi within 10 years of his or her highest earned degree at the time of nomination is eligible. The Young Investigator Award alternates between the physical sciences and engineering, including mathematics, and the life and social sciences. The nomination deadline is October 1 each year. •