



FACULTY HONORS

University of Delaware researchers are high achievers! Among our distinguished faculty are internationally known authors, scientists, and artists, including Guggenheim Fellows, Fulbright Fellows, and members of the National Academy of Sciences, National Academy of Engineering, and Nobel Prize-winning Intergovernmental Panel on Climate Change, to name only a few. Here is a selection of honors from the past year.

FRANCIS ALISON AWARD



Lynn Snyder-Mackler

Lynn Snyder-Mackler, Alumni Distinguished Professor of Physical Therapy, is the 2009 recipient of the University of Delaware's highest faculty honor: the Francis Alison Award.

The award, consisting of a \$10,000 prize and membership in the Alison Society, recognizes the professor who best characterizes "the scholar-schoolmaster" exemplified

by Francis Alison, who founded in 1743 the institution that is now the University of Delaware. His first class of students included three future signers of the Declaration of Independence and one signer of the U.S. Constitution.

Snyder-Mackler is an international leader in orthopedic rehabilitation research, with expertise in knee, shoulder, and spine rehabilitation and neuromuscular electrical stimulation.

A certified sports physical therapist and athletic trainer, she has written over 100 research articles, given 165 presentations in the U.S. and 12 foreign countries, and is an investigator on \$6 million in research projects. She also is the academic director of UD's nationally ranked graduate program in Biomechanics and Movement Science and directs the Physical Therapy Clinic and the Sports Physical Therapy Residency.

FRANCIS ALISON SOCIETY'S YOUNG SCHOLARS AWARD



Michael Shay

Michael Shay, assistant professor of physics and astronomy, won the Francis Alison Society's Young Scholars Award. Shay studies plasma physics, including the explosive release of magnetic energy referred to as "magnetic reconnection" and other multi-scale processes using massively parallel computer simulations. His work has application to diverse phenomena from solar flares, to Earth's magnetosphere and space weather, to controlled fusion devices.



Norris honored for achievement in art conservation

Debra Hess Norris (above right), vice provost for graduate and professional education, Henry Francis du Pont Chair in Fine Arts, and chairperson of the Department of Art Conservation, received the 2008 University Products Award for Distinguished Achievement in Conservation from the American Institute for Conservation of Historic and Artistic Works. The award recognizes the accomplishments of leading conservation professionals who have advanced the field and furthered the cause of conservation.

The University of Delaware is one of only five institutions in the United States to offer the graduate degree in art conservation including an emphasis in photographic conservation. Norris's former students comprise approximately 70 percent of professional photograph conservators in America.

Norris also recently was appointed to the U.S. National Commission for UNESCO as a representative for heritage preservation.



Ten win national awards

Ten UD assistant professors have won prestigious awards in the past year from federal and industry grant programs designed to support the work of academia's "rising stars."

Five received the National Science Foundation's Faculty Early Career Development Award: E. Fidelma Boyd, from biological sciences; Matthew Doty, materials science and engineering; Jingyi Yu, computer and information sciences; and Christopher Meehan and Jack Puleo, civil and environmental engineering.

Matt Oliver, oceanography, was selected for NASA's New Investigator Award in Earth Sciences, and Thomas Epps, chemical engineering, and Erik Thostenson, mechanical engineering, won the U.S. Air Force Young Investigator Award. Joshua Zide, materials science and engineering, received the U.S. Office of Naval Research Young Investigator Award; and Maciek Antoniewicz, chemical engineering, won DuPont's Young Professor Grant.



Biologist E. Fidelma Boyd is working to determine what role global environmental change may play in the emergence of pathogenic microbes.



Internet pioneer inducted into National Academy



David Mills

David Mills, professor of electrical and computer engineering, was elected in 2008 to the National Academy of Engineering,

one of the highest distinctions accorded to an engineer.

Mills is among a group of researchers who helped build the Internet. He developed the Network Time Protocol, which synchronizes the clocks of computer networks. Without it, among only a few examples, stock market buy and sell orders could not be timed, and Web streaming of video would be chaotic. The protocol also makes possible such online activities as air traffic control, radio and TV program control, and real-time teleconferencing.

Having mastered time on Earth, Mills says his new interest is keeping time in space, noting that time-keeping and celestial navigation are intertwined. He'd like to make the Network Time Protocol work on Mars.

Profs win Ford Foundation Diversity Fellowships



Rosalie Rolon-Dow



Stacey Simon

Rosalie Rolon-Dow, assistant professor of education, and Stacey Simon, postdoctoral researcher at the Delaware Biotechnology Institute, won Ford Foundation Diversity Fellowships last year. Only 20 of the awards are made annually by the National Research Council.

◆ Antoniewicz's research focuses on manipulating biological systems for the production of sustainable energy sources for biofuels.

◆ Boyd is examining the seaborne pathogen *Vibrio vulnificus* as a model organism for understanding the emergence of pathogenic microbes and the role of global environmental change in this process.

◆ Doty is researching quantum dot molecules, "artificial molecules" that can be controlled at the electron level, with potential applications in lasers and other optoelectronics and in developing novel materials.



Chemical engineer Thomas Epps is researching new technologies for energy storage and generation.

◆ Epps is working to create conducting membranes for energy generation and storage devices, from batteries to solar cells.

◆ Meehan is studying the seismic behavior of weakened "sicken-

Oceanographer Matt Oliver is developing satellite techniques to look beneath the ocean's surface.



sided" surfaces formed in stiff clays or shales and devising a service-learning program on engineering reconnaissance after disasters.

◆ Oliver's aim is to take the use of satellites to a new level, to estimate the three-dimensional structure of environments under the ocean's surface.

◆ Puleo's research focuses on coastal processes in the swash zone, where waves and beach meet. He's developing a new model for predicting shoreline changes.

◆ Thostenson is studying novel micro- and nano-structured composites for sensing and actuation.

◆ Yu is creating a framework to characterize and design new multi-perspective cameras and displays for computer vision and graphics applications.

◆ Zide is developing new semiconductors and nanocomposites for thermoelectric power generation.

Physicist wins Humboldt Award

Thomas K. Gaisser, UD's Martin A. Pomerantz Chair of Physics and Astronomy, has received a prestigious 2009 Humboldt Research Award from the Alexander von Humboldt Foundation in Germany.

Conferred in recognition of lifetime achievements in research, it is one of the top awards bestowed by the German government to renowned scientists worldwide. The award, valued at 60,000 euros, enables the recipient to spend six months to a year at a German institution working with colleagues on a research project.

Gaisser, shown here at the South Pole, leads the UD research team that is building the "IceTop" surface array of detectors for "IceCube," the world's largest neutrino telescope, which is being constructed deep in the Antarctic ice. Neutrinos are high-energy particles that can tell us more about phenomena ranging from the sun's activity and Earth's structure, to the origins of cosmic-ray particles in the early universe.



Rolon-Dow is studying the educational experiences of Latino students and how they are shaped by linguistic and cultural factors in U.S. schools.

As part of UD's rice epigenome project, funded by the National Science Foundation, Simon is exploring the regulatory roles of small RNAs in rice in response to infection by the fungal pathogen *Magnaporthe oryzae* (rice blast).

Sparks elected Distinguished Geochemistry Fellow

The Geochemical Society and the European Association for Geochemistry elected Donald Sparks, S. Hallock du Pont Chair of Plant and Soil Sciences and director of UD's Center for Critical Zone Research, a geochemistry fellow, an honor awarded to less than one percent of the membership of the combined societies each year.



Donald Sparks

Sparks is a leading expert on the kinetics of geochemical processes and the application of synchrotron radiation techniques to study the fate and transport of metals and nutrients in soils and other natural systems.

Sparks also is a fellow of the Soil Science Society of America, the

American Society of Agronomy, and the American Association for the Advancement of Science. In 2002, he was designated a "highly cited researcher" by the Institute of Scientific Information.

Economics prof named "Saving Star"

James O'Neill, professor of economics, was named Delaware's 2008 First State Saves Saving Star for "his extraordinary commitment to financial education and independence."



James O'Neill

First State Saves is the local campaign of America Saves, a nationwide coalition of nonprofit, business, and government organizations that encourages and assists Americans in lowering their debt and saving for the future.

Since 1972, O'Neill has directed UD's Center for Economic Education and Entrepreneurship, which is nationally known for its hands-on economics teaching programs for teachers of all grade levels. Besides educational programs for teachers, the center sponsors a master of arts in economics and entrepreneurship educator program and the Stock Market Game for grades 4–12. O'Neill also leads the Delaware Council on Economic Education.