

December 09, 2011 | By Kim McDonald

Nine UC San Diego Professors Named 2011 AAAS Fellows

Nine professors at the University of California, San Diego have been named 2011 Fellows of the American Association for the Advancement of Science, the nation's largest scientific organization.

Alexandra Newton, Joseph O'Connor, Carol Padden, Dena Plemmons, Jim Posakony, Michael Sailor, Lu Jeu Sham, Lisa Tauxe and Paul Yu were among 539 individuals selected this year by colleagues in their disciplines to be honored by the association for "efforts toward advancing science applications that are deemed scientifically or socially distinguished."

The new Fellows, who were announced by the association this week, will be presented with an official certificate and a gold and blue rosette pin (representing science and engineering, respectively) on February 18 at the 2012 AAAS Annual Meeting in Vancouver, British Columbia.



Alexandra Newton

Newton, professor of pharmacology in the School of Medicine, was honored for "significant contributions to our understanding of lipid dependent cell signaling events." These signaling events are a cellular language with a precisely controlled balance of "go" and "stop" instructions that, if perturbed, results in pathophysiologies. Her discovery in 2005 of an enzyme that is a natural tumor suppressor by promoting "stop" signals could provide new targets for therapies to treat diabetes, heart disease and cancer.

O'Connor, professor of chemistry and biochemistry, was honored for "major contributions to synthetic and mechanistic

Joseph O'Connor

organometallic chemistry, including transition metal-triggered enediyne cyclizations." An organic chemist, he specializes in mechanistic and synthetic organometallic chemistry with an emphasis on small-molecule activation by metal complexes. He has been a faculty member at UCSD since 1985.



Carol Padden

Padden, a scholar of sign languages, is a professor in the Department of Communication. A 1983 doctoral graduate of UCSD's Department of Linguistics, she is also an affiliate of the Center for Research in Language and associate dean in the university's Division of Social Sciences. Her research focuses on the unique structure and evolution of sign languages – how they differ from spoken language and from each other – and on the specific social implications of signed communication. In 2010, she won a MacArthur “Genius” award.



Michael Sailor

Plemmons, assistant adjunct professor of anthropology, is a research ethicist with the San Diego Research Ethics Consortium. She leads seminars and teaches courses to help NIH and NSF grantees meet requirements for training in the responsible conduct of research. Her work in the field of research ethics has ranged from consulting in Ghana, Taiwan and Mexico on ethics curricula in research environments to serving as 2009-2011 Scientist in Residence for ethics and science education at the Montgomery Middle School in San Diego. She recently received a 2011 President's Award from the American Anthropological Association for her service to the organization.



Dena Plemmons



Jim Posakony

Posakony, professor of biology, was honored “for distinguished contributions to the field of developmental biology, particularly in the area of cell-cell signaling and the transcriptional control of cell fate specification.” A cell and developmental biologist, he uses laboratory fruit flies to probe the mechanisms by which cell to cell signaling pathways and transcriptional regulatory networks act to specify cell fates during animal development. He has been a faculty member at UCSD since 1985.

Sailor, professor of chemistry and biochemistry, was honored “for developments in the chemistry of nanomaterials, in particular nanoporous silicon and iron oxide nanoparticles, that have led to fundamental advances in sensors, drug delivery materials, and in-vivo diagnostic devices.” An inorganic

chemist, his research focuses on silicon-based nanomaterials for the diagnosis and treatment of disease, remote sensing of toxins and pollutants, high-throughput screening of biomarkers, point detectors for chemical or biological warfare agents and microfluidic technologies. He has been a faculty member at UCSD since 1990.



Lu Sham

Sham, professor of physics, is a theoretical condensed matter physicist whose research is focused on the optical control of electron spins in semiconductor nanostructures for quantum information processing and spintronics. He is a member of the National Academy of Sciences and Academia Sinica. In addition, he is a Fellow of the American Physical Society and Optical Society of America.

Tauxe, professor of geophysics at Scripps Institution of Oceanography, is a leading expert in paleomagnetism, the study of remnant magnetism in ancient rocks. She is working to extend the record of paleointensity of Earth's magnetic field behavior 500,000 years back into history. She also studies the origin of magnetic anomalies in the ocean floor, particularly in seamounts. She is a fellow of the American Geophysical Union and the Geological Society of America and has published more than 40 scientific papers.



Lisa Tauxe



Paul Yu

Yu, professor of electrical and computer engineering in the Jacobs School of Engineering and associate vice chancellor for research initiatives, pioneered the development of low-threshold-current semiconductor lasers for fiber-optic communications in the 1980s. He also proposed the design and use of surface-emitting lasers for high-density optical interconnections and invented efficient semiconductor optical modulators and high-power photodiodes for analog fiber links commonly used for cable-television and satellite communications. He has been awarded six patents and has been a member of the UCSD faculty since 1983.

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