

## Six UC San Diego Faculty Named AAAS Fellows

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Six faculty members from the University of California, San Diego have been awarded the distinction of "fellow" by the American Association for the Advancement of Science (AAAS), the world's largest general scientific society and publisher of the journal, *Science*.

"We are proud to have more than 75 UC San Diego faculty members who have been named AAAS fellows," said Marye Anne Fox, chancellor for UC San Diego. "I want to congratulate these outstanding researchers for the significant contributions they've made to science and to humankind."

The AAAS fellows elected in 2008 include Darwin Berg, Webster K. Cavenee, William Fenical, Therese Markow, Immo Erich Scheffler and Susan S. Taylor.

**Darwin Berg**, Ph.D. professor of biology, was honored "for distinguished contributions to the field of molecular and cellular neurobiology, particularly for synapse formation and the role of nicotinic cholinergic signaling." Berg and his group currently study how signaling between nerve cells influences the development of the nervous system, by identifying the molecular players and investigating how they work. They are interested in how connections between cells in the nervous system form and are regulated, and how they contribute to complex systems. Thinking and the formation of memories depend on nicotinic cholinergic signaling, and defects in this biochemical system contribute to common pathologies including Alzheimer's disease, schizophrenia, and addiction.

**Webster K. Cavenee**, Ph.D., director of the Ludwig Institute for Cancer Research's San Diego branch, located on the UC San Diego campus, professor of medicine and member of the Moores Cancer Center at the School of Medicine, "for distinguished contributions to the field of medical and molecular oncology, particularly the discovery of inactivation of tumor suppressor genes and its role in hereditary predisposition. Cavenee's research on the genetic defects in a rare eye cancer, retinoblastoma, led to the first experimental evidence for tumor suppressor genes in humans. The finding fundamentally altered the way scientists think about the onset of cancer and its progression. Cavenee's current work primarily focuses on cell signaling in glioblastoma, a form of brain tumor, the identification of molecular targets for new therapies, and the characterization of novel drugs. One candidate agent identified by Cavenee's group has shown promise in an early-phase clinical trial and was this year licensed by a company for clinical development. Cavenee is a member of the National Academy of Sciences and the Institute of Medicine.

**William Fenical**, Ph.D., distinguished professor of oceanography, director of the Center for Marine Biotechnology and Biomedicine at Scripps Institution of Oceanography, and adjunct professor within the Skaggs School of Pharmacy and Pharmaceutical Sciences, was honored "for distinguished contributions to organic chemistry and natural products chemistry of marine invertebrates and bacteria from deep-sea sediments, particularly for the discovery and characterization of new antitumor compounds including salinosporamide A." Fenical investigates the discovery of new chemical materials from marine microorganisms that may have potential uses to treat human diseases. His laboratory pioneered biomedical studies of marine bacteria from deep ocean sediments. Salinosporamide A, a promising new drug identified in 1991 by Fenical and his group, is currently in phase I human clinical trials for the treatment of multiple myeloma and other cancers.

**Therese Markow**, Ph.D., professor of evolutionary biology and ecology, was honored "for distinguished scholarly contributions to behavior, ecology, and evolution; and as Editor for *Evolution* and Director of the *Drosophila* Species Stock Center." Markow and her group study speciation and adaptation among fruit flies, particularly a handful of species of *Drosophila* that live in specialized niches-giant cacti that grow in the Sonoran Desert and are toxic to many other organisms. She also studies the evolution of mating systems and the genomics of fruit flies. The stock center Markow directs serves as a resource for researchers worldwide by providing a variety of species and strains of fruit flies for genetic studies. The center moved to UC San Diego when Markow joined the faculty in Fall 2008.

**Immo Erich Scheffler**, Ph.D., professor of biology, was recognized "for distinguished contributions to the field of mitochondrial physiology, particularly for investigations on the signaling pathways from mitochondria to cytoplasm and nucleus." Scheffler's work has focused on the biochemical processes by which mitochondria produce energy for cells. Working with colleagues in California and Australia, he is also currently seeking to identify genes responsible for diseases caused by mitochondrial malfunction. UC San Diego's Academic Senate, Chancellor's Associates and Alumni Association have all recognized Scheffler's excellent teaching. A new, updated edition of his book, *Mitochondria*, was published this year.

**Susan S. Taylor**, Ph.D., professor of chemistry and biochemistry in the Division of Physical Sciences, and pharmacology in the School of Medicine, and Howard Hughes Medical Institute investigator, was honored "for her distinguished contributions to the field of enzyme biochemistry, particularly for elucidation of the structure, function, and evolution of protein kinases." Protein kinases act as molecular switches to coordinate biochemical signaling within cells and often lead to cancer when they are mutated. Taylor has identified the structure of an archetypal protein kinase and continues to investigate how protein kinases work, particularly how their behavior changes when they join large assemblies of molecules. She has also been a strong advocate for interdisciplinary training for young scientists. Taylor is a past president of the American Society of Biochemistry and Molecular Biology and a member of the National Academy of Sciences and the Institute of Medicine.

Chosen by their peers, association fellows are recognized for their distinguished efforts to advance science and for significant contributions in areas such as research, teaching, technology or administration.

The new fellows will be recognized on Feb. 14, 2009, at the AAAS annual meeting in Chicago. AAAS was founded in 1848, and includes some 262 affiliated societies and academies of science, serving 10 million individuals.

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