UC SANTA BARBARA

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Two UCSB Professors Awarded German Research Prizes for Lifetime Achievement in Science

Two professors at the University of California, Santa Barbara have each been awarded the Humboldt Research Prize in recognition of lifetime achievements in science. They are Mattanjah S. de Vries, professor of chemistry and biochemistry, and Horia Metiu, professor in the departments of chemistry and physics. In addition to the award, the professors are invited to carry out research projects of their choice with colleagues in Germany.

The Alexander von Humboldt Foundation of Germany grants up to 100 Humboldt Research Awards annually to scientists and scholars from abroad with internationally recognized academic careers.

For almost five decades, the Alexander von Humboldt Foundation has strengthened Germany's international cultural relations as well as its potential for efficiency and innovation in science and learning by cross-border and inter-disciplinary collaboration between top-flight researchers.

De Vries received his Ph.D. in chemical physics at the University of Amsterdam in 1980. After spending four years as a research associate at UCSB, he took a position as a research staff member at the IBM Almaden Research Laboratory. While at IBM he won three awards for outstanding innovation and technical achievement. In 1997

de Vries became an associate professor in the Department of Chemistry at the Hebrew University, Jerusalem. In September 2000, de Vries joined the UCSB Department of Chemistry and Biochemistry as a professor of physical chemistry. He has 100 publications and several patents.

His main research interests entail a combination of physical and analytical chemistry by combining laser induced desorption of organic molecules from surfaces with photoionization, multiphoton spectroscopy, and mass spectrometry. Included are studies of complex molecules, individual biomolecules and clusters, and surface analytical applications.

In December 2000, de Vries co-authored a paper in the international scientific journal Nature that represented a major step forward in understanding the individual molecules that compose DNA – the neatly coded spiral strands of information that hold all of our biological information. "The heart of the mechanism is in the pairing of the base molecules," said de Vries. "As the DNA is unzipped you get replication; the new part looks like the old part." He said that the four molecular bases are like individual teeth of a zipper, and that his research focuses on how they come apart, or the mechanism of the zipper.

Metiu obtained his Ph.D. at the Massachusetts Institute of Technology in 1974. After postdoctoral research at MIT and the University of Chicago, he joined the faculty at UCSB in 1976. His awards include an Alfred P. Sloan Fellowship in 1978, a Camille and Henry Dreyfus Teacher-Scholar Award in 1979, the Exxon Solid State Chemistry Award from the American Chemical Society in 1979, and the UCSB Faculty Research Lectureship in 1987. He is a Fellow of the American Physical Society and of the Japan Association for the Promotion of Science.

Metiu has published over 300 papers in theoretical physical chemistry. In his current work he is trying to understand the surprising catalytic activity of extremely small gold clusters.

He is also involved in the study of membranes in fuel cells, which are devices that use hydrogen and oxygen to produce electricity with no pollution.

His current research is focused on improving the performance of these devices so they can be used to run cars or to generate electricity for portable electronics.

The Alexander von Humboldt Foundation is a non-profit foundation established by the Federal Republic of Germany for the promotion of international research cooperation. It enables highly qualified scholars not resident in Germany to spend extended periods of research in Germany and promotes the ensuing academic contacts.

The Humboldt Foundation promotes an active worldwide network of scholars. Individual sponsorship during periods spent in Germany and longstanding follow-up contacts have been hallmarks of the foundation's work since 1953.

The foundation was re-founded in 1953 under civil law by the then Foreign Minister (and Federal Chancellor), Konrad Adenauer. The foundation follows the tradition of the man who gave it its name, the naturalist, world traveller, and scholar, Alexander von Humboldt.

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