



2005 IOTA SIGMA PI AGNES FAY MORGAN RESEARCH AWARD

Professor Sharon Hammes-Schiffer, Pennsylvania State University

Professor Sharon Hammes-Schiffer is the **2005 recipient of the Iota Sigma Pi Agnes Fay Morgan Research Award**. This annual award is given for research achievement in chemistry or biochemistry. The nominee must be a woman chemist or biochemist, not over forty years of age at the time of her nomination.

Dr. Hammes-Schiffer received her B.A. in 1988 from Princeton University and earned her Ph.D. in Chemistry at Stanford University in 1993 working with Professor Hans Andersen. After obtaining her Ph.D., she spent two years at AT&T Bell Laboratories as a postdoctoral research scientist working with Dr. John Tully. In 1995, she accepted a position as the Clare Boothe Luce Assistant Professor of Chemistry and Biochemistry at the University of Notre Dame. In 2000, she moved to

Pennsylvania State University to accept a position as the Shaffer Associate Professor of Chemistry. Currently she is Professor of Chemistry at Pennsylvania State University.

Dr. Hammes-Schiffer's research centers on the investigation of proton and electron transfer reactions in chemical and biological processes. She has developed analytical theories and computational methods for these types of reactions and has applied these approaches to a wide range of experimentally relevant systems. Her work has elucidated fundamental principles of proton-coupled electron transfer reactions and has provided a framework for the interpretation of experimental results in this field. Her research has also provided insight into the role of hydrogen tunneling and protein motion in enzyme reactions. In addition, her group has developed a nuclear-electronic orbital method to incorporate nuclear quantum effects into electronic structure calculations. Dr. Hammes-Schiffer has been a Senior Editor of *The Journal of Physical Chemistry* since 2001. She is also an advisory editor for *Theoretical Chemistry Accounts*, a Charter Member of an NIH study section, and Chair of the Theoretical Subdivision of the American Chemical Society.

Dr. Hammes-Schiffer's awards include a National Science Foundation CAREER Award, a Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities, an Alfred P. Sloan Research Fellowship, and a Camille Dreyfus Teacher-Scholar Award. She has published more than 70 papers and has given more than 100 invited talks and seminars. She was selected as an Alexander M. Cruickshank Lecturer for the Gordon Research Conference on Isotopes, an Ephraim and Wilma Shaw Roseman Lecturer at Johns Hopkins University, a Lucy Pickett Lecturer at Mount Holyoke College, a Donald Lecturer at McGill University, and a Woodward Lecturer at Harvard University. She is married and has two children, Zachary and Benjamin, who were born in 1994 and 1998.