

## THE UNIVERSITY OF MICHIGAN

### REGENTS COMMUNICATION

**ACTION REQUEST:** Additional Appointment to a Distinguished University Professorship

**NAME:** Janet L. Smith

**CURRENT TITLES:** Margaret J. Hunter Collegiate Professor in the Life Sciences, Professor of Biological Chemistry, with tenure, Medical School, and Professor of Biophysics, without tenure, College of Literature, Science, and the Arts

**ADDITIONAL TITLE:** Martha L. Ludwig Distinguished University Professor of Biological Chemistry

**TERM:** Period of Active Service

**EFFECTIVE DATE:** September 1, 2021

We are pleased to recommend the appointment of Janet L. Smith as the Martha L. Ludwig Distinguished University Professor of Biological Chemistry, effective September 1, 2021.

The first Distinguished University Professorships were created in 1947 by the Board of Regents to recognize members of the faculty for exceptional achievement and reputation in their appointive fields of scholarly interest and for their superior teaching skills. Each professorship is named in honor of an eminent individual—preferably one associated with the university—in the scholar's same general field of interest. An appointment to a Distinguished University Professorship continues to be one of the most prestigious honors conferred by the university upon a member of its faculty.

Janet Smith received her B.S. degree in chemistry from the Indiana University of Pennsylvania (1973) and her Ph.D. in biochemistry from the University of Wisconsin-Madison (1978). She received a post-doctoral fellowship at the Naval Research Laboratory in 1978, and was appointed research chemist in 1981. In 1984, she joined Columbia University as associate research scientist in biochemistry and molecular biophysics, and promoted to research scientist and senior associate in the molecular biophysics laboratory of the Howard Hughes Medical Institute. In 1987, she was appointed assistant professor of biological sciences at Purdue University, and promoted to associate professor in 1991 and to professor in 1995. In 2005, she joined the University of Michigan as professor of biological chemistry and as the Margaret J. Hunter Collegiate Professor in the Life Sciences Institute. Professor Smith was appointed as a professor of biophysics in 2006, and in 2008, she received a five-year appointment as the Martha L. Ludwig Professor of Protein Structure and Function.

Professor Smith is an internationally-recognized leader in chemical and structural biology who has developed powerful new methodologies for examining the structure and function of proteins. She has made path-breaking contributions in the use of x-rays to extract atomic-level information from crystals of proteins and to construct three-dimensional models from this data that reveal the structure and function of these complex molecules. Her research is enabling fundamental advances in biomedical research, such as the exploration of the molecular mechanisms of enzymes that occur naturally in certain plants and marine animals and may be used to synthesize new drug molecules. She has also revealed the molecular mechanisms that underlie viral infectivity and immune evasion, and her insights show promise in opening the way for vaccines to protect against viral infections such as dengue fever. In addition to her remarkable

range of discoveries, Professor Smith has led a team that designed and implemented the first use of micro-beam x-ray sources for determining the structure of small crystals of large macromolecular complexes. As director, then scientific director, of these experimental beamlines at the Argonne National Laboratory, her innovations have opened the way for many advances in structural biology, including the Nobel prize-winning research of Dr. Brian Kobilka that revealed how cell- surface proteins activate responses to molecules outside the cell.

Professor Smith has earned worldwide recognition for her outstanding research contributions and scientific leadership. She has published more than 200 papers in top journals and has given many dozens of invited presentations at leading conferences around the world. She has chaired or served on numerous advisory panels and boards for the NIH and many other national and international scientific committees and organizations. Professor Smith is a fellow of the American Association for the Advancement of Science (2008) and the National Academy of Sciences (2020), as well as other leading scientific societies, and has received the MERIT Award from the NIH for her extraordinarily productive and impactful research.

Professor Smith is a leading advocate for the effective mentoring of the next generation of structural biologists. Over her career, she has chaired or served on nearly 100 dissertation committees and trained more than a dozen postdoctoral fellows. Her students have gone on to highly successful careers in science at leading institutions, and regard her mentorship as being decisive in their careers and prize her as an inspirational model for women in science.

As she assumes the Distinguished University Professorship, Professor Smith wishes to be named the Martha L. Ludwig Distinguished University Professor of Biological Chemistry. Martha L. Ludwig (1931-2006), was the J. Lawrence Oncley Distinguished University Professor of Biological Chemistry in the Medical School and a leading member of the first generation of structural biologists in the US. Her many important research contributions with x-ray crystallography were internationally recognized, including unlocking and advancing the understanding of the chemical structure and biological function of B vitamins. Professor Ludwig was an outstanding mentor and inspiration to many younger crystallographers, including Professor Smith whom she helped recruit to the University of Michigan. In recognition of her distinguished career, Professor Ludwig was selected as a member of the National Academy of Sciences, the American Association for the Advancement of Science, and the Institute of Medicine.

The appointment of Janet L. Smith as the Martha L. Ludwig Distinguished University Professor of Biological Chemistry, effective September 1, 2021, recognizes her extensive and outstanding scholarly achievements, her commitment to excellence in education for her students, and her extensive contributions to the University of Michigan and beyond. We are delighted to make this recommendation.

**RECOMMENDED BY:**

Michael J. Solomon  
Dean, Horace H. Rackham Graduate School, Vice Provost for Academic Affairs  
and Chair, Advisory Committee on Distinguished University Professorships

**RECOMMENDATION ENDORSED BY:**

Susan M. Collins  
Provost and Executive Vice President for Academic Affairs

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