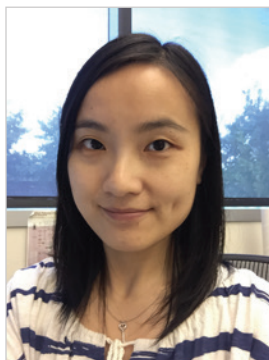


Speakers' Biographies



Jingyi Fei, PhD

Assistant Professor
Department of Biochemistry and Molecular Biology
The University of Chicago
Chicago, IL

Dr. Fei is an Assistant Professor of Biochemistry and Molecular Biology at The University of Chicago. She obtained her Bachelor's degree in chemical physics from the University of Science and Technology of China, and received her PhD in chemistry from Columbia University. She was then a postdoctoral fellow at the NSF funded Center for the Physics of Living Cells at the University of Illinois Urbana-Champaign. Dr. Fei started her independent

career at the University of Chicago in 2016.

Dr. Fei has published articles in a variety of peer-reviewed journals including *Science*, *PNAS*, *Molecular Cell* and *Nature Structural and Molecular Biology*, etc. She was an awardee of the Searle Scholars and the NIH Director's New Innovator Award.

Dr. Fei's research lies at the interface of chemistry, physics and biology, with focus to understand the mechanisms by which RNAs mediate gene expression and regulation in both bacterial and eukaryotic systems. In addition to the fundamental biological questions, Dr. Fei is also interested in the development of new labeling, imaging and data analysis methods.



André Hoelz, PhD

Professor of Chemistry
Investigator, Heritage Medical Research Institute
Faculty Scholar, Howard Hughes Medical Institute
California Institute of Technology
Pasadena, CA

Dr. Hoelz is a Professor of Chemistry, a Faculty Scholar of the Howard Hughes Medical Institute, and an Investigator of the Heritage Medical Research Institute at Caltech. He is a graduate of the Albert-Ludwigs University of Freiburg, Germany, where he completed BSc (1993) and MSc (1997) degrees in Chemistry and Biochemistry and The Rockefeller University where he obtained his PhD (2004) degree in Biochemistry and Biophysics. Prof. Hoelz is the recipient of the Albert Wyrick V Scholar Award of the V Foundation for Cancer Research

(2010), the 54th Mallinckrodt Scholar Award of the Edward Mallinckrodt, Jr. Foundation (2011), the Kimmel Scholar Award of the Sidney Kimmel Foundation for Cancer Research (2012), and the Camille Dreyfus Teacher-Scholar Award of the Camille & Henry Dreyfus Foundation (2015). On the Caltech campus, the Hoelz laboratory carries out interdisciplinary structure-function studies of the human nuclear pore complex (NPC) with the ultimate goal of elucidating the atomic-level mechanism of its function and its role in nucleocytoplasmic transport in health and disease. The integrative structure determination method that his group has been developing has been serving as a paradigm for other macromolecular assemblies.

Prof. Hoelz developed a strong fascination for macromolecular assemblies while working on the crystal structure of the Ca²⁺-calmodulin-dependent kinase II (CaMKII) in John Kuriyan's laboratory at Rockefeller University. CaMKII is a key regulator of long-term potentiation, a process that establishes the stable connection between two neurons and is intimately connected with long-term memory formation. Inspired by the large CaMKII structure, Prof. Hoelz joined Günter Blobel's laboratory with the idea of starting a comprehensive structural and functional characterization of the ~120 million Dalton nuclear pore complex (NPC), one of the largest proteinaceous assemblies in eukaryotic cells. In Blobel's Rockefeller University lab he set up a structural biology subgroup that established the NPC as a viable target for an interdisciplinary divide-and-conquer approach, employing X-ray crystallographic, electron microscopic, biochemical and *in vivo* studies. Simultaneously, Prof. Hoelz started a second line of research on the extensive histone-modifying gene regulation machinery. He joined Caltech's Chemistry and Chemical Engineering faculty from Rockefeller in 2010.



Janet Smith, PhD

Associate Institute Director,
Research Professor and Center for Structural Biology Director, Life Sciences Institute
Margaret J. Hunter Collegiate Professor in the Life Sciences,
Professor of Biological Chemistry, Medical School,
Professor of Biophysics, College of Literature, Science, and the Arts,
University of Michigan
Ann Arbor, MI

Dr. Smith's research focuses on understanding biological processes through knowledge of the structures of key protein molecules. She has made major contributions to the understanding of catalysis and regulation in glutamine amidotransferases and phosphoribosyltransferases by solving and interpreting crystal structures of several enzymes of each type. She has solved crystal structures of photosynthetic proteins, leading to a new understanding of their function. She has also contributed to the development of methods for rapid determination of protein crystal structures, particularly using synchrotron X-ray sources.

Anative of Pennsylvania, Dr. Smith studied chemistry as a National Merit Scholar at Indiana University of Pennsylvania (BS, 1973). Finding biochemistry to be the most stimulating area of chemistry, she continued her study in that field at the University of Wisconsin-Madison (PhD, 1978) where she was convinced of the importance of structure in biology by her research advisor M. Sundaralingam.

After her thesis research on crystal structures of protein synthesis inhibitors, Dr. Smith pursued a growing interest in protein structure by joining Wayne Hendrickson at the Naval Research Laboratory as a National Research Council Research Fellow. Following this postdoctoral work, she held positions as associate research scientist in Hendrickson lab and as associate research scientist at the Howard Hughes Medical Institute, both at Columbia University.

Dr. Smith established a research program in structural biology at Purdue in 1987, where she remained as a professor of biological sciences until moving to the Life Sciences Institute at the University of Michigan. She has been a visiting scientist at the European Molecular Biology Laboratory and the European Synchrotron Radiation Facility in Grenoble, France, and a lecturer at numerous international schools on structural biology and synchrotron radiation. She is also a frequent advisor to synchrotron radiation facilities and synchrotron structural biology labs both in the U.S. and abroad.



Reza Vafabakhsh, PhD

Assistant Professor
Department of Molecular Biosciences
Northwestern University
Evanston, IL

Dr. Vafabakhsh is currently an Assistant Professor of Molecular Biosciences at the Northwestern University. He received his PhD in physics from University of Illinois at Urbana-Champaign in 2012 followed by postdoctoral work at the University of California, Berkeley.

His laboratory is interested in characterizing the conformational dynamics that are essential for function of membrane proteins specifically to understand how membrane proteins process information and convert chemical signals into decisions. For more information, visit the www.rezalab.org.



H. Eric Xu, PhD

Professor, Innovation and Integration Program
Center for Cancer and Cell Biology
Van Andel Research Institute (VARI)
Grand Rapids, MI

Primary Investigator and Distinguished Director
VARI-SIMM Research Center
Shanghai, China

Dr. Xu obtained his bachelor and master degrees in 1985 and 1988, both from Tsinghua University in Beijing China. He then went to Duke University and the University of Texas Southwestern Medical Center, where he earned his PhD in molecular biology and biochemistry in 1994. Following a postdoctoral fellowship with Carl Pabo at MIT, he moved to GlaxoWellcome in 1996 as Research Investigator I. He was promoted to Investigator II in 1999 and again to Senior Investigator in 2001. Dr. Xu joined Van Andel Research Institute (VARI) as a Senior Scientific Investigator in July 2002 and became a Distinguished Investigator/Professor in March 2007. He currently is the Director of the Center for Structural Biology and Drug Discovery and an executive committee member of VARI. In July 2010, Dr. Xu established and served as the distinguished Director of the VARI-SIMM Center for Drug Discovery at Shanghai Institute of Materia of Chinese Academy of Sciences. He also serves as the founding Director of the Key Laboratory of Receptor Research of Chinese Academy of Sciences. Research in his group has previously been supported by four NIH R01 grants, a Senior Investigator Award from American Asthma Foundation, and a past DOD Prostate Cancer Idea Development Award, which cover structures and drug discovery of nuclear hormone receptors, hepatocyte growth factor and its receptor Met tyrosine kinase, G-protein coupled receptors, and plant hormones. Since 2008, he has published over 170 papers, many of which are in high-impact journals including seven in *Nature* and four in *Science*, and his papers have been cited over 16,000 times. Two of his research papers on plant hormone signaling were selected as top 10 breakthroughs by *Science* in 2009 and by Chinese Academy of Sciences in 2014. His recent X-ray laser structure of the first GPCR-arrestin complex was also selected as a top 10 breakthrough by Chinese Academy of Sciences in 2016 and was recognized by the 2016 Hans Neurath Award of Protein Society and the 2016 Wuxi outstanding achievement award.



Xiaojing Yang, PhD

Assistant Professor
Department of Chemistry
University of Illinois at Chicago
Chicago, IL

Dr. Yang obtained her PhD in Biochemistry from the University of Chicago in 1995, and received postdoctoral training at Northwestern University from 1996 to 1999. In the past decade, Yang has ventured into the magic world of dynamic crystallography aimed to capture, unscramble and extract transient, often chaotic molecular events at atomic resolution. In 2014, Yang joined the Department of Chemistry at the University of Illinois at Chicago as an assistant professor. The research in the Yang lab centers on a fundamental question - how do proteins perceive, convert and integrate distinct physical and chemical signals into biological signals at the molecular level?