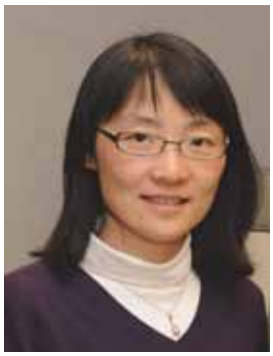
Professor Mei Hong, John D. Corbett Professor of Chemistry, Department of Biochemistry, Biophysics and Molecular Biology, Iowa State University



1992	B.S. from Mount Holyoke College
1996	Ph.D.from the University of California at Berkeley
1997	One-year NIH postdoctoral fellow at MIT
1997-1999	Research Professor at the University of Mass. at Amherst
1999	Joined faculty at Iowa State University

Awards and Honors

2013, ISU Award for Outstanding Career Achievement in Research
2012, Protein Society Irving Sigal Young Investigator Award
2010, Founders Medal, Intern. Council on Magnetic Resonance in Biological Systems (ICMRBS)
2010, Fellow, American Association for the Advancement of Science (AAAS)
2007, John D. Corbett Professorship
2007, ISU Mid-Career Research Award
2006, Agnes Fay Morgan Research Award, Iota Sigma Pi
2004, Mary Lyon Award, Mount Holyoke College
2003, Early Achievement in Research/Artistic Creativity Award, ISU College of Liberal Arts and Sci
2003, Pure Chemistry Award, American Chemical Society
2002, Alfred P. Sloan Research Fellow, Sloan Foundation
2001, CAREER Award, National Science Foundation
2000, Research Innovation Award, Research Corporation
1999, Beckman Young Investigator Award, Beckman Foundation
1998, POWRE Award, National Science Foundation

Research Directions

The long-term objective of research in the Mei Hong group is to elucidate the structure and mechanism of action of membrane proteins and other macromolecules important in biology. Phospholipid membranes and the proteins embedded in them are universal components of cells and play key roles in many essential cellular functions such as ion transport, signal transduction, and cell-cell fusion. Despite the importance and abundance of membrane proteins, their high-resolution structures are challenging to determine by crystallography and solution NMR due to the inherent disorder and large molecular masses of protein-lipid complexes. The current directions include:

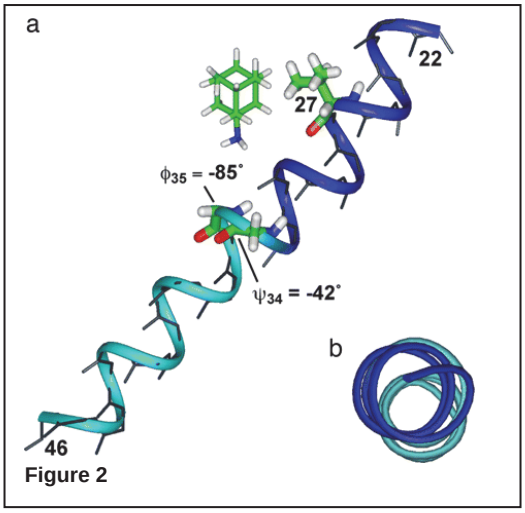


Figure 2

1. Elucidation of the structure, dynamics and mechanisms of membrane peptides and proteins using solid-state NMR. Current systems of interest include influenza M2 proton channels, viral fusion proteins, antimicrobial peptides and cell-penetrating peptides. A relevant example is documented in **Figure 2***: "Amantadine-influenced conformational and dynamical changes of the influenza M2 transmembrane proton channel".* S. D. Cady and Mei Hong, PNAS **2008**, *105*, 1483-1488. Chemical shift and torsion-angle restrained backbone and partial side chain structure of amantadine-bound M2TMP. (a) Side view (b) Top view. The G34 and angles create a helix kink of 5^0, highlighted by the blue N-terminal and the cyan C-terminal segments in **Figure 2.**
2. Development of high-resolution solid-state NMR techniques for structure determination of biological macromolecules.
3. Structure and dynamics of plant cell wall polysaccharides and glycoproteins.