Meeting Organizer:
Patricia L. Clark, *University of Notre Dame*

Program Committee:
Connie Jeffery, *University of Illinois at Chicago*
Lisa Lapidus, *Michigan State University*

Conference Venue:
Notre Dame Conference Center
McKenna Hall
University of Notre Dame
574-631-6691

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Department of Chemistry & Biochemistry, University of Notre Dame
Thomas R. Kissel Endowment for Excellence in Chemistry

11th Midwest Conference on Protein Folding, Assembly and Molecular Motions

Notre Dame Conference Center – McKenna Hall – University of Notre Dame

April 30, 2016

7:30 – 8:55 *Coffee, juice, and pastries*

8:55 – 9:00 *Opening Remarks* – Patricia L. Clark

9:00 – 9:30 **Opening Plenary Speaker:**
Folding in vitro and in cells
Martin Gruebele
Center for Biophysics, University of Illinois, Champaign-Urbana

Proteins in Motion
Chair: Joshua Riback, Drummond & Sosnick Laboratories

9:30 – 9:50 *Molecular mechanism of orange carotenoid protein*
Sepalika Bandara[1], Lu Lu[2], Kai-Hong Zhao[2] and Xiaojing Yang[1]
[1]Department of Chemistry, University of Illinois at Chicago, Chicago, IL 60607, USA; [2]Key State Laboratory of Agricultural Microbiology, Huazhong Agricultural University, Wuhan, China

9:50 – 10:10 *Extended Impact of Catalytic Loop Phosphorylation Revealed by a Phosphomimetic Variant of Human Pin1*
Brendan J. Mahoney, Meiling Zhang, and Jeffrey W. Peng
Department of Chemistry & Biochemistry, University of Notre Dame, Notre Dame, IN 46556

10:10 – 10:30 *The riddle of the snowflea: a low sequence complexity poly-proline 2 anti-freeze protein lacking a hydrophobic core still folds cooperatively*
Michael C Baxa[1,2+], Zachary Gates[3+], Wookyung Yu[1], Josh Riback[2,4], Stephen Kent[1,2,3], Tobin R Sosnick[1,2]
[1]Department of Biochemistry and Molecular Biology, [2]Institute for Biophysical Dynamics, [3]Department of Chemistry, [4]Graduate Program in Biophysical Sciences, The University of Chicago, Chicago, IL 60637, USA

10:30 – 11:00 *Coffee Break*

Proteins *In Vivo*
Chair: Evelien Van de Vondel, Keiderling Laboratory

11:00 – 11:20 *New insights into how the C-terminal sequence of a protein controls its fragmentation in vivo*
Giselle Jacobson & Patricia L. Clark
Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN 46556 USA

11:20 – 11:40 *Fast relaxation imaging of protein structure, stability, and folding in biomaterial environments with variable crowding*
Lydia Kisley, Paul Braun, Martin Gruebele, Deborah Leckband
Beckman Institute, University of Illinois at Urbana-Champaign

11:40 – 1:15 *Lunch*

1:15 – 3:00 *Poster Session*

Protein Assemblies & Aggregation
Chair: Zahra Assar, Geiger Laboratory

3:00 – 3:20 *Optimization of single-chain insulin stability and pharmacodynamics for therapeutic use in the developing world*
Michael D. Glidden[1,2], Nelson B. Phillips[2], Kelley Carr[2], Alisar Tustan[2], Paul Macklis[2], Yanwu Yang[2], Faramarz Ismail-Beigi[1,2], & Michael A. Weiss[1,2]
1. Department of Physiology & Biophysics, Case Western Reserve University School of Medicine, Cleveland, OH 44106; 2. Department of Biochemistry, Case Western Reserve University School of Medicine, Cleveland, OH 44106

3:20 – 3:40 *Transthyretin (TTR) Chaperone Activity Has Broad Interspecies, But Narrow Conformational Specificity: The example of CsgA (Curli)*
Neha Jain[a], Brennan McMichael[a], Xinyi Li[b], Joel N Buxbaum[b] and Matthew R Chapman[a]
a. Department of Molecular Cellular and Developmental Biology, University of Michigan, Ann Arbor, Michigan; b. Department of Molecular and Experimental Medicine, The Scripps Research Institute, La Jolla, California

3:40 – 4:00 De novo *formed prion particles have greater infective potency than established particles*
Jaya Sharma and Anita L. Manogaran
Department of Biological Sciences, Marquette University, Milwaukee, WI 53201

4:00 – 4:30 *Coffee Break*

4:30 – 5:00 **Closing Plenary Speaker:**
Structural insights into the biogenesis of beta-barrel membrane proteins
Nicholas Noinaj
Department of Biological Sciences, Purdue University, West Lafayette, IN

5:00 – 5:05 *Closing Remarks – Lisa Lapidus*

5:05 – 6:30 *Closing Reception*