4th Annual Midwest Conference on Protein Folding, Assembly and Molecular Motions
McKenna Center for Continuing Education – University of Notre Dame

May 10, 2008

7:30 – 8:50  *Coffee, juice, and pastries*

8:50 – 9:00  *Opening Remarks* – Patricia Clark

**Aggregation and Assembly of Amyloid**
Session Chair: Steven Waldauer, Michigan State University

9:00 – 9:30  *Protein Misfolding Done Right: The Biogenesis of Bacterial Amyloid*
Matthew Chapman
Department of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor, MI

9:30 – 9:50  *N-methyl peptide inhibitors of polyglutamine fibrillogenesis*
Jennifer Lanning¹, Tali Gidalevitz², Richard Morimoto² and Stephen Meredith¹
¹Department of Pathology, University of Chicago and ²Department of Biochemistry, Molecular Biology and Cell Biology, Northwestern University

9:50 – 10:10  *Studying Aggregated Polypeptide Structures at the Atomic Level with FRET*
Jyothi L. Digambaranath, Benjamin P. Block, Monika Dembinska, and John M. Finke
Department of Chemistry, Oakland University, Rochester, MI

10:10 – 10:40  *Coffee Break*

**Molecular Interfaces and Interactions**
Session Chair: Lisa Lapidus, Michigan State University

10:40 – 11:00  *A Dominant Conformational Role for Amino Acid Diversity in Minimalist Protein-Protein Interfaces*
Ryan Gilbreth¹, Kaori Esaki¹, Akiko Koide¹, Sachdev Sidhu² and Shohei Koide¹
¹Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL 60637, and ²Department of Protein Engineering, Genentech Inc., South San Francisco, CA 94080

11:00 – 11:20  *Residual Peptide Dynamics in Class I Major Histocompatibility Complex Proteins*
Francis K. Insaidoo and Brian M. Baker
Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN
11:20 – 11:40  Study of Nucleotide Induced Conformational Changes in the Nucleotide Binding Domain of the Hsp70 Chaperone Homolog Thermus Thermophilus DnaK
Akash Bhattacharya, Grover N.B. Yip, Eric B. Bertelsen, Alexander V. Kurochkin and Erik R.P. Zuiderweg
Biophysics, University of Michigan, Ann Arbor, MI

11:40 – 12:00  Structure, Dynamics and Membrane Interaction of the Anchor Domain of the Penicillin-binding Protein 5 of Escherichia coli
Peter I. O’Daniel, Qicun Shi, Jaroslav Zajicek, Shahriar Mobashery
Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, Indiana

12:00 – 1:15  Lunch

1:15 – 2:45  Poster Session

Protein Folding in the Test Tube and the Cell
Session Chair: Seung Joong Kim, University of Illinois at Urbana-Champaign

2:45 – 3:05  Folding and secretion of the E. coli Pet autotransporter
Jonathan P. Renn, Mirco Junker and Patricia L. Clark
Department of Chemistry & Biochemistry, University of Notre Dame, Notre Dame, IN

3:05 – 3:25  Formation of a structural core in rhodopsin under denaturing conditions
Arpana Dutta, Judith Klein-Seetharaman
Department of Structural Biology, University of Pittsburgh School of Medicine

3:25 – 3:45  Quantifying the structural requirements of the folding transition state of Protein A and other systems
Michael C. Baxa¹,², Karl F. Freed³, and Tobin R. Sosnick²,⁴
¹Department of Physics, ²Institute for Biophysical Dynamics, ³James Franck Institute and Department of Chemistry, ⁴Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL

3:45 – 4:05  Kinetics of Activation/Inactivation of the Chaperone HdeA and Interactions with Acid-Denatured Model Substrate Proteins
Timothy L. Tapley¹,², Jan Körner¹, Madhuri Barge¹, Ursula Jakob¹, and James C.A. Bardwell¹,²
¹Department of Molecular, Cellular and Developmental Biology, and ²Howard Hughes Medical Institute, University of Michigan, Ann Arbor, MI

4:05 – 4:20  Coffee Break
4:20 – 4:50  Subdomain competition, cooperativity and topological frustration in the folding of CheY-related response regulation proteins
Charles L. Brooks III
Departments of Chemistry and Biophysics, University of Michigan, Ann Arbor, MI

4:50 – 5:00  Closing Remarks – Marina Ramirez-Alvarado

5:00 – 6:30  Closing Reception