

17th Annual Midwest Stress Response and Molecular Chaperone Meeting

Saturday, January 14, 2012

Northwestern University
Evanston, IL

Program Co-Chairs

Liming Li, Northwestern University
Sandy Westerheide, University of South Florida

Meeting Organizer

Richard I. Morimoto, Northwestern University

*This meeting is generously supported by
The Daniel F. and Ada L. Rice Institute for Biomedical Research*

- 7:30–8:55 AM Continental Breakfast
1st Floor Lounge (located behind the Tribune Auditorium)
- 8:55-9:00 AM Opening remarks: Richard I. Morimoto, Northwestern University
McCormick Tribune Auditorium (*all talks will take place in the McCormick Tribune Auditorium*)

Chaperone Function

Session Chair: Jill Johnson, University of Idaho

- 9:00-9:20 AM **Evidence that Cpr7 regulates conformational changes of Hsp90 in *Saccharomyces cerevisiae***

Abbey Zuehlke and Jill Johnson
Department of Biological Sciences, University of Idaho, Moscow, ID
- 9:20-9:40 AM **What's in the BAG: A novel interaction between fungal Bag-1 homologs and the ribosome**

Jacob Verghese and Kevin A. Morano
Department of Microbiology and Molecular Genetics, UT Medical School at Houston-M.D.Anderson
Graduate School of Biomedical Sciences, Houston, TX-77030
- 9:40-10:00 AM **Hsp70 inhibitors for the treatment of refractory tumor types**

John Koren III¹, Yoshi Miyata², Janine Kiray¹, Lana Nguyen¹, Jianping Guo³, Laura J. Blair¹, John C. O'Leary III¹, Jose F. Abisambra¹, Umesh K. Jinwal¹, Jin Q. Cheng³, Jason E. Gestwicki², Chad A. Dickey¹
¹USF Health Byrd Alzheimer's Institute, College of Medicine, University of South Florida, Tampa, FL 33613, ²Pathology and Biological Chemistry, Life Sciences Institute, University of Michigan, Ann Arbor, Michigan 48109, and the ³Department of Molecular Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida 33612

10:00-10:20 AM **Chaperoning cancer: the role of the co-chaperone UNC45A**

Yasmeen Jilani, KangWong Jang and Ahmed Chadli
Georgia Health Sciences University, Molecular Chaperones Program, 1410, Laney Walker Blvd., CN-3151, Augusta, GA 30912

10:20-10:40 AM Coffee Break
1st Floor Lounge (located behind the Tribune Auditorium)

Stress Response and Transcription

Session Chair: Brian Freeman, University of Illinois

10:40-11:00 AM **Using Small Molecules to Understand the Mechanisms that Regulate Human HSF1**

Daniel W. Neef and Dennis J. Thiele
Department of Pharmacology and Cancer Biology, Duke University Medical Center

11:00-11:20 AM **Splicing Mediated Regulation of HSR Dynamics through Bag1**

Eric Guisbert, Klaus Richter, Patrick McMullen, and Rick Morimoto
Department of Molecular Biosciences and the Rice Institute for Biomedical Research, Northwestern University, Evanston, IL

11:20-11:40 AM **Loss of GRP94 activity triggers a selective response that is distinct from the Unfolded Protein Response**

Davide Eletto¹, Avinash Maganty¹, Daniela Eletto^{1,2}, Devin Dersh¹, Chhanda Biswas³ and Yair Argon¹
¹Dept. of Pathology and Laboratory Medicine, Children's Hospital of Philadelphia, PA and ²The University of Salerno, Fisciano (SA), Italy, and ³Dept. of Surgery The University of Pennsylvania, PA, USA.

11:40 AM-12:00 PM Coffee Break
1st Floor Lounge (located behind the Tribune Auditorium)

12:00-12:40 PM **Plenary Talk**

Session Chair: Sandy Westerheide, University of South Florida

Modern family: the Hsp110/Hsp70 partnership and beyond

Kevin Morano
Department of Microbiology and Molecular Genetics
University of Texas Medical School, Houston, TX

12:45-1:45 PM Lunch

1:45-2:55 PM **Poster Session**

Allen Center - Room 153 (located behind the Tribune Auditorium and to the right (south) of the lounge)

Translation and Translocation

Session Chair: Patricia Clark, University of Notre Dame

- 3:00-3:20 PM **Expanding Anfinsen's Principle: Controlling Protein Structure by Altering Local Translation Rate**
- Ian M. Sander and Patricia L. Clark
Department of Chemistry and Biochemistry, University of Notre Dame, 251 Nieuwland Science Hall, Notre Dame, IN 46556
- 3:20-3:40 PM **Re-Evaluation of the Role of the Pam18:Pam16 Heterodimer in Translocation of Proteins Across the Mitochondrial Inner Membrane by the Hsp70-Driven Import Motor**
- June E. Pais, Brenda Schilke, and Elizabeth A. Craig
Department of Biochemistry, University of Wisconsin-Madison, Madison, WI
- 3:40-4:00 PM **Global protein aggregation profiling in budding yeast**
- Michael F. Dion, Bogdan A. Budnik, Kerry A. Samerotte, and D. Allan Drummond
FAS Center for Systems Biology, Harvard University, Cambridge, MA, USA 02139; Dept. of Biochemistry and Molecular Biology, The University of Chicago, Chicago IL 60637
- 4:00-4:20 PM Coffee Break
1st Floor Lounge (located behind the Tribune Auditorium)

Neurodegeneration

Session Chair: Heather True, Washington University in St. Louis

- 4:20-4:40 PM **A *Caenorhabditis elegans* model for prion-like propagation of misfolded proteins**
- Carmen Kramer¹, Kyung-Won Park², Liming Li², Ronald Melki³, and Richard Morimoto¹
¹Department of Molecular Biosciences and the Rice Institute for Biomedical Research; Northwestern University; Evanston, IL; USA
²Department of Molecular Pharmacology and Biological Chemistry; The Feinberg School of Medicine; Northwestern University; Chicago, IL; USA
³Laboratoire d'Enzymologie et Biochimie Structurales; CNRS; Gif-sur-Yvette Cedex; France
- 4:40-5:00 PM **The Hsp70 and Hsp90 chaperone systems work together to target tau for degradation**
- Andrea D. Thompson¹, Umesh K. Jinwal², Venkatesha Basur³, Damian Fermin³, Fanchen Bao³, Kojo S.J. Elenitoba-Johnson³, Chad A. Dickey², Jason E. Gestwicki^{1,3,4}.
¹Graduate Program in Chemical Biology – University of Michigan, Ann Arbor, MI, USA, 48109,
²College of Medicine- University of South Florida, Tampa, FL, USA, 33613, ³Department of Pathology- University of Michigan, ⁴Life Sciences Institute- University of Michigan.
- 5:00-5:20 PM **DnaJ/Hsp40 Proteins Differentially Regulate Pathogenic Clients: Identification of a Reservoir for Chaperone Network Triage Switches**
- Jose F. Abisambra¹, Amirthaa Suntharalingam¹, Karthik Arulselvam¹, Laura Blair¹, K. Matt Scaglione², Chantal Guidi¹, Li Wang¹, John Koren III¹, Justin Bacon¹, Ying Jin¹, Ahmad Emara¹, Matthew Cockman¹, Bo Zhang¹, Umesh K. Jinwal¹, Henry L. Paulson², Jason Gestwicki³, Chad A. Dickey¹
¹USF Health Alzheimer's Institute, Departments of Molecular Medicine and Psychiatry, University of South Florida, Tampa, FL 33613

²Life Sciences Institute, Department of Neurology, University of Michigan, Ann Arbor, MI 48109
³Departments of Biological Chemistry and Pathology and the Life Sciences Institute, University of Michigan, Ann Arbor, MI 48109

5:20-5:40 PM **Structure and aggregation of alpha-synuclein**

Wei Wang, Linh Nguyen, and Quyen Hoang
Department of Biochemistry and Molecular Biology
Indiana University School of Medicine, Indianapolis, IN

5:40-5:45 PM Closing Remarks

5:45-7:00 PM Wine and Hors D'oeuvre Reception
1st Floor Lounge (located behind the Tribune Auditorium)