



## J-domain proteins: from molecular mechanisms to diseases

Second International Workshop of Cell Stress Society International (CSSI)

29 March – 1 April, 2023 - Gdansk, Poland

### March 29<sup>th</sup> (Wednesday) – arrival day

7:00 pm	Reception at the <a href="#">Novotel Gdańsk Marina Hotel</a>
---------	--

### March 30<sup>th</sup> (Thursday)

8:30 – 9:15	<b>Session I: Opening &amp; JDP history</b> (chair: Jaroslaw Marszalek)
<b>Maciej Zyllicz</b> - Foundation for Polish Science, Poland <b>Biochemical evidence that heat-shock proteins possess molecular chaperone activity</b>	
9:15 – 10:45	<b>Session II : mitochondrial JDPs</b> (chair: Douglas Cyr)
<b>Johannes Herrmann</b> - University of Kaiserslautern, Germany <b>The role of J-domain proteins in early steps of mitochondrial protein import.</b>	
<b>Dejana Mokranjac</b> - LM University Munich, Germany <b>J- and J-like proteins in the mitochondrial protein import motor</b>	
<b>Doron Rapaport</b> - University of Tuebingen, Germany <b>A network of cytosolic (co)chaperones promotes the biogenesis of mitochondrial outer membrane proteins</b>	
10:45 – 11:15	Coffee break
11:15 – 12:45	<b>Session III: class C JDPs</b> (chair: David Ron)
<b>Olivier Genest</b> - CNRS-BIP Aix-Marseille University, France <b>A short bacterial class C JDP is required for adaptation to environmental changes.</b>	
<b>Pierre Goloubinoff</b> – University of Lausanne, Switzerland <b>A special plant JDP is involved in the re-potentialization by HSP70 of heat-depolarized thermosensory ion channels.</b>	
<b>Jaroslaw Marszalek</b> - University of Gdansk, Poland <b>Hsc20 - class C JDP specialized in iron-sulfur cluster biogenesis</b>	
12:45 – 13:45	Lunch

13:45 – 15:15	<b>Session III ctnd: class C JDPs</b> (chair: Jeff Brodsky)
<p><b>Colin Hammond</b> - University of Copenhagen, Denmark  <b>Chaperone Collaboration in the Histone Chaperone Network</b></p> <p><b>Paul Chapple</b> - Queen Mary University of London  <b>The cellular role of the ataxia linked protein saccin/DNAJC29</b></p> <p><b>Yihong Ye</b> - National Institutes of Health, USA  <b>DNAJC5-mediated endosomal microautophagy in neuronal ceroid lipofuscinosis</b></p>	
15:15 – 15:45	Coffee break
15:45 – 16:45	<b>Session III ctnd: class C JDPs</b> (chair: Jeff Brodsky)
<p><b>Janice Braun</b> - University Calgary, Canada  <b>DnaJC5-dependent export of toxic proteins.</b></p> <p><b>Gregory Blatch</b> - Higher Colleges of Technology, Sharjah, United Arab Emirates  <b>Exported J Domain Proteins of the Malaria Parasite: Drug Targets at the Host-Parasite Interface</b></p>	
16:45 – 17:45	<b>Session IV: JDP evolution</b> (chair: Nadinath Nillegoda)
<p><b>Paolo De los Rios</b> - Ecole Polytechnique Federale de Lausanne, Switzerland  <b>Exploring the repertoire and sequence landscape of J-Domain Proteins</b></p> <p><b>Pierre Genevax</b> - CNRS, Toulouse University, France  <b>Evolution of JDP/DnaK pairs in bacteria and phages</b></p>	
17:45 – 18:00	Coffee break
18:00 – 19:00	<b>Discussion – JDP evolution &amp; nomenclature</b> Discussion Leader: Paolo De los Rios & Jaroslaw Marszalek
19:00 – 21.00	Dinner at the Hotel

## March 31st (Friday)

8:30 – 9:30	<b>Session V : JDPs and stress respons regulation</b> (chair: Reut Shalgi)
<p><b>Axel Mogk</b> - ZMBH, Heidelberg University, Germany <b>Apj1 controls the shut-off phase of the Hsf1-dependent heat shock response</b></p> <p><b>Matthias Mayer</b> – ZMBH, Heidelberg University, Germany <b>Regulation of the heat shock response in mammalian cells by JDPs</b></p>	
9:30 – 10:30	<b>Session VI: The Hsp70 Cycle - co-translational folding</b> (chair: Janine Kirstein)
<p><b>Sabine Rospert</b> - University of Freiburg, Germany <b>Interplay between the components of the yeast ribosome-bound chaperone triad</b></p> <p><b>Bernd Bukau</b> - ZMBH, Heidelberg University, Germany <b>Profiling of the nascent chain interactome of the ribosome-associated complex RAC</b></p>	
10:30 – 11:00	Coffee break
11:00 – 12:30	<b>Session VII: JDP- Hsp70 interaction &amp; regulation</b> (chair: Rina Rosenzweig)
<p><b>Carlos Ramos</b> - University of Campinas, Brazil <b>Structural information on the interaction between Sis1 and the EEVD-motif of Hsp70 from NMR.</b></p> <p><b>Johannes Buchner</b> - Technical University Munich, Germany <b>Triaging J-domain proteins into different chaperone pathways</b></p> <p><b>Jason Gestwicki</b> - University of California - San Francisco, USA <b>Multivalent contacts between Hsp70s and JDPs: Opportunities for Chemical Probes</b></p>	
12:30 – 13:30	Lunch
13:30 – 15:30	<b>Session VIII: ER-resident JDPS</b> (chair: Johannes Herrmann)
<p><b>David Ron</b> - CIMR, University of Cambridge, UK <b>AMPylation of the endoplasmic reticulum Hsp70, BiP, modifies its interactions with J-domain protein regulators</b></p> <p><b>Ryo Ushioda</b> - Kyoto Sangyo University, Japan <b>A new platform formed by JDP-Hsp70 for protein quality control in the ER</b></p> <p><b>Douglas Cyr</b> - University of North Carolina - Chapel Hill, USA <b>Roles for ER-transmembrane JDPs in Membrane Protein Triage and Suppression of Proteotoxicity</b></p> <p><b>Jeff Brodsky</b> - University of Pittsburgh, USA <b>Chemically targeting the Hsp70-Hsp40 interface: The application of Hsp70 agonists and antagonists”</b></p>	
15:30 – 16:00	Coffee break
16:00	Free time (to go down town Gdansk)

## April 1st (Saturday)

9:00 – 10.30	<b>Session IX: Non-canonical type B class JPDs</b> (chair: Axel Mogk)
<p><b>Dan Masison</b> - National Institutes of Health, USA <b>J-domain proteins counteract amyloid toxicity in yeast</b></p> <p><b>Lukasz Joachimiak</b> - University of Texas Southwestern Medical Center, USA <b>Mechanistic insight into assembly and activity of oligomeric JDPs</b></p> <p><b>Harm H. Kampinga</b> - University Medical Center Groningen, The Netherlands <b>DNAJB proteins: sequence-structure-function relationships</b></p>	
10:30 – 11:00	Coffee break
11.00 – 12.30	<b>Session X: Protein aggregation disease – aggregate prevention</b> (chair: Claes Andreasson)
<p><b>Rina Rosenzweig</b> - Weizmann Institute of Science, Israel <b>A novel mechanism in class A JDPs that sequesters misfolded proteins, protecting them from aggregation and degradation</b></p> <p><b>Janine Kirstein</b> - Universität Bremen, Germany <b>Identification of a HTT-specific binding motif in DNAJB1</b></p> <p><b>Reut Shalgi</b> - Rappaport Faculty of Medicine, Technion, Israel <b>Differential regulation of stress response and aggregation by DNAJ isoforms</b></p>	
12:30 – 13:30	Lunch
13:30 – 15:30	<b>Session XI: Protein aggregation disease – aggregate disassembly &amp; disposal</b> (chair: Bernd Bukau)
<p><b>Krzysztof Liberek</b> - University of Gdansk, Poland <b>Specific interactions between class B J-domain proteins and Hsp70 potentiate disaggregation of misfolded proteins</b></p> <p><b>Nadinath B. Nillegoda</b> - University of Melbourne, Australia <b>Regulation of Hsp70-JDP protein disaggregases in human cells</b></p> <p><b>Alessandro Barducci</b> - CNRS, Montpellier University, France <b>Modeling amyloid fiber disassembly by Hsp70/cochaperones mixture.</b></p> <p><b>Claes Andreasson</b> - Dept of Molecular Biosciences, The Wenner-Gren Institute, Stockholm University <b>Amyloid aggregates are cleared by Hsp70-mediated autophagy using a novel nucleotide exchange factor Atg8/LC3 adaptor in yeast</b></p>	
15:30 – 16:00	Coffee break
16.00 – 17:00	<b>Session XII: Specificity comparison of different JDPs</b> (chair: Pierre Genevaux)

<p><b>Justin Hines</b> - Lafayette College, USA  <b>Functional divergence and overlap among prion-specific JDP interactions in yeast</b></p> <p><b>Chandan Sahi</b> - Indian Institute of Science Education and Research Bhopal Madhya Pradesh, India  <b>Understanding the specificity of JDPs in complex eukaryotes</b></p>	
17:00 – 17:15	Coffee break
17:15 – 18:15	<p><b>Discussion : the JDP-HSP70 cycle: mechanisms</b>  Discussion leader: Matthias Mayer &amp; Harm Kampinga</p>
18:15 – 18:45	<p>Summary of the meeting/meeting report (who writes?)  Future of the meeting (continuation? financial support? Organizers?)  Discussion leader: Jaroslaw Marszalek</p>
19:00 – 21.30	Gala Dinner