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## Sunday, August 7, 2016

<i>Time</i>	<b>Event</b>
10:30 a.m. - 12:00 p.m.	<b>Registration</b> Hilton Downtown Knoxville, 2 <sup>nd</sup> Floor Lobby
12:00 - 12:30 p.m.	<b>Opening Ceremony – Lunch provided</b> <b>Paul Langan, Oak Ridge National Laboratory</b>
12:30 - 1:15 p.m.	<b>Plenary Lecture</b> <b>Jack Johnson, Scripps Research Institute</b> <i>“Structural Studies of Virus Particle Maturation: An Experimental Laboratory for Large-Scale Macromolecular Dynamics”</i>
1:15 - 1:45 p.m.	<b>Break</b>
<b>Session 1: Sources and Facilities</b> <b>Chair: Volker Urban</b>	
1:45 - 2:10 p.m.	<b>Jean Jakoncic, National Synchrotron Light Source II</b> <i>“NSLS-II Biomedical Beamlines for Micro-Crystallography, FMX, and for Highly Automated Crystallography, AMX: New Opportunities for Advanced Data Collections”</i>
2:10 - 2:35 p.m.	<b>Nadia Zatsepin, Arizona State University</b> <i>“Serial Femtosecond Crystallography at LCLS: The First 5 Years”</i>
2:35 - 3:00 p.m.	<b>Atsushi Nakagawa, Osaka University, Japan</b> <i>“SPring-8 BL44XU, A Beamline for Large Biological Macromolecular Assemblies”</i>
3:00 - 3:25 p.m.	<b>Richard Gillilan, Cornell University</b> <i>“CHESS, CHESS-U, and the Future: Modeling Signal AND Noise on BioSAXS Beamlines”</i>
3:25 - 3:50 p.m.	<b>Paul Langan, Oak Ridge National Laboratory</b> <i>“Opportunities for Biology at the New and Improved Oak Ridge Neutron Sources”</i>
3:50 p.m.	<b>Adjourn</b>

## Monday, August 8, 2016

<i>Time</i>	<b>Event</b>
9:00 - 9:45 a.m.	<b>Plenary Lecture</b> <b>Michael Crowley, National Renewable Energy Laboratory (NREL)</b> <i>“Cellulose and Diffraction: Connecting Molecular Structure to Measurements”</i>
9:45 - 10:15 a.m.	<b>Break</b>
<b>Session 2: Drug Design</b> <b>Chair: Jerry Parks</b>	
10:15 - 10:45 a.m.	<b>Jeremy Smith, University of Tennessee</b> <i>“Proteins: Forever Aging?”</i>
10:45 - 11:10 a.m.	<b>Irene Weber, Georgia State University</b> <i>“Protein Crystallography for Tackling the Problem of HIV Drug Resistance”</i>
11:10 - 11:35 a.m.	<b>Mayank Aggarwal, Oak Ridge National Laboratory</b> <i>“Mapping the H-Bonding Patterns in Human Carbonic Anhydrase II Complexed with Clinical Drugs”</i>
11:35 a.m. - 12:00 p.m.	<b>Jerry Parks, Oak Ridge National Laboratory</b> <i>“Discovery of Inhibitors of Multidrug Efflux Pumps in Gram-Negative Bacteria”</i>
12:00 - 1:30 p.m.	<b>Conference Photos</b> <b>Lunch on your own</b>
<b>Session 3: New Instruments and Methods</b> <b>Chair: Matt Cuneo</b>	
1:30 - 1:55 p.m.	<b>Paul Adams, Lawrence Berkeley National Laboratory</b> <i>“Computational Methods for Neutron Crystallography in Phenix”</i>
1:55 - 2:20 p.m.	<b>Wah Chiu, Baylor College of Medicine</b> <i>“CryoEM of Molecular Machine with Variable Conformations of Its Components”</i>
2:20 - 2:40 p.m.	<b>Ichiro Tanaka, Ibaraki University, Japan</b> <i>“Cryoprotectant-Free High-Pressure Freezing and Dynamic Nuclear Polarization for More Sensitive Detection of Hydrogen in Neutron Protein Crystallography”</i>
2:40 - 3:00 p.m.	<b>Flora Meilleur, North Carolina State University</b> <i>“IMAGINE, New Science and Capabilities at HFIR”</i>
3:00 - 3:30 p.m.	<b>Break</b>
<b>Session 4: Bioenergy</b> <b>Chair: Hugh O’Neill</b>	
3:30 - 4:00 p.m.	<b>Jochen Zimmer, University of Virginia, School of Medicine</b> <i>“Crystallographic Snapshots of a Polysaccharide Secretion Machinery”</i>
4:00 - 4:30 p.m.	<b>Yoshiki Higuchi, University of Hyogo</b> <i>“Structural Studies of [NiFe]-hydrogenases”</i>

4:30 - 4:45 p.m.	<b>William Brad O'Dell, North Carolina State University</b> <i>"Oxygen Species at the Active Site of a Fungal Polysaccharide Monooxygenase"</i>
4:45 - 5:00 p.m.	<b>Nayomi Plaza, University of Wisconsin</b> <i>"Understanding Moisture-Induced Swelling of Wood Nanostructure Using SANS"</i>
5:00 - 7:00 p.m.	<b>Poster Session</b> <b>Refreshments will be provided</b>
7:00 p.m.	<b>Adjourn</b> <b>Dinner on your own</b>

## Tuesday, August 9, 2016

<b>Time</b>	<b>Event</b>
9:00 - 9:45 a.m.	<b>Plenary Lecture</b> <b>Peter Moody, Leicester University</b> <i>"Combining Cryo-Neutron &amp; X-ray Crystallography with Single Crystal Spectroscopy to Catch Peroxidase Intermediates"</i>
9:45 - 10:15 a.m.	<b>Break</b>
<b>Session 5: Macromolecular Complexes</b> <b>Chair: Loukas Petridis</b>	
10:15 - 10:45 a.m.	<b>Frank Gabel, Institut de Biologie Structurale, Grenoble, France</b> <i>"SANS, NMR and Crystallography: A Powerful Combination to Study Challenging Protein-RNA Complexes"</i>
10:45 - 11:10 a.m.	<b>Bret Freudenthal, University of Kansas Medical Center</b> <i>"Molecular Snapshots of DNA Damage Processing"</i>
11:10 - 11:35 a.m.	<b>Matthew Cuneo, Oak Ridge National Laboratory</b> <i>"An Additional Allosteric Switch in ABC Transport"</i>
11:35 a.m. - 12:00 p.m.	<b>Venu Vandavasi, Oak Ridge National Laboratory</b> <i>"How Many Cellulose Synthases in the Cellulose Synthesis Complex?"</i>
12:00 - 1:30 p.m.	<b>Lunch on your own</b>
1:30 - 5:30 p.m.	<b>ORNL Tours</b> <ul style="list-style-type: none"> <li>• TITAN</li> <li>• SNS</li> <li>• HFIR</li> </ul>
7:00 - 9:00 p.m.	<b>Banquet and Awards Ceremony – By ticket only</b> <b>Ken Herwig, Oak Ridge National Laboratory</b> <i>"Prospects at the Oak Ridge National Laboratory Spallation Neutron Source Second Target Station"</i>

## Wednesday, August 10

<i>Time</i>	<b>Event</b>
9:00 - 9:45 a.m.	<b>Plenary Lecture</b> <b>Greg Hura, Lawrence Berkeley National Laboratory</b> <i>“Combining SAXS and Crystallography to Build Intuition in Functional Macromolecular Networks and Engineering”</i>
9:45 - 10:15 a.m.	<b>Break</b>
<b>Session 6: Enzyme Mechanism and Allostery</b> <b>Chair: Andrey Kovalevsky</b>	
10:15 - 10:45 a.m.	<b>Walter Chazin, Vanderbilt University</b> <i>“How Does Human DNA Primase Count?”</i>
10:45 - 11:10 a.m.	<b>Donald Ronning, University of Toledo</b> <i>“Redefining Our Understanding of Nucleosidase Mechanisms One Proton at a Time”</i>
11:10 - 11:35 a.m.	<b>Robert Phillips, University of Georgia</b> <i>“Structure of the Tryptophan Indole-lyase-Oxindolylalanine Complex”</i>
11:35 a.m. - 12:00 p.m.	<b>Yota Fukuda, Osaka University, Japan</b> <i>“New Hot Topics on Copper Nitrite Reductases”</i>
12:00 - 1:30 p.m.	<b>Lunch on your own</b>
<b>Session 7: Membrane Proteins</b> <b>Chair: Flora Meilleur</b>	
1:30 - 2:00 p.m.	<b>Chuck Sanders, Vanderbilt University</b> <i>“The Amyloid Precursor Protein C99 Domain Binds Cholesterol and Undergoes a Structural Change When Reconstituted into Raft-Like Model Membranes”</i>
2:00 - 2:30 p.m.	<b>Geoffrey Chang, University of California, San Diego</b> <i>“Transporter: Structure, Function, and Application”</i>
2:30 - 3:00 p.m.	<b>Ella Mihailescu, University of Maryland</b> <i>“Neutron Diffraction Reveals Conformation and Interactions of a Voltage-Sensor Toxin with Lipid Membranes”</i>
3:00 - 3:30 p.m.	<b>Break</b>
<b>Session 8: Membranes</b> <b>Chair: Shuo Qian</b>	
3:30 - 4:00 p.m.	<b>John Katsaras, Oak Ridge National Laboratory</b> <i>“Lateral Membrane Organization in Model Systems and Live Bacteria”</i>
4:00 - 4:30 p.m.	<b>Michael Wiener, University of Virginia, School of Medicine</b> <i>“Functional Recognition of Membrane-Bound Substrates by the Integral Membrane Protein Protease Ste24p”</i>

4:30 - 5:00 p.m.	<b>Fred Heberle, University of Tennessee</b> <i>“Toward a Better Plasma Membrane Model: Probing Lipid Bilayer Asymmetry with SANS”</i>
5:00 p.m.	<b>Closing</b> <b>Paul Langan, Oak Ridge National Laboratory</b>