

Time resolved Chemistry and APS-U - October 1-2, 2019

Tuesday, October 1, 2019 - APS Building 402, Room E1100 & E1200

- 9:00-9:05 Welcome remarks, Stephen Streiffer, APS Director
- Session Chair:* Ercan Alp, Argonne National Laboratory
- 9:05-9:15 **Dean Haeffner**, APS-U Project: Facts
- 9:15-9:50 **Shin Ichi Adachi**, KEK, Institute of Materials Structure Science, Japan
Complementarity of SR and XFEL sources for tracking chemical reactions in solution with ultrashort X-ray pulses
- 9:50 – 10:25 **Alke Meents**, Center for Structural Systems Biology, CFEL, Germany
Temperature-jump induced changes in protein crystals studied with pink beam serial crystallography
- 10:25 – 10:45 Break
- 10:45 – 11:20 **Josh Vura-Weis**, Dept. of Chemistry, University of Illinois at Urbana
M-edge XANES as a new tool for ultrafast inorganic spectroscopy
- 11:20 – 11:55 **Rama Ranganathan**, Center for Physics of Evolving Systems, University of Chicago
Protein Mechanics: The link between structure, function, and evolvability
- 11:55 –13-30 Working Lunch & Discussion – Ercan Alp
- Session Chair:* Lin Chen, Argonne National Laboratory
- 13:30 – 14:05 **Kelley Gaffney**, PULSE Institute, Stanford
Understanding the Reaction Mechanisms of 3d Metal Catalysts with Time-Resolved X-ray Spectroscopy
- 14:05 – 14:40 **Munira Khalil**, University of Washington
The role of vibronic coherence in multidimensional ultrafast photochemical reactions
- 14:40 – 15:15 **Andrew J Orr-Ewing**, University of Bristol, England
Mapping multi-step reaction pathways over femtosecond to millisecond timescales using transient absorption spectroscopy
- 15:15 – 15:35 Break
- 15:35 – 16:10 **Amy Cordones-Hahn**, PULSE Institute, Stanford
Resolving photochemical mechanisms of transition metal complexes with time-resolved XAS
- 16:10 – 16-45 **Katharina Kubicek**, FXE Instrument Scientist, Euro XFEL
Chemical Dynamics and Photocatalysis studied with ultrafast XES, XAS, and x-ray scattering
- 16:45 – 17:20 **Lin Chen**, Dept. of Chemistry, Northwestern University
Structural dynamics of excited state transition metal complexes in solar energy conversion processes
- 18:00 – 20:00 Working dinner – APS Lower Level Gallery

Wednesday, October 2, 2019 - APS Building 402, Room E1100 & E1200

- Session Chair:** Xiaoyi Zhang, Argonne National Laboratory
- 9:15 – 9:50 **Lois Pollack**, Dept. of Physics, Cornell U
Microfluidic Mixers for Mix and Inject Serial Crystallography at XFELs
- 9:50 – 10:25 **Peter Weber**, Dept. of Chemistry, Brown University
Probing Chemistry in Space and Time: Complete, Time-Dependent Molecular Structures in Excited States
- 10:25 – 10:45 Break
- 10:45 – 11:20 **David Kissick**, GM/CA, Advanced Photon Source
Serial Crystallography Capabilities at GM/CA
- 11:20 – 11:55 **Petra Fromme**, Biodesign Center for Applied Structural Discovery, Arizona State University, *Time-resolved Serial Femtosecond Crystallography: towards Molecular Movies of Biomolecules “in Action”*
- 11:55 – 13:30 Working Lunch & Discussion for Report Preparation – Ercan Alp
- Session Chair:** Linda Young, Argonne National Laboratory
- 13:30 – 14:05 **Philip Anfinrud**, Ultrafast Biophysical Chemistry Section, NIH
Time-resolved SAXS/WAXS studies of structural dynamics in biomolecules following a T-jump
- 14:05 – 14:40 **Giulia Mancini**, Laboratory for Ultrafast Spectroscopy, EPFL
Perspectives for Time-Resolved Studies at Synchrotrons
- 14:40 – 16:00 **Break for APS Colloquium – APS 402 Auditorium**
Leslie M. Schoop, Department of Chemistry, Princeton University
Chemical Bonds in Square Nets and Their Relation to Topology
- 16:00 – 16:35 **Anne Marie March**, Argonne National Laboratory
Tracking photo-induced reactions in solutions with sub-pulse-duration sensitivity
- 16:35 – 17:10 **Xiaoyi Zhang**, Argonne National Laboratory
Multiple timescale X-ray spectroscopy and scattering studies of energy materials at the advanced photon source
- 17:30 – 19:30 No Host Dinner – Argonne Guest House