

APS Workshop 11: Time-resolved X-ray Opportunities toward APS-U

Wednesday, May 3, Morning

- 8:15 – 8:30 Xiaoyi Zhang and Donald A. Walko (Argonne National Laboratory)
Introduction and Welcome
- 8:30 – 9:00 Paul G. Evans (University of Wisconsin-Madison)
Nanomagnetism in a Thermal Gradient: Domains and Magnetization Gradients
- 9:00 – 9:30 Mingda Li (Massachusetts Institute of Technology)
Interfacial and Bulk Defect Resolution Using Ultrafast Diffraction and Scientific Machine Learning
- 9:30 – 10:00 Roopali Kukreja (University of California, Davis)
Unraveling Magnetic and Electronic Behavior at Ultrafast and Ultrasmall Limits
- 10:00 – 10:20 Haidan Wen (Argonne National Laboratory)
Time-resolved Multimodal Imaging and Diffraction at Upgraded APS
- 10:20 – 10:30 Break
- 10:30 – 11:00 Simon Billinge (Columbia University)
Ultrafast Atomic Pair Distribution Function Analysis
- 11:00 – 11:30 Yang Ren (City University of Hong Kong)
Catching Atoms in Action in Functional Materials Using Time-resolved Synchrotron Techniques
- 11:30 – 12:00 Richard Schaller (Argonne National Laboratory and Northwestern University)
Transient Lattice Dynamics of 0-, 2-, and 3-D Metal Halide Perovskites
- 12:00 – 12:20 Burak Guzelturk (Argonne National Laboratory)
New Insights into Nanocrystalline Energy Materials by Time-resolved Pair Distribution Function Analysis
- 12:20 – 12:30 Wrap-up and Discussion

Thursday, May 4, Morning

- 8:50 – 9:00 Xiaoyi Zhang and Donald A. Walko (Argonne National Laboratory)
Introduction and Welcome
- 9:00 – 9:30 Lin X. Chen (Argonne National Laboratory and Northwestern University)
Excited State Trajectories in Photoactive Transition Metal Complexes Probed by Ultrafast Laser, X-ray Spectroscopies, and Scattering

- 9:30 – 10:00 Dugan Hayes (University of Rhode Island)
Mechanistic Investigation of Photochemistry and Photophysics at Transition Metals and Post-transition Metals
- 10:00 – 10:30 Anne Marie March (Argonne National Laboratory)
Tracking Chemical Reactivity across Multiple Timescales with X-ray Spectroscopy
- 10:30 – 11:00 Dooshaye Moonshiram (Instituto de Ciencia Materiales de Madrid)
Unraveling the Mechanistic Pathways of Earth-abundant Photosensitizers and Solar Fuel Catalysts through Time-resolved X-ray Spectroscopy
- 11:00 – 11:20 Cunming Liu (Argonne National Laboratory)
Advancing Time-resolved X-ray Absorption Spectroscopy Towards APS-U
- 11:20 – 11:40 Wrap-up and Discussion
- 11:40 Workshop Adjourns