

APS-U Biology and Life Science Workshop
Early experiments and unique opportunities with the APS MBA Upgrade
June 22 – June 23 2015

Agenda

Monday June 22, 2015

APS Building 401, Conference Room A1100

Chairs: Bob Fischetti, Gayle Woloschak and Lee Makowski

08:30	Welcome	Bob Fischetti APS, Argonne
08:35	Introduction to the APS Upgrade	Stephen Streiffer APS Director, Argonne
08:55	Game changing capabilities for macromolecular crystallography, scattering and diffraction	Bob Fischetti APS, Argonne
09:10	Unique Opportunities for Imaging and Trace Element Analysis Enabled by the APS MBA Upgrade	Stefan Vogt APS, Argonne
09:25	Molecular Pathology	Lee Makowski Northeastern U.
09:40	Upgrade Advantages: Microvessicles, Subcellular Structures, and More....	Gayle Woloschak Northwestern U.
09:55	<i>In celluo</i> crystallography	Andrzej Joachimiak Argonne
10:10	New classes of dynamical studies enabled by the APS-U	Ed Lattman Hauptman-Woodward Institute
10:25	Coffee break	
10:50	Trace element dynamics: temporal studies of cellular composition	Jim Penner-Hahn U. of Michigan
11:05	Time-resolved scattering from tiny crystals	Keith Moffat U. of Chicago
11:20	Microvesicles, Bacteriophages and Cellular Protrusions: Nanomedical Frontiers in Intracellular and Extracellular Signaling	Peter Lay U. of Sydney
11:35	TBA	Raj Chopra Novartis
11:50	Elemental Signals in Control of Cellular Decisions: Quantitative Subcellular Mapping of Zinc Fluxes Governing Mammalian Gamete Maturation and Fertilization	Tom O'Halloran Northwestern U.
12:05	Imaging function: brain connectomics, and freezing dynamic processes	Chris Jacobsen APS, Argonne
12:20	Working Lunch: Discussion of breakout topical areas and workshop deliverables (lunch provided for speakers)	Bob Fischetti APS, Argonne

Imaging Breakout - Chair: Gayle Woloschak, APS Building 401, Room E1100/1200

13:30	TBA	
13:45	Contributed talks, discussion and preliminary writing	
15:00	Coffee Break	
15:30	Continue - contributed presentations, discussion and preliminary writing	

Scattering/diffraction Breakout - Chair: Lee Makowski, APS Building 401, Room A5000

13:30	Surface alignment and grazing incidence bioSAXS aiming for near-atomic resolution for solution biomacromolecules	Xiaobing Zuo APS, Argonne
13:45	Bridging CDI and crystallography in 2D	Michael Becker, APS, Argonne
14:00	Contributed talks, discussion and preliminary writing	
15:00	Coffee Break	
15:30	Continue - contributed presentations, discussion and preliminary writing	

Macromolecular crystallography - Chair: Bob Fischetti, APS Building 401, Room A1100

13:30	TBA - Steven Soisson, Merck	
13:45	Contributed talks, discussion and preliminary writing	
15:00	Coffee Break	
15:30	Continue - contributed presentations, discussion and preliminary writing	

**Breakout reports – Chairs: Gayle Woloschak, Lee Makowski and Bob Fischetti
APS Building 401, Room A1100**

16:30	Imaging breakout report	Gayle Woloschak Northwestern U.
16:40	Scattering/diffraction report	Lee Makowski Northeastern U.
16:50	Macromolecular crystallography report	Bob Fischetti APS, Argonne
17:00	General discussion	Organizers

Dinner (self-organized)

Tuesday June 23, 2015

Imaging Breakout - Chair: Gayle Woloschak, APS Building 401, Room E1100/1200

08:30	Invited and contributed presentations, discussion and case writing	
10:30	Coffee break	

Scattering/diffraction Breakout - Chair: Lee Makowski, APS Building 401, Room A5000

08:30	Invited and contributed presentations, discussion and case writing	
10:30	Coffee break	

Macromolecular crystallography - Chair: Bob Fischetti, APS Building 401, Room A1100

08:30	Crystallography with an MBA Source: Smaller, hotter, faster	Janet Smith U. of Michigan
08:45	Invited and contributed presentations, discussion and case writing	
10:30	Coffee break	

**Breakout reports – Chairs: Gayle Woloschak, Lee Makowski and Bob Fischetti
APS Building 401, Room A1100**

11:00	Imaging breakout report	Gayle Woloschak Northwestern U.
11:10	Scattering/diffraction breakout report	Lee Makowski Northeastern U.
11:20	Macromolecular crystallography breakout report	Bob Fischetti APS. Argonne
11:30	General discussion	Organizers
12:00	Adjourn	