## Sunday, October 11

- 3:00 pm Check-in
- 6:00 pm Reception (Lobby)
- 7:00 pm Dinner
- 8:00 pm Introductory Notes: Tamir Gonen
- 8:10 pm Keynote Lecture: Michael G. Rossmann, Purdue University *Current challenges in structural biology*
- 9:00 pm Refreshments available at Bob's Pub

**NOTE:** Meals are in the **Dining Room** Talks are in the **Seminar Room** Posters are in the **Lobby** 



## Monday, October 12

7:30 am	Breakfast (service ends at 8:45am)
9:00 am	Session 1: Examining the Classic Challenges Chair: Ana Gonzalez
9:00 am	<b>Elspeth F. Garman</b> , University of Oxford Detecting and reversing the effects of radiation damage in macromolecular crystallography
9:30 am	<b>Gérard Bricogne</b> , Global Phasing Ltd. Back to the future: Revisiting and improving interleaved protocols for experimental phasing, from design to processing
10:00 am	<b>Wayne A. Hendrickson</b> , Columbia University Optimization of anomalous diffraction for biomolecular structure analysis
10:30 am	Break
11:00 am	Session 2: Opening New Frontiers with XFELs Chair: Paul Emsley
11:00 am	John Spence, Arizona State University How X-ray lasers can contribute to structural biology
11:30 am	Aina Cohen, Stanford Synchrotron Radiation Lightsource Goniometer-based diffraction studies of single crystals at LCLS
12:00 pm	<b>Axel Brunger</b> , HHMI/Stanford University Towards XFEL crystallography for challenging biological systems
12:30 pm	Lunch
2:00 pm	Session 3: The Need to Reinvent the Wheel Chair: Robert Fischetti
2:00 pm	<b>Aaron S. Brewster</b> , Lawrence Berkeley National Labs Signal vs. noise in XFEL diffraction images: Using realistic crystal models to find the best pixels for reflection integration
	<b>Tara M. Michels-Clark</b> , Lawrence Berkeley National Laboratory <i>Processing two color x-ray free electron laser diffraction data</i>



2:30 pm	Harry Powell, MRC Laboratory of Molecular Biology User Interfaces for processing rapid data collections
3:00 pm	<b>Graeme Winter</b> , Diamond Light Source DIALS: Diffraction Integration for Advanced Light Sources
3:30 pm	Break
4:00 pm	Discussion on classic challenges and XFEL methods Moderator: Axel Brunger
5:30 pm	Poster Reception
7:00 pm	Dinner
8:00 pm	Session 4: Reflections on Data Quality Chair: John Spence
8:00 pm	<b>Kay Diederichs</b> , University of Konstanz Pitfalls of crystallographic reasoning, and linking crystallographic model and data quality
8:30 pm	James Holton, Lawrence Berkeley National Laboratory On the threshold to a new era in structural biology
9:00 pm	Refreshments available in Bob's Pub



## Tuesday, October 13

7:30 am	Breakfast (service ends at 8:45am)
9:00 am	Session 5: The Last Word on Data Chair: Wayne Hendrickson
9:00 am	<b>Zbyszek Otwinowski</b> , UT Southwestern Medical Center Diffraction data processing of multiple data sets acquired in serial and non-serial mode
9:30 am	<b>Paul Emsley</b> , MRC Laboratory of Molecular Biology New developments in Coot
10:00 am	<b>Henning Stahlberg</b> , University of Basel Structure determination of membrane proteins in two-dimensional membrane crystals using electron microscopy imaging and direct electron detection
10:30 am	Break
11:00 am	Session 6: Progress in MicroED Chair: Tamir Gonen
11:00 am	Johan Hattne, Janelia Research Campus/HHMI Data processing for MicroED
11:30 am	<b>Garib Murshudov</b> , MRC Laboratory of Molecular Biology <i>Refinement of macromolecular structures using electron diffraction data and</i> <i>fitting into cryo-EM maps</i>
12:00 pm	Andrew G. Leslie, MRC Laboratory of Molecular Biology Processing multi-lattice diffraction images
12:30 pm	Lunch (service ends at 1pm)
1:15 pm	Tour (optional – meet at reception)



2:15 pm	Session 7: Current Synchrotron Directions Chair: Nick Sauter
2:15 pm	<b>Gwyndaf Evans</b> , Diamond Light Source VMXm - micro and nanocrystallography
2:45 pm	<b>Robert Fischetti</b> , Argonne National Laboratory <i>The bright future of X-ray microcrystallography</i>
3:15 pm	<b>Ana Gonzalez</b> , SLAC National Accelerator Laboratory <i>tbd</i>
3:45 pm	Discussion on all new developments Moderator: Gérard Bricogne
5:15 pm	Poster Reception
6:45 pm	Dinner
8:00 pm	Refreshments available at Bob's Pub



## Wednesday, October 14

7:30 am	Breakfast (service ends at 8:45am)	
9:00 am	Session 8: Complementary Methods Chair: Kay Diederichs	
9:00 am	<b>Paul Langan</b> , Oak Ridge National Laboratory Seeing the chemistry in biology with neutrons	
9:30 am	<b>Peter Zwart</b> , Lawrence Berkeley National Laboratory <i>X-ray sciences at the Berkeley Center for Structural Biology</i>	
10:00 am	Break	
10:30 am	Session 9: Toward the Biological Target Chair: Elspeth Garman	
10:30 am	Henry van den Bedem, Stanford University Structural characterizations of spatiotemporally averaged data	
11:00 am	<b>Junko Yano</b> , Lawrence Berkeley National Laboratory Water oxidation reaction catalyzed by the Mn4CaO5 cluster in Photosystem II	
11:30 am	<b>Jose Rodriguez</b> , University of California, Los Angeles MicroED structures from nano-crystals of adhesive segments of amyloid-forming proteins	
12:00 pm	Closing Discussion / Final Remarks	
12:15 pm	Lunch and departure	
12:45 pm 1:45 pm 2:45 pm	First shuttle to Dulles Second shuttle to Dulles Last shuttle to Dulles	

