45th Mid-Atlantic Protein Crystallography Meeting

J O H N S  H O P K I N S  U N I V E R S I T Y

June 3-5, 2015

Special points of interest:

- Poster Presentations
- BBQ Dinner

Keynote Speaker:

Wei Yang, Ph.D.
Section Chief, LMB, NIDDK, National Institutes of Health

Organizers

Gregory Bowman, Ph.D.
Daniel Leahy, Ph.D.
Sean Prigge, Ph.D.

Meeting Coordinator

Tammy Watson

Other Organizers

Sandra B. Gabelli, Ph.D.
Jennifer Kavran, Ph.D.
Mike Morgan, Ph.D.
Herschel Wade, Ph.D.
Cynthia Wolberger, Ph.D.

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Wednesday, June 3, 2015

2:00 - 4:00 PM Meeting Registration, Hodson Hall, 1st Floor

Check-In (Charles Commons residence suites)
10 E. 33rd Street, Baltimore, MD 21218
(Next to Barnes & Noble Bookstore, Starbucks)

Poster Set Up, Hodson Hall, 2nd Floor
Vendor Booth Set Up, Hodson Hall, 1st Floor

4:30 - 5:30 PM Keynote Address:

Wei Yang, Ph.D.
Section Chief, LMB, NIDDK,
National Institutes of Health

Johns Hopkins University, Homewood Campus
Hodson Hall Auditorium, Room 110

5:45 - 8:15 PM BBQ Dinner
Johns Hopkins University, Homewood Campus
Glass Pavilion

Thursday, June 4, 2015

8:30 - 9:00 AM Continental Breakfast, Hodson Hall Ground Floor

9:00 - 9:05 AM Opening Remarks

Session I: Recognition and Specificity I
Session Chairs: Daniel Leahy, JHU, SoM and Jennifer Kavran, JHU, SoM

9:05 - 9:30 AM Jinghua Lu, NIH, NIAID
Structure of Fg gammaRI in complex with Fc reveals the importance of glycan recognition for the high affinity IgG binding

9:30 - 9:55 AM Iris Hood, JHU
Viral hijacking of a replicative helicase loader

9:55 - 10:20 AM Daniel Bonsor, UMD, Baltimore
Diverse oligomeric states of CEACAM IgV domains

10:20 - 10:45 AM Herschel Wade, JHU
Combining X-ray crystallography with docking and solution-binding techniques to elucidate multi-drug recognition by multi-drug resistance proteins

10:45 - 11:05 AM Coffee Break
Thursday, June 4, 2015

Session II: Pathogen Mechanism and Targeting
Session Chairs: Daniel Leahy, JHU, SoM and Jennifer Kavran, JHU, SoM

11:05 - 11:30 AM William Tolbert, UMD, Baltimore
Structural Targeting of Potentially Protective HIV-1 gp120 Epitopes in the C1-C2 Region

11:30 - 11:55 AM Michael Battles, Dartmouth College
Structural Basis of Small Molecule-Mediated Inhibition of Respiratory Syncytial Virus Fusion

11:55 - 12:20 PM Jürgen Bosch, JHSPH
Plasmodium Glideosome PPI inhibitors

12:20 - 12:45 PM Kurt Piepenbrink, UMD, Baltimore
The Role of Type IV Pili in Biofilm Formation by Clostridium difficile

12:45 - 2:45 PM Lunch (provided), Poster Sessions and Product Demonstrations

Session III: Enzyme Structure and Function
Session Chairs: Sean Prigge, JHSPH and Herschel Wade, JHU SoM

2:45 - 3:10 PM Nicole LaRonde, UMD, College Park
Molecular mechanisms of the RIO kinases in the last pre-40S maturation steps

3:10 - 3:35 PM Michael Morgan, JHU, SoM
Structural basis of histone deubiquitylation by SAGA

3:35 - 4:00 PM Christopher Garnham, NIH, NINDS
Multivalent Microtubule Recognition by Tubulin Tyrosine Ligase-like Family Glutamylases

4:00 - 4:25 PM Andrea Moon, NIH, NIEHS
Creative template-dependent synthesis by human Polymerase Mu

4:25 - 4:50 PM Jennifer Kavran, JHU SoM
How IGF-1 Activates Its Receptor

4:50 - 5:10 PM Coffee Break
45th Mid-Atlantic Protein Crystallography Meeting

Thursday, June 4, 2015

Session IV:  
**Methods I: Protein Crystallization**  
Session Chairs: Sean Prigge, JHSPH and Herschel Wade, JHU SoM

5:10 - 5:35 PM  
**Tom Friedlander**, Formulatrix  
Designing a lab for optimizing membrane protein crystallization methods

5:35 - 6:00 PM  
**Ivan Shabalin**, UVA  
Transformation of high throughput crystallization screening into high output

6:00 - 6:25 PM  
**Ed Pryor**, Anatrace  
A high-throughput method for the screening and selection of detergents

On Thursday evening please enjoy dinner on your own at one of the many fine establishments that Baltimore has to offer.

Enjoy some time in Baltimore!

Walking Distance from Homewood Campus

Ambassador Dining Room  
(410) 366-1484

Alizee (The Colonnade)  
(443) 449-6200

One World Café  
(410) 235-5777

Gertrudes (Art Museum Drive)  
(410) 889-3399

Dogwood Gourmet  
(410) 889-0952

Niwana Restaurant  
(410 366-4115

Tamber’s Restaurant  
(410) 243-5777

New Wyman Park Restaurant  
(410) 235-5100

Golden West Café  
(410) 889-8891

The Paper Moon Diner  
(410) 889-4444

Café Hon  
(410) 243-1230

For those who have transportation feel free to explore:

Fells Point

Harbor East

Downtown

Petit Louis of Roland Park

Yellow Cab Company  
(410) 685-1212
**Friday, June 5, 2015**

**Session V:**  
**Recognition and Specificity II**  
Session Chair: **Mike Morgan**, JHU, SoM

- **9:00 - 9:25 AM**  
  **Scott Bailey**, JHSPH  
  CASCADE structure and function

- **9:25 - 9:50 AM**  
  **Kasia Handing**, UVA  
  Serum Albumin as a Zinc Carrier

- **9:50 - 10:15 AM**  
  **Alison Ringel**, JHU  
  Alternate deacylating specificities for the archaeal sirtuins Sir2Af1 and Sir2Af2

- **10:15 - 10:40 AM**  
  **Christopher Jones**, NIH, NHLBI  
  Crystal structure of a c-di-AMP riboswitch reveals an internally pseudo-dimeric RNA

- **10:40 - 11:05 AM**  
  **Antonina Roll-Mecak**, NINDS, NIH  
  How microtubules get their spots: insights from structural studies of tubulin modification enzymes

- **11:05 - 11:25 AM**  
  Coffee Break

**Session VI:**  
**Methods II: Protein Expression and SAXS**  
Session Chair: **Cynthia Wolberger**, JHU SoM

- **11:25 - 11:50 AM**  
  **Andres Hernandez**, JHU  
  A Novel Method for Production of Troublesome and Disulfide-bonded Eukaryotic Proteins in Bacteria

- **11:50 - 12:15 PM**  
  **Cem Sonmez**, NCI  
  Production of IL-24 and its receptors for structural studies

- **12:15 - 12:40 PM**  
  **Angela Criswell**, Rigaku  
  Your Personal SAXS Beamline: the FR-X and the BioSAXS-2000 AUTO

- **12:40 - 2:00 PM**  
  Lunch and Residence Suite Check-Out
**Session VII:**  

**Enzyme Structure and Function**  
Session Chair: Sandra B. Gabelli, JHU SoM

<table>
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<tr>
<th>Time</th>
<th>Presentation</th>
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| 2:00 - 2:25 PM | Huanchen Wang, NIH, NIEHS  
Structural analysis of inositol pyrophosphate kinases uncovers opportunities for probe development |
| 2:25 - 2:50 PM | Daniel Klein, Merck  
Structure-based discovery of allosteric HIV integrase inhibitors |
| 2:50 - 3:15 PM | George Lountas, Leidos Biomedical Research  
Structures of the Middle East Respiratory Syndrome Coronavirus 3C-Like Protease, an Anti-Viral Drug Target |
| 3:15 - 3:40 PM | Vandana Kumari, NCI  
A Novel Approach to Overcome Antibiotic Resistance by Targeting ERA, an Essential GTPase That Couples Cell Growth with Cell Division |
| 3:40 -          | Poster Award Announcements  
End of Meeting |

**Events**

Wednesday, June 3, 2015  
BBQ Dinner, Glass Pavilion (Campus Map Building #27)  
5:45 - 8:00 PM

Thursday, June 4, 2015  
Poster Sessions and Product Demonstrations, Hodson Hall (Campus Map Building #17)  
12:30 - 2:45 PM

**Next Meeting Dates**

2016 University of Virginia at Charlottesville  
2017 UMD Medical School in Baltimore