

Agenda

Thursday, March 20

- 8:00-8:30 a.m. **Registration and Light Refreshments**
- 8:30-8:45 a.m. Welcome, logistics, program update
Doug Sheeley, NCRR
- 8:45 a.m. Overview of the NCDIR: from Proteomic Data to Macromolecular Structures
[John Aitchison](#), Institute for Systems Biology
- 9:10 a.m. Late Processing and Nuclear Export of Large Ribonucleoprotein Complexes
[Marlene Oeffinger](#), Rockefeller University
- 9:35 a.m. IMP: Software for Integrative Determination of Macromolecular Assembly Structures
[Daniel Russel](#), UCSF
- 10:00 a.m. Revealing the HIV-Host Interactome
Mark Muesing, Aaron Diamond AIDS Research Center
- 10:25-10:55 a.m. **Break, Poster Viewing**
- 10:55 a.m. Identification of Novel Proteolytic Pathways with Proteomics
[Guy Salvesen](#), The Burnham Institute for Medical Research
- 11:20 a.m. Applying the CPP methodologies to anti-viral and anti-bacterial drug design
[Alex Strongin](#), The Burnham Institute for Medical Research
- 11:45 a.m. Proteolytic Pathways in Progression of Pre-Malignant Breast Disease
Bonnie Sloane, Wayne State University
- 12:10 p.m. Predicting unknown Proteolytic Pathways: Charting new Research Directions
Jeffrey W. Smith, The Burnham Institute for Medical Research
- 12:35- 2:00 p.m. **Working Lunch for Registered Participants:**
Discussion of the TCNP Program: How can we improve the program going forward?
- 2:00 p.m. Massive mutagenesis of histones H3 and H4
Jef Boeke, Johns Hopkins
- 2:25 p.m. Global analysis of protein functions using a protein chip approach
Heng Zhu, Johns Hopkins
- 2:50 p.m. Multi-scale systems analysis of chromatin structure
Joel Bader, Johns Hopkins



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- 3:15 p.m. Structural and biochemical analysis of the histone demethylase LSD1
Hongtao Yu, University of Texas Southwestern Medical Center
- 3:40-4:10 p.m. **Break, Poster Viewing**
- 4:10 p.m. Application of TCNP technologies to understand polarity in cell-cell fusion
William Mohler, UCHC
- 4:35 p.m. Bringing new TCNP technologies to the education and research communities
[Raquell Holmes](#), UCHC
- 5:00-7:00 p.m. **Adjourn for Dinner (on your own)**
- 7:00-9:30 p.m. **Poster Session**



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Friday, March 21

- 8:00-8:30 a.m. **Registration and Light Refreshments**
- 8:30 a.m. Biosensor platform development at the Fluorescent Probes and Imaging TCNP.
Alan Waggoner, Carnegie Mellon University
- 8:55 a.m. Development of protease biosensors.
Peter Berget and Crystal Falco, Carnegie Mellon University
- 9:20 a.m. Biosensors for endocytosis and exocytosis based on novel Fluorogen Activating Peptides and Fluorogens
Marcel Bruchez, Greg Fisher, Anmol Grover, John Holleran, Sally Adler, James Fitzpatrick, Jon Jarvik, Paul Johnston and John Lazo, Carnegie Mellon University and University of Pittsburgh
- 9:45 a.m. Analysis of microtubule ends in living regulatory mutants
Estelle Glory, Rebecca Webb, Robert F. Murphy and Brooke McCartney
Carnegie Mellon University
- 10:10-10:30 am **Break, Poster Viewing**
- 10:30 a.m. Applications of scFv based biosensors in immunology.
Russell Salter and Simon Watkins, University of Pittsburgh
- 10:55 a.m. "New technologies for modeling stochastic processes and diffusion in crowded spaces"
Boris Slepchenko, UCHC
- 11:20 a.m. A new method to measure translational output from individual RNA molecules in live neurons using single molecule imaging
John Carson, UCHC
- 11:45 a.m. Signaling platforms: manipulating the local concentration of signaling proteins in living cells
Bruce Mayer, UCHC
- 12:10-1:30 p.m. **Working Lunch for Registered Participants**
Discussion of Inter-TCNP Collaboration
- Integration of PSLID and SLIF with "Virtual Cell"
Robert F. Murphy, Les Loew and Ion Moraru
Carnegie Mellon University and University of Connecticut
Virtual geometries for spatial modeling of networks and pathways
Ion Moraru, UCHC



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- 1:30 p.m. Regulation of spatial domains of signaling components by cell shape
Susana Neves, Mount Sinai School of Medicine
- 1:55 p.m. Integrating Virginia Tech and UCHC Technologies for Cell Cycle Modeling
Cliff Shaffer, Virginia Tech
- 2:20 p.m. TBD
Ileana Cristea, Princeton University
- 2:45 p.m. Analysis of signaling pathways in cancers using quantitative mass spectrometry
Akhilesh Pandey, Johns Hopkins and Harold Varmus and Ugay Guha, Sloan Kettering
- 3:10 p.m. **Closing Remarks**
- 3:15 p.m. **Adjourn**