

Symposium on Single Cell/Single Molecule Biology

Thursday, January 10, 2013

AGENDA

8:00 Breakfast

8:45 Welcome

9:05 Donna Arndt-Jovin, Max Planck Institute for Biophysical Chemistry
Determination of dynamic ErbB1 receptor (EGFR) conformations in living mammalian cells using TCSPC Fluorescence Lifetime Imaging Microscopy

9:45 Stephen Bunnell, Tufts University
The dynamic assembly of complexes linking the T cell antigen receptor to the actin cytoskeleton

10:15 Oscar Negrete, Sandia National Labs
RNA interference screening for virus-host interactions

10:45 Coffee break

11:15 Lev Tsimring, UCSD
Synchronization of synthetic gene oscillators

11:45 Adam Hoppe, South Dakota State University
Imaging membrane curvature dynamics during endocytosis

12:15 Taras Lyubchenko, University of Colorado Denver School of Medicine
Multifaceted signaling responses in B lymphocytes: roles of localized Ca²⁺ influx within the immune synapse and initial protein phosphorylation events in BCR signaling regulation

12:30 – 1:30 Lunch

1:30 Michelle Kovarik, UNC Chapel Hill
Microtechnology to Interrogate Signaling in Single Cells

2:00 Aaron Neumann, University of New Mexico
Organization and Dynamics of Membrane Receptor Domains for Anti-fungal Immunity

2:30 Sandra de Keijzer, Nijmegen Centre for Molecular Life Sciences
Spatiotemporal GPCR mobility constraints in the plasma membrane regulates cell signaling

2:45 Coffee break

3:15 Marcel Bruchez, Carnegie-Mellon University
Genetically Targeted and Activated Physiological Sensors

3:45 Jennifer Gillette, University of New Mexico
Regulation of hematopoietic stem cell communication with the bone marrow niche

4:15 W. E. Moerner, Stanford University
Recent Progress in WideField 3D Super-Resolution Imaging in Cells Using Single Molecules

5:00 – 7:00 Poster Session & Refreshments



Posters

Multifaceted signaling responses in B lymphocytes: roles of localized Ca²⁺ influx within the immune synapse and initial protein phosphorylation events in BCR signaling regulation

Taras Lyubchenko, University of Colorado Denver School of Medicine

Lysosome Mobility: Single Particle Tracking of Endo H Treated Cells

Austin J. Cyphersmith, Georgia Institute of Technology

Single Quantum Dot tracking reveals differences in receptor mobility and dimerization of EGFR harboring kinase domain mutations

Christopher C. Valley, University of New Mexico

Autophagy of ER-retained Mpl is linked to low expression levels of Jak2 and provides an unconventional route to cell surface

Cédric Cleyrat, Anza Darehshouri, University of New Mexico

Spatial relationships between clathrin-dependent and independent mechanisms for Fc ϵ RI internalization

Cédric Cleyrat, Anza Darehshouri, University of New Mexico

Multi-color Single Particle Tracking of QD-IgE-Fc ϵ RI: directly correlating oligomer size with receptor mobility and signaling

Patrick J. Cutler, University of New Mexico

Spatiotemporal GPCR mobility constraints in the plasma membrane regulates cell signaling

Sandra de Keijzer, Nijmegen Centre for Molecular Life Sciences

C-type lectin dynamics and recruitment at a fungal contact site

Matthew Graus, University of New Mexico

Imaging of Fc γ receptor signaling complexes dynamics by TIRF

Jia Lin, South Dakota State University

Shared Protein Complexes of Primary Cilia Link Craniofacial Disorders and Polycystic Kidney Disease

Stephanie Jerman, University of New Mexico

3-Dimensional Tracking of Blinking-Suppressed Quantum Dots in Live Cells

Aaron M. Keller, Los Alamos National Laboratory

Microfluidic Platform for Single and Multiple Pulse of Ligand Exposure on Single Cells or Multiple Cells

Mario J. Paz, University of New Mexico

The Regulation of β -catenin and N-cadherin by CD82

Kristopher D Marjon, University of New Mexico

Quantification of Receptor Co-Localization on Spherical Surfaces

Carolyn Pehlke, University of New Mexico

Regulation of VLA-4 mediated hematopoietic stem/progenitor cell adhesion by CD82

Christina M. Termini, University of New Mexico

GPER-mediated regulation of nuclear Akt/FOXO3a signaling

Erin Zekas, University of New Mexico

Using Single Particle Tracking to Probe ErbB3 Homo- and Hetero-interactions

Mara Steinkamp, University of New Mexico

Single Particle Tracking Using Fluorogen Activating Peptides to Investigate Fc ϵ RI Signaling Dynamics

Samantha Schwartz, University of New Mexico

Initiation and Regulation of Mast Cell Signaling through the Fc ϵ RI Pathway

Avanika Mahajan, University of New Mexico

Nano-Engineered, Ultra Stable Bio-Materials Containing Living Cells

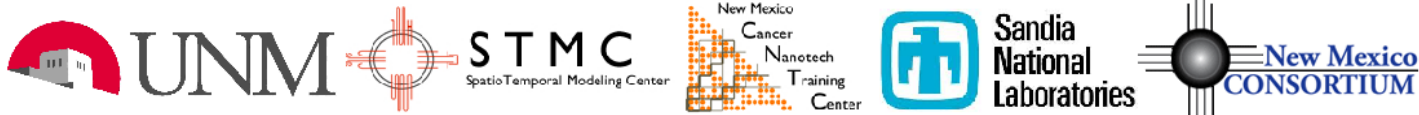
Patrick Johnson, University of New Mexico

Conference on Quantitative Bioimaging

Friday, January 11, 2013

AGENDA

- 7:30 Shuttles begin from Hotel to Conference Site (several large vans will run a few times)
- 7:45 Breakfast at Conference Site
- 8:30 Conference Opening and Logistics
- 8:45 **Raimund Ober**, University of Texas Dallas.
"Location Estimation in Single Molecule Microscopy"
- 9:30 **Chrysanthe Preza**, University of Memphis.
"3D PSF Characterization for Widefield Fluorescence Microscopy"
- 10:15 Coffee and Posters
- 10:45 **Sjoerd Stallinga**, Delft Technical University.
"Point spread function models in optical nanoscopy"
- 11:30 Contributed Presentation: **Mathew Lew**, Stanford University.
"The Double-Helix Microscope Simultaneously Measures Single Molecule Orientation and 3D Position, Reducing Dipole-Induced Localization Errors"
- 11:45 Contributed Presentation: **Ginni Grover**, UC Boulder.
"Optimal 3D Superresolution Microscopy with Double-Helix Point Spread Functions"
- 12:00 Lunch and Posters
- 1:30 **Erik Meijering**, University Medical Center Rotterdam.
"State of the Art in Multiple Particle Tracking"
- 2:15 **Xavier Michalet**, UCLA.
"SPT Data Analysis: Beyond Connecting the Dots"
- 3:00 Coffee and Posters
- 4:00 **Tania Vu**, Oregon Health Sciences University.
"Single Particle Analysis for Unraveling Cellular Signaling Biology"
- 4:45 Contributed Presentation: **Peter Bosch**, University of Twente.
"State Classification of Two-Population Dynamic Diffusion Systems: Comparison of Various Analysis Methods"
- 5:00 **Keith Lidke**, UNM. "Multi-Color Single Particle Tracking"
- 5:45 Dinner and Poster Viewing
- 7:15 Software Development and Maintenance. Introduction and Panel Discussion
- 8:15: Busses start running back to hotel
- 8:45: Last bus to Hotel



Conference on Quantitative Bioimaging

Saturday, January 12, 2013

AGENDA

- 7:30 Bus from Hotel to Conference Site (several large vans will run a few times)
7:45 Breakfast at Conference Site
- 8:30 **Bernd Rieger**, Delft Technical University.
"Resolution in Super-resolution"
- 9:15 **Joerg Enderlein**, Georg August University Göttingen.
"Single molecules beyond the diffraction limit"
- 10:00 Contributed Presentation: **Carol Cogswell**, UC Boulder.
"Expanded Point Information Content Microscopy for Video Rate 3D Imaging with No Moving Parts"
- 10:15 Coffee and Posters
- 11:00 **Susan Cox**, King's College London.
"Analysis for high density localization microscopy"
- 11:45: **Bridget Wilson**, UNM.
"Mapping and Modeling Receptor Dynamics within the Plasma Membrane Landscape"
- 12:30 Lunch and Posters
- 2:00 **Aleksandra Radenovic**, École polytechnique fédérale de Lausanne .
2:45 Contributed Presentation: **Christy Landes**, Rice University.
"Understanding Molecular-Scale Separations on Agarose Supported Peptide Surfaces"
- 3:00 Contributed Presentation: **Somenath Bakshi**, University of Wisconsin.
"Studying RNA Polymerase Partitioning in *E. coli* using Single Molecule Imaging"
- 3:15 Coffee and Posters
- 4:00 **Dirk-Peter Herten**, University Heidelberg.
"Lonesome Photons and Switching Reactions to improve Vision and Counting in Fluorescence Microscopy"
- 4:45 **Thomas Jovin**, Max Planck Institute for Biophysical Chemistry.
"Growing up with FRET – a personal trajectory"
- 5:30 Future of Single Molecule Microscopy in Biology. Introduction and Panel Discussion
- 6:30 Busses start to leave for Old Town and Hotel.
9:00 Busses start to leave from Old Town to Hotel.

