

Colorado Single Molecules and Membranes Meeting – Friday, Jan. 10, 2020

University of Colorado Denver, Auraria Campus
1201 Larimer Street, Denver, Student Commons Building, room 2500

- 8:45 Coffee and pastries
8:55 Welcome
- 9:00 **Dan Schwartz, CU Boulder** *Single-molecule studies of antimicrobial peptide interactions with bilayer mimics of bacterial membranes*
- 9:30 **Luis Aguilera, Munsky lab, CSU** *Computational design and interpretation of single-RNA translation experiments*
- 10:00 **Michelle Knowles, University of Denver** *Single Molecule and Cluster Dynamics of SNARE proteins during Membrane Fusion*
- 10:30 Break
- 10:45 **Joe Falke, CU Boulder** *Regulatory interactions between master kinases on their target membrane surface: PDK, PKB/AKT, and PKC*
- 11:15 **Kathrin Spendier, UCCS** *Imaging Membrane Curvature inside a Model Immunological Synapse*
- 11:30 **Guy Hagen, Colorado BioFrontiers center, UCCS** *Imaging cells and tissues with structured illumination microscopy and Bayesian image reconstruction*
- 11:45 **Nara Chon, Lin/Knight labs, CU-Denver** *Multivalent lipid targeting by the calcium-independent C2A domain of Slp-4/granuphilin*
- 12:00 **Blake Hummer, Asensio lab, DU** *Golga5 recruits the dense core vesicle biogenesis factor HID-1 to the Golgi*
- 12:15 **Connor Thompson, Schwartz lab, CU Boulder** *Cis- and trans- cadherin binding interactions in bilayers*
- 12:30 Lunch and poster session (poster titles on page 2)
- 2:15 **Susanta Sarkar, Colorado School of Mines** *Allosteric communications between domains modulate activity of matrix metalloprotease-1*
- 2:45 **Alan van Orden, CSU** *A fiber array camera for super-resolved fluorescence lifetime imaging microscopy*
- 3:15 **David Jacobson, Perkins Lab, CU-Boulder/JILA** *Unfolding free-energy changes of membrane- protein point mutants measured by AFM*
- 3:45 Break
- 4:00 **Tom Buckles, Falke lab, CU Boulder** *Dual mechanisms by which G Protein activates PI3-Kinase (VPS34 Complex II) and PI(3)P production on endosomal membranes*
- 4:30 **Radu Moldovan, CU Anschutz** *Single molecule fluorescence correlation techniques: FCS and RICS*
- 4:45 **Diego Krapf, CSU** *Anomalous kinetics on low-fouling surfaces*
- 5:00 **Jeff Knight, CU Denver** *A system for making supported tubulated lipid bilayers*

Sponsors:



Posters:

1. **Roopa Madhu, Delany Rodriguez**, Claudia Guzik, Anthony W. De Tomaso, Megan T. Valentine, and Dinah Loerke (University of Denver) *Characterizing the cellular architecture of dynamically remodeling vascular tissue using 3-D image analysis and virtual reconstruction*
2. **Mikias Negussie**, Sherleen Tran, Nara Chon, Julianna Oviedo, Aml Alnaas, Jefferson Knight, and Hai Lin (CU Denver) *Electrostatic Membrane Interaction of Synaptotagmin-Like Protein 4: Simulations of Mutant C2A Domains*
3. **Taylor Minckley** (Qin group, University of Denver) *Sub-nanomolar sensitive GZnP3 reveals TRPML1-mediated neuronal Zn²⁺ signals.*
4. **Andrew Cahill and Andrew Barazia**: *3i's Single Molecule Imaging Techniques*
5. **Mo Gordon** (Falke lab, CU-Boulder) *Single-Molecule Diffusion Studies of Membrane-Bound PDK1-PKCa Heterodimers Detect a Monomer-Dimer Equilibrium with Regulatory Significance*
6. **Philip D Fox** and Tim J Stasevich (CSU) *Isolated functional domains of the proto-oncogenic transcription factor c-MYC display similar single molecule dynamics*
7. **Matthew Saxton** (Stasevich group, CSU) *Visualizing Regional Chromatin Dynamics at Single-Molecule Resolution in Living Cells*
8. **Amanda Koch** (Stasevich lab, CSU) *Quantifying the spatiotemporal dynamics of IRES versus Cap translation with single-molecule resolution in living cells*
9. **Chase Riedel** (Stith group, CU Denver) *Fuzzy Regions of c-Src Bind to Phosphatidic Acid for Intracellular Ca²⁺ Release after Fertilization*
10. **Anarkali Mahmood**, Amira Reyad, Alan Weisgerber, Rida Noor, Michelle Knowles (University of Denver) *Spatio-temporal dynamics of SNARE proteins at sites of exosome release*
11. **Broderick Bills**, Michelle Knowles (University of Denver) *Phosphatidic Acid Localizes to Regions of Negative Curvature in Supported Lipid Bilayers with Tubules*
12. **Alan Weisgerber**, Michelle Knowles (University of Denver) *Single Molecule Tracking of Syntaxin1a Cluster Dynamics*

Please set up posters for display before or during lunch