

Janelia Junior Scientist Workshop on Protein Engineering
March 13-16, 2016
Synapse Room

Sunday, March 13

- 5:30 pm Reception (*Lobby*)
6:15 pm Dinner (*Dining Room*)
7:30 pm Welcome and Opening Remarks
7:35 pm Plenary Talk - Misha Ahrens (Janelia)
8:30 pm Refreshments available at Bob's Pub

Monday, March 14

- 7:30 am Breakfast (*Dining Room - service ends at 8:45am*)
9:00 am **Marissa C. Applegate**, Princeton University
Development of calcium indicator proteins for spike counting mode
9:20 am **Nordine Helassa**, University of Liverpool
Development of fast genetically- Encoded calcium indicators for monitoring calcium flux
9:40 am **Lauren M. Barnett**, Montana State University
A new way of color-coding neural activity
10:00 am **Julien Hiblot**, EPFL
Development of a neuronal signal integrator based on self-labelling proteins
10:20 am Break (*refreshments available in the Lobby*)
10:40 am **Stephan Eismann**, Stanford University
Genetically encoded fluorescent voltage indicators to record neural spikes in awake mice and flies
11:00 am **Kiryl D. Piatkevich**, Massachusetts Institute of Technology
Engineering tools for mapping brain computations
11:20 am **Jelena Platisa**, John B. Pierce Laboratory
Membrane inserted fluorescence proteins as voltage sensors
11:40 am **Linlin Z. Fan**, Harvard University
All optical electrophysiology of synaptic transmission and synaptic plasticity
12:00 pm Discussion
12:15 pm Lunch (*Dining Room - service ends at 1pm*)
1:00 pm Rosetta Demo
2:30 pm Break (*refreshments available in the Lobby*)
3:00 pm **Matthew Blain-Hartung**, University of California, Davis
Developing cyanobacteriochrome photosensors as optogenetic tools
3:20 pm **Qi Liu**, University of Colorado Denver
Develop photoactivatable neurotoxins using Cry2/Cib dimerization system
3:40 pm **Jiahui Wu**, Weil Cornell Medicine, Cornell University
Controlling synaptic function using light-regulated protein synthesis

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- 4:00 pm **Sam Duwé**, KU Leuven
rsGreens: Expression-enhanced photochromic EGFP variants for applications in live-cell sub-diffraction imaging
- 4:20 pm Discussion
- 4:35 pm Break
- 5:30 pm Reception (Lobby)**
- 6:15 pm Dinner
- 7:30 pm Plenary Talk: Darcy Peterka**
- 8:30 pm Refreshments available at Bob's Pub

Tuesday, March 15

- 7:30 am Breakfast (*Dining Room - service ends at 8:45am*)
- 9:00 am **Jiayi Dou**, University of Washington
Computational design of ligand binding proteins
- 9:20 am **Praopim Limsakul**, University of California, San Diego
Directed evolution to engineer FRET biosensors for single cancer cell surface imaging
- 9:40 am **Brian L. Ross**, University of California San Diego
FLARE: Pushing the limits of fluorescence biosensing
- 10:00 am **Sine Yaganoglu**, ETH Zurich
Seeing forces: A biosensor for Piezo1
- 10:20 am Break (*refreshments available in the Lobby*)
- 10:40 am **Gary Mo**, University of California, San Diego
Fluorescent biosensors for visualizing live-----cell biochemical activity at superresolution
- 11:00 am **Tommaso Patriarchi**, University of California, Davis
Nanobody-based universal scaffold for sensor engineering to probe the state of endogenous proteins
- 11:20 am **Jan-Erik Hoffmann**, EMBL
Non-canonical amino acids for live cell labeling and fluorescent sensors
- 11:40 am **Karen S. Sarkisyan**, Centre for Genomic Regulation (CRG)
Exploration of protein fitness landscapes as an approach to simplify development of molecular tools
- 12:00 pm Discussion
- 12:15 pm Lunch (*Dining Room - service ends at 1pm*)
- 1:00 pm Tour (*optional - meet at reception*)
- 2:00 pm **Laurens Lindenburg**, University of Cambridge
High throughput directed evolution of red fluorescent proteins based on in vitro transcription and translation

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- 2:20 pm **Erik A. Rodriguez**, University of California, San Diego
A far-red fluorescent protein evolved from a cyanobacterial phycobiliprotein
- 2:40 pm **Daria M. Shcherbakova**, Albert Einstein College of Medicine
Bright monomeric near-infrared fluorescent proteins
- 3:00 pm Break (*refreshments available in the Lobby*)
- 3:20 pm **Nina G. Bozhanova**, Russian Academy of Sciences
Dye in the box: in silico guided design of novel fluorescence labeling system
- 3:40 pm **Kristina E. Kitko**, Vanderbilt University
Targeting synaptic vesicle proteins for single molecule imaging with monovalent quantum-dot aptamer conjugates
- 4:00 pm Discussion
- 5:00 pm Poster Reception (Lobby)**
- 6:30 pm Dinner
- 7:30 pm Plenary Talk: Doug Kim (Janelia)**
- 8:30 pm Refreshments available at Bob's

Wednesday, March 16

- 7:30 am Breakfast (*Dining Room - service ends at 8:45am*)
- 9:00 am Plenary Talk: Loren Looger (Janelia)**
- 9:30 am Plenary Talk: Eric Schreiter (Janelia)**
- 10:00 am Discussion
- 10:30 am Break (*refreshments available in the Lobby*)
- 11:00 am Discussion
- 12:00 pm Lunch (*Dining Room - service ends at 1pm*)
- 2:00 pm **6 x 5-min talks**
- 2:30 pm Break
- 2:50 pm **6 x 5-min talks**
- 3:20 pm Break (*refreshments available in the Lobby*)
- 3:40 pm **6 x 5-min talks**
- 4:10 pm Break
- 4:30 pm **7 x 5-min talks**
- 5:05 pm Break / VR demo
- 6:30 pm Closing Reception and Dinner at Bob's (Quiet Room)

Thursday, March 17

Departure / Breakfast available in Bob's Pub

- 8:00 am First Shuttle to Dulles
- 9:00 am Second Shuttle to Dulles
- 10:00 am Last Shuttle to dulles