



NeuroNex3 Agenda

October 28-29, 2020 | 10am - 3pm EDT | Zoom Meeting

Third Annual NeuroNex Investigator Meeting

Dimensions of Team Science Diversity

Day 1 | October 28, 2020 | 10am - 3pm | All Times EDT

NeuroNex will be taped and broadcast on [YouTube LIVE](#)

We have adopted the NeuroMatch [code of conduct](#) for this event, please be mindful of it.

POLL: [Team Science Diversity](#) (voluntary & anonymous via Google)

10am-10:20 EDT

Welcome and NSF Opening Remarks

Linnaea Ostroff, Organizer, University of Connecticut

Joshua Vogelstein, Organizer, Johns Hopkins University

NSF NeuroNex Program Directors:

Reed Beaman, BIO/DBI

Claire Hemingway, OISE

Sridhar Raghavachari, BIO/IOS

Edda (Floh) Thiels, BIO/IOS

Bridget Turaga, OISE

NSF Senior Management:

Joanne Tornow, Assistant Director, Directorate for Biological Sciences

Samuel Howerton, Deputy Office Head, Office of International Science and Engineering

Session I: Connectomes

Chair: Kristen Harris, University of Texas at Austin

10:20-10:50

Talks - Q&A to follow after all talks

Kristen Harris, UT Austin, 'Introduction'

Davi Bock, University of Vermont, Larner College of Medicine, 'Toward joint analysis of connectomes and fine scale ultrastructure'

Uri Manor, Salk Institute for Biological Studies, 'Deep learning-based super-resolution imaging of subcellular organelles'

Silvio Rizzoli, University Medical Center Goettingen, Germany, 'Molecular determinants and manifestations of defined synapse states'

Christian Rosenmund, Charité - Universitätsmedizin Berlin, 'Subcellular constituents and manifestations of defined synapse states'

Tom Bartol, Salk Institute for Biological Studies, 'Introducing AlignEM-SWiFT: A Cross-Platform Python GUI for the SWiFT-IR Image Registration Tool Kit'

Narayanan 'Bobby' Kasthuri, University of Chicago and ANL, 'Industrial scale brain mapping with synchrotron source X-rays'

Vikram Chandrashekhar, Johns Hopkins University, 'Automatic Terascale Cross-Modal Brain Volume Registration in the Cloud'

Chris Xu, Cornell University, 'Cornell NeuroNex Hub: imaging deeper, wider and faster'

10:50-11:15 Session Q&A and open discussion

We will all stay together in a large group to discuss any of the talks from the morning, and any additional issues associated with dimensions of team science diversity.

11:15-11:40 Dimensions of Team Science Diversity Breakouts *[No taping or streaming]*

All participants will randomly be assigned to one of several break out rooms to discuss one dimension of team science diversity, including issues arising from the previous talks. The instructions will be on the first slide. [Google Slide Doc](#)

11:40-1:00pm Poster Session A and Break | Poster Session

[Spatial.Chat](#), [Poster List](#), [Tips for Spatial.chat](#) *Note: Conversation Rooms also on Spatial.Chat*

Session II: Keynote Round Table

Moderators: Joshua Vogelstein, JHU and Linnaea Ostroff, UConn

1:00-1:40 Keynote Round Table: Team Science Successes and Obstacles

Amy Bernard, Allen Institute
Florian Engert, Harvard University
Damien Fair, University of Minnesota
John Ngai, Director, NIH BRAIN Initiative
R. Jacob Vogelstein, Catalio Capital Management

1:40-1:45 5 Minute break/transition

Session III: Motor Control

Chair: Roger Quinn, Case Western University

1:45-2:10 Talks - Q&A to follow after all talks

Roger Quinn, Case Western University, '**Communication, Coordination and Control in Neuromechanical Systems, Scale-Dependent Modeling Framework of Motor Control**'
Ansgar Bueschges, University of Cologne, '**Studying the sensorimotor transformation between the brain and ventral nerve cord in walking, adult Drosophila**'
Hillel Chiel, Case Western University and **Vickie Webster**, Carnegie Mellon University
'**Characterizing ascending and descending commands in a quasi-static behavioral system**'
Matt Tresch, Northwestern University, '**Studying sensorimotor control strategies in spinal and descending pathways in the nervous system of small mammals**'
Peyman Golshani, UCLA, '**New open-source miniaturized microscopy tools**'
Francois St-Pierre, Baylor College of Medicine, '**A resource toolbox for voltage imaging with the genetically encoded indicator JEDI**'
Jacob Robinson, Rice University, '**Fast magnetic control of neural circuits**'
Genevera Allen, Rice University, '**Graph Quilting: Graph Structure Learning from Non-Simultaneous Neural Recordings**'

2:15-2:35 Session Q&A and open discussion

We will all stay together in a large group to discuss any of the talks from the afternoon, and any additional issues associated with dimensions of team science diversity.

2:35-2:50 **Dimensions of Team Science Diversity Breakouts** *[No taping or streaming]*
All participants will randomly be assigned to one of several break out rooms to discuss one dimension of team science diversity, including issues arising from the previous talks. The instructions will be on the first slide. [Google Slide Doc](#)

2:50-3:00pm Day I Closing Remarks
NSF Senior Management:
Donal Manahan, Division Director, Division of Integrative Organismal Systems, Directorate for Biological Sciences
James Deshler, Deputy Division Director, Division of Biological Infrastructure, Directorate for Biological Sciences

Day 2 | October 29, 2020 | 10am - 3pm | All Times EDT

Session IV: Mental Representation
Chair: Amy Arnsten, Yale University

10:00-10:30 **Talks - Q&A to follow after all talks**
Amy Arnsten, Yale University, 'Project general intro and goals'
Julio Martinez-Trujillo, Western University, 'In vivo recordings in rhesus and marmoset'
Guillermo Gonzalez-Burgos, University of Pittsburgh, 'In vitro recordings'
Xiao-Jing Wang, New York University, 'Computational integration'
Barani Raman, Washington University in St. Louis, 'Light-sheet imaging of calcium signals from olfactory circuits in transgenic insects'
Euisik Yoon, University of Michigan, 'Artifact-free high-density micro-LED optoelectrodes'
Ryan McGreal, UC Santa Barbara, Next Generation Multiphoton Neuroimaging Consortium: Two- and Three- Photon Microscopy'
SueYeon Chung and Agostina Palmigiano, Columbia University, 'The Columbia NeuroNex Theory Hub'

10:30-10:55 **Session Q&A and open discussion**
We will all stay together in a large group to discuss any of the talks from the morning, and any additional issues associated with dimensions of team science diversity.

10:55-11:25 **Dimensions of Team Science Diversity Breakouts** *[No taping or streaming]*
All participants will randomly be assigned to one of several break out rooms to discuss one dimension of team science diversity, including issues arising from the previous talks. The instructions will be on the first slide. [Google Slide Doc](#)

11:25-11:30 5 Minute break/transition

Session V: Dimensions of Team Science Diversity
Moderators: Joshua Vogelstein, JHU and Linnaea Ostroff, UConn

11:30-11:35 Introduction and Group Assignments | [Google Slide Doc](#) *[No taping or streaming]*

11:35-12:10 Breakout groups meet to synthesize and finalize our collective view on dimensions of team science diversity.

Session VI: Behavior

Chair: John Crimaldi, University of Colorado, Boulder

1:30-2:00 Talks - Q&A to follow after all talks

Elizabeth Hong, Caltech, 'Odor2Action: Sensory coding'

Nathan Urban, Lehigh University, 'Odor2Action: Sensori-Motor-Circuits'

Brian Smith, Arizona State University, 'Odor2Action: Active Sensing'

Andreas Schaefer, Francis Crick Institute/ UCL, 'Odor2Action: Odour Representation and Active Sensing'

Maribel Patiño, Salk Institute for Biological Studies, 'START: Single Transcriptomic Assisted Rabies Tracing'

Monica Gonzalez, UC Berkeley, 'Voltage imaging with a NIR-absorbing phosphine oxide rhodamine voltage reporter'

Maryam Majeed, Columbia University, 'Live imaging the C. elegans connectome'

Adam Kepecs, Cold Spring Harbor Laboratory, 'A formal language for behavioral task description and execution'

Christopher Moore, Brown University, 'New Bioluminescent Methods for Control and Imaging Active Cellular Networks'

2:00-2:25 Session Q&A and open discussion

2:25-2:50 Reports from Session V: Dimensions of Team Science Diversity *[No taping or streaming]*

2:50-3:00 Day II Closing Remarks/Next steps

3:00pm End of Meeting

Meeting funded by The National Science Foundation

