



“Neurotechnology: Novel approaches for monitoring, measuring, modeling, and modifying nervous system function”

Meeting Program

October 23-24, 2025
 University of Colorado Anschutz Medical Campus, Aurora, CO

Thursday October 23, 2025

8:00 AM – 9:00 AM Meeting Registration and Light Breakfast, Elliman Conference Center Atrium

Session 1: 9:00-10:30 AM Elliman Conference Center
Imaging the brain across scales from synapses to circuits
 Chair: Mark Dell’Acqua, PhD, Symposium Chair, CU Anschutz Pharmacology and NTC Director

9:00-9:15 AM	Mark Dell’Acqua, PhD, Meeting Chair (CU Anschutz, NTC Director)	Opening Remarks
9:15-9:45 AM	Thomas Blanpied, PhD (Univ. of Maryland School of Medicine)	<i>Nanoarchitectural regulation of NMDAR-mediated synaptic transmission</i>
9:45-10:15 AM	Benjamin Scholl, PhD (CU Anschutz, Physiology & Biophysics)	<i>Single-cell optogenetic perturbations reveal stimulus-dependent network interactions in ferret V</i>
10:15-10:30 AM	Ryan Keable, PhD (CU Anschutz, Pharmacology)	<i>Measurement of glutamate dynamics at distinct postsynaptic nanodomains</i>

10:30-10:45 AM Break Elliman Conference Center Atrium

Session 2: 10:45 AM-12:15 PM Elliman Conference Center
Technologies for studying gene expression in the nervous system
Chair: Katherine Smith, PhD (CU Anschutz, Pharmacology)

10:45-11:15 AM	Giordano Lippi, PhD (The Scripps Research Institute, San Diego, CA)	<i>Mechanisms of neuronal gene expression</i>
11:15-11:45 AM	Debosmita Sardar, PhD (CU Anschutz, Pharmacology)	<i>Epigenetic encoding of sensory processing by glia</i>
11:45-12:15PM	Julie Siegenthaler, PhD (CU Anschutz, Pediatrics)	<i>Studying the meninges-brain interface using single cell multi-omics and spatial transcriptomics</i>

12:15-1:15 PM Box Lunch Elliman Conference Center Atrium

Session 3: 1:15-2:45 PM Elliman Conference Center
Technologies for in-vivo brain imaging
Chair: Justin O'Hare, PhD (CU Anschutz, Pharmacology)

1:15-1:45PM	Ian Oldenburg, PhD (Rutgers University)	<i>Importance of Synchrony in the Neural Control of Movements</i>
1:45-2:15 PM	Emily Gibson, PhD (CU Anschutz, Bioengineering)	<i>Taking miniscopes to the next level in understanding neural circuits during naturalistic behavior</i>
2:15-2:45 PM	Stephanie Bonney, PhD (CU Anschutz, Anesthesiology)	<i>Pharmacogenetic activation of perivascular fibroblast calcium signaling enhances vasodynamics of cerebral arteries</i>

2:45-3:00 PM Break Elliman Conference Center Atrium

Session 4: 3:00-4:15 PM Elliman Conference Center
Leveraging novel models and technologies to understand and treat nervous system disorders
Chair: Jessical Nelson, PhD (CU Anschutz, Cell & Developmental Biology)

3:00-3:30 PM	Randall Peterson, PhD (University of Utah)	<i>Scalable phenotypic screens for discovering novel neuroactive compounds</i>
3:30-4:00 PM	Rebecca Ihrie, PhD (CU Anschutz, Pediatrics)	<i>Quantifying Position, Neighborhoods, and Signaling in Brain Tissues</i>
4:00-4:15 PM	Mayra Bueno Guerrero (CU Anschutz, Anesthesiology)	<i>Aβ-Induced Oxidative Stress Impairs Kir2.1-Mediated Neurovascular Coupling in Early Alzheimer's Disease</i>

4:15-4:30 PM Break Elliman Conference Center Atrium

Thursday, October 23, 2025, continued

Keynote Lecture 4:30-5:30 PM Elliman Conference Center

Karel Svoboda, Allen Institute for Neural Dynamics

Advances in Neurotechnology from the Allen Institute for Neural Dynamics

Chair: Gidon Felsen (CU Anschutz, Physiology & Biophysics)

6:00-9:00 PM Meeting Banquet The Benson Hotel

6:00-7:00 PM Reception

7:00-9:00 PM Dinner

Friday October 24, 2025

8:00 AM – 9:00 AM Light Breakfast, Elliman Conference Center Atrium

Session 5: 9:00-10:30 AM Elliman Conference Center

Advances in neuromodulation and computational neuroscience

Chair: Jason Christie, PhD (CU Anschutz, Physiology & Biophysics)

9:00-9:30 AM	Cristin Welle, PhD (CU Anschutz, Neurosurgery)	<i>Neuromodulation sculpts neural circuits to accelerate learning and motor rehabilitation</i>
9:30-10:00 AM	Laureline Logiaco, PhD (CU Anschutz, Physiology & Biophysics)	<i>Complementary goal and prediction-driven learning systems in a model of mammalian sensorimotor brain regions</i>
10:00-10:30 AM	Alon Poleg-Polsky, PhD (CU Anschutz, Physiol & Biophys)	<i>Uncovering neural computations of motion: a machine learning approach to direction selectivity</i>

10:30-10:45 AM Break Elliman Conference Center Atrium

Session 6: 10:45 AM- 12:30 PM Elliman Conference Center

Novel approaches to studying complex behaviors

Chair: Cristin Welle, PhD (CU Anschutz, Neurosurgery and Physiology & Biophysics)

10:45 – 11:15 AM	Emily Aery Jones, PhD (Stanford Univ/Univ. of Maryland)	<i>Entorhinal cortex represents task-relevant remote locations independent of CA1</i>
11:15 – 11:45 AM	Daniel Denman, PhD (CU Anschutz, Physiology & Biophysics)	<i>Writing behaviorally-accessible information in to neocortical circuits</i>

Session 6 continued:

11:45 – 12:00 AM	Anna Buteau (CU Anschutz, Physiology & Biophysics)	<i>Dissecting the substrates for active vision with high-density electrophysiology and 2-photon imaging</i>
12:00 – 12:30 PM	Cris Niell, PhD (University of Oregon)	<i>Neural coding during active vision</i>

12:30 – 12:45 PM Conference Group Photo Elliman Conference Center Atrium

12:45-1:30 PM Box Lunch Elliman Conference Center Atrium

1:30-3:00 PM Poster Session Elliman Conference Center

Session 7: 3:00 PM-4:30 PM Elliman Conference Center
New approaches to studying synaptic transmission
Chair: Scott Thompson (CU Anschutz, Psychiatry)

3:00 -3:30 PM	Christopher Ford, PhD (CU Anschutz, Pharmacology)	<i>Spatiotemporal dynamics of neuromodulator signaling</i>
3:30 – 3:45 PM	Chelsie Kadgien, PhD (CU Anschutz, Pharmacology)	<i>Novel tools for reversible loss of neurochemical receptor function</i>
3:45 – 4:00 PM	Luis Gomez Wulschner (CU Anschutz, Pharmacology)	<i>Nicotinic signaling drives silent synapse maturation in the developing prefrontal cortex</i>
4:00 – 4:30 PM	David DiGregorio (CU Anschutz, Physiology & Biophysics)	<i>Temporal Sparsification of Sensory Codes by Synaptic Dynamics</i>

4:30 PM Meeting Concludes