



Basic Research Innovation Collaboration Center (BRICC)
4100 N Fairfax Drive, Su

Agenda Day 1 | Tuesday, October 22, 2024

Time	Topic	Speaker
8:15	In-person check-in/Virtual login	
8:30	VOC Biomarker Sensing: Understanding Ultrasensitive Bio Olfactory System	Steve Kim, Elisabeth Steel, AFRL/RH
9:00	Defining How a Directed Energy-Evoked Fast Thermal Gradient Impacts Synaptic Mechanisms at the Dendritic Spine	Bryan Gamboa, AFRL/RHD
9:30	Neural and Behavioral Basis of Sensory Integration in the Mosquito	Jeffrey Riffell, U Washington
10:00	BREAK	
10:30	Molecular pathways underlying homeostatic interactions between metabolism and circadian Rhythms	Jen-Yung Chen, UC San Diego
11:00	Adaptive inertial Sensing in a complex behavioral repertoire	Jess Fox, (remote) , Case Western Univ
11:30	Decision making underlying successful aerial contact in predatory flights: take-off, steering and thrust control	Paloma Bellido Gonzalez, U of Minnesota
12:00	LUNCH	
1:30	Flying in an Uncertain World: Decoding Rules of Neural Control in Insect Flight	Jean-Michel Mongeau, Penn State
2:00	Target Tracking in the Natural World:Neurons and Behavior to Modeling	Karin Nordstrom, Flinders Univ
2:30	Fundamentals and Feasibility of Continuous Protein Monitoring	Jason Heikenfeld, (remote) Univ Cincinnati
3:00	BREAK	
3:30	Microfluidic Photobiology Microscopy of Light Harvesting Bacteria at the Single Cell Limit	Nathan Gabor, UC Riverside
4:00	Nanoelectropulse-induced Changes in Cell Excitability – a new approach for neuromodulation	Gale Craviso, U Nevada Reno
4:30	TBD	
5:00	REVIEW ADJOURN	
5:00	Networking/Social at Bronson Bier Hall	

Agenda Day 2 Wednesday, October 23, 2024		
Time	Topic	Speaker
8:15	In-person check-in/Virtual login	
8:30	Nanosecond electric pulses (NEP) as a stimulus for evoking catecholamine release from adrenal chromaffin cells to elicit the “fight or flight response	Josette Zaklit, U Nevada Reno
9:00	The Adaptive Auditory Mind: Plasticity and Temporal Coherence in Scene Analysis	Shihab Shamma, Univ Maryland
9:30	Exploiting Radio frequency Electromagnetic Field Hormesis to Provide Resilience to Neurons	Ibtissam Echchgadda, AFRL/RHD
10:00	BREAK	
10:30	Magnetoreception in Marine Animals, Bio-inspired algorithms for long range GPS free navigation	Ken Lohmann, Univ North Carolina
11:00	Gravity Dependent Cortical Control of Sensation	Oded Ghitza, Boston University
11:30	Efferent control of synchronization in systems of coupled hair cells	Delores Bozovic, UCLA
12:00	LUNCH	
1:15	Implications of CISS in Bio systems	Ron Naaman (remote), Weizmann Institute Israel
1:45	Implications of CISS in Bio systems	Moh El-Naggar, U Southern California
2:15	A gyroscopic control loop for active target vision	Mark Frye, UCLA (JM Mongeau present)
2:45	BREAK	
3:15	The impact of stress on the neurobiology of cognition	Dhruv Grover, UCSD
3:45	Bio-inspired Multispectral-Polarization Imaging Devices with Perovskite Nanocrystals for UV and Visible Spectral Sensing	Viktor Gruev, Univ Illinois
4:15	TBD	
4:45	End of Presentations	
5:00	REVIEW ADJOURN	

Agenda Day 3 Thursday, October 24, 2024		
Time	Topic	Speaker
8:15	In-person check-in/Virtual login	
8:30	Deciphering the Influence of Unsteady Aerodynamics on Mechanosensation and Olfaction in Insect Flight	Chengyu Li Villanova/Case Western Res
9:00	Precision Nanosurgery and Multimodal Intracellular Monitoring of Cellular Networks by Biomimic Nano-optoelectrode Arrays	Wei Zhou, Virginia Tech
9:30	Biomechanical Responses to Light: Photostimulation of Plasticity in Cultured Neural Cells and Networks	Michael Denton, AFRL/RHD
10:00	BREAK	
10:30	Optically Controlled, Genetically targeted Chemical Assembly of Electric neuromodulation	Jia Liu, Harvard
11:00	Genetic, Biophysical, and Behavioral Characterization of Microbial Extracellular Electron Transport in Human and Animal Systems	Steve Finkel, U Southern California
11:30		
12:00	LUNCH	
1:30	Non-invasive Cell-type-specific Magnetic Neural Modulation	Siyuan Rao, AFRL/RHD
2:00	Controlled Manipulation of Cell Function via Infrared Light	Alexandra Walsh Texas A&M
2:30	Cephalopod-Inspired Adaptive Invisibility in Living Systems	Alon Gorodetsky, UC Irvine
3:00	Augmenting Learning and Memory through Photothermal Nano-Neuromodulation	Srikanth Singamaneni, Wash Univ St Louis
3:30	Topological Data Analysis for Identification of MicroRNAs As Biomarkers for Human Performance	Rajesh Naik, Mined XAI
4:00	Genetic ablation and functional assessment of a target detector in an insect retina	Michael Perry, UC San Diego
4:30	END OF REVIEW	