Neuroscience seminar series Calendar - Fall 2019

Tuesday, September 10th, 2019
CU-Boulder – Interdepartmental Neuroscience Seminar Series
Muenzinger Psychology, Room E214, 4-5 pm

Zachary Knight, Associate Professor and Howard Hughes Investigator, Department of Physiology, Univ California San Francisco

The neurobiology of homeostasis

Our research investigates the neural mechanisms that govern hunger and thirst. Nearly a century ago, lesioning studies suggested that these fundamental drives originate from subcortical structures such as hypothalamus that are specialized for monitoring internal state. However, the structure and dynamics of the underlying neural circuits has been poorly defined. I will discuss experiments that use calcium imaging to observe the natural activity of some of the key cell types that control eating and drinking. We have discovered that these homeostatic neurons receive sensory information from the outside world, which they use predict impending physiologic changes and adjust behavior preemptively. I will discuss our work investigating how these homeostatic circuits integrate external sensory cues with internal signals arising from the body in order to generate and shape goal-directed behaviors.

Tuesday, September 24th

CU-Boulder – Interdepartmental Neuroscience Seminar Series
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Gidon Felsen, Associate Professor, Department of Physiology and Biophysics, Univ of Colorado School of Medicine

Subcortical neural circuits for decision making

The Felsen lab studies how the brain makes and acts upon decisions. We use behavioral, electrophysiological and optogenetic approaches to understand how specific cell types and circuits integrate sensory information and internal goals in order to decide on a motor plan. We are interested in these processes in the healthy brain, as well as in how they are affected by pathological conditions.

Tuesday, October 8th

CU-Boulder – Interdepartmental Neuroscience Seminar Series

Muenzinger Psychology, Room E214, 4-5 pm

Karl Obrietan, Professor and Co-Director, Neuroscience Graduate Program, Department of Neuroscience, Ohio State University

Circadian Timekeeping Within the CNS: Cellular and System-Wide Oscillators, and Their Effects on Neuronal Plasticity

Circadian modulation of learning and memory efficiency is an evolutionarily conserved phenomenon, occurring in organisms ranging from invertebrates to higher mammalian species, including humans. While the suprachiasmatic nucleus (SCN) of the hypothalamus functions as the master mammalian pacemaker, recent evidence suggests that forebrain regions that underlie learning and memory, including the hippocampus, exhibit oscillatory capacity. In this talk, I will present data that utilizes a combination of cellular imaging and transgenic-based approaches to characterize the inherent clock timing properties of cortico-limbic neurons. Further, with the use of transgenic gain-and loss-of-function approaches I will describe work that examines the functional relationship between cortico-limbic clock timing and cognition, and work that identifies potential cellular signaling mechanisms by which the circadian clock affects learning and memory formation.

Tuesday, October 29rd

CU-Boulder – Interdepartmental Neuroscience Seminar Series
Muenzinger Psychology, Room E214, 4-5 pm

Erik Oleson, Associate Professor, Department of Psychology, Univ of Colorado Denver.

More than a reward molecule: The role of dopamine in aversively-motivated behavior

The Oleson lab uses a combination of behavioral economics, modeling, operant behavior, IV self-administration, electrochemistry, and optogenetics to study two study neurochemical correlates of behavior. Specifically, a) our basic research focuses on the role dopamine plays in the price rats will pay to receive reward vs. avoid harm, and b) our preclinical research focuses on how drugs alter dopamine release and how dopamine function changes during the development of drug dependence.

Tuesday, November 12th

CU-Boulder – Interdepartmental Neuroscience Seminar Series
Muenzinger Psychology, Room E214, 4-5 pm

Dawn Comstock, Professor, Department of Epidemiology, Colorado School of Public Health, University of Colorado Denver.

A Sports Injury Epidemiologist's Front Row seat During the Concussion Crisis – Having to Repeatedly Answering the Question, "Would you let your child play football?"

For the past 15 years the National High School Sports-Related Injury Surveillance System (High School RIO) has captured data on concussions sustained by high school athletes. This data has been used by a broad range of individuals including clinicians, researchers, policy makers, and coaches working to make sports as safe as possible for young athletes to play. Concussion surveillance data can drive the development, implementation, and evaluation of injury prevention interventions.

Tuesday, December 3th

CU-Boulder – Interdepartmental Neuroscience Seminar Series
Muenzinger Psychology, Room E214, 4-5 pm

Celine Vetter, Assistant Professor, Department of Integrative Physiology, Univ of Colorado Boulder.

Rhythms, Sleep, and Cardiometabolic Health

The Vetter lab uses field study designs and quantitative big data approaches to study how disruption of sleep and circadian rhythms increase the risk of cardiometabolic and mood disorders. We focus on environmental and behavioral risk factors and aim to identify novel, non-pharmacological interventions to improve health in the community.