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Meet-the-Clinician-Expert Session

MTCE01: Meet-the-Clinician-Expert: Feldman — Somewhere Over the Rainbow: The Dreams We Dare to Dream for ALS Can Come True

Location: WCC 103

Time: Saturday, November 11, 2023, 1:30 PM - 2:30 PM

Description: This session features a clinician scientist whose career in neurology and neuroscience focuses on understanding the underlying causes of ALS and other neurodegenerative diseases, as well as the factors that determine disease susceptibility versus disease resilience. Clinical studies have linked ALS risk with select occupations, environmental pollution, polygenic risk, and changes in the immune system. The speakers' goal, motivated by the new ALS cases diagnosed weekly, is to make ALS a preventable disease by modifying currently identified and future ALS risk factors.

Speakers: E. L. Feldman;
University of Michigan, Ann Arbor, MI.

Disclosures: E.L. Feldman: None.

Grant Support: NIH R01 NS127188
NIH TS00327
NIH R01 NS120926
NIH R01 ES030049

Meet-the-Clinician-Expert Session

MTCE02: Meet-the-Clinician-Expert: Asaad — “You Can’t Respect the Brain and Be a Neurosurgeon” and Other Tall Tales

Location: WCC 103

Time: Tuesday, November 14, 2023, 11:00 AM - 12:00 PM

Description: Neurosurgeons have unique access to the human brain. In just the last 10 years, neurosurgical techniques have advanced rapidly such that opportunities to study neural activity and neuromodulation in acute and chronic settings have multiplied. This session will discuss how a background in nonhuman primate neurophysiology has translated into work studying both pathological and normal human brain function across movement disorders, epilepsy, and intractable psychiatric disease.

Speakers: W. F. Asaad;
Brown University / Rhode Island Hospital, Providence, RI.

Disclosures: W.F. Asaad: None.

Grant Support: Doris Duke CSDA
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Meet-the-Expert Session

MTE01: Meet-the-Expert: Moser — My Journey to Find the Neural Basis of Space, Time, and Memory

Location: WCC 103

Time: Saturday, November 11, 2023, 3:30 PM - 4:30 PM

Description: This session will reflect upon the speaker's progression — from a curious child interested in animal behavior, to a neuroscientist evaluating neural processes underlying cognitive functions — and discuss how current technology enables the study of thousands of brain cells simultaneously to identify the central algorithms of the cortex. The path to success goes through collaboration, and through the creation of a science environment valuing happiness and diversity in people as well as animals.

Sponsor: Thorlabs, Inc.

Speakers: M. Moser;
Kavli Inst Systems Neurosci, Trondheim, NORWAY.

Disclosures: M. Moser: None.

Grant Support: Centre of Excellence grant number 223262
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Meet-the-Expert Session

MTE02: Meet-the-Expert: Jarvis — Cultural Influences on the Way to Do and Interpret Our Science

Location: WCC 103

Time: Sunday, November 12, 2023, 9:00 AM - 10:00 AM

Description: This session will discuss how ethnicity, gender, vocabulary, and culture affect the types of experiments scientists perform, how they interpret their findings, and what career decisions they make. This includes the terminology that neuroscience uses to describe regions and functions of the brain.

Speakers: E. D. Jarvis;
The Rockefeller University, NY.

Disclosures: E. D. Jarvis: None

Meet-the-Expert Session

MTE03: Meet-the-Expert: Picciotto — Stress-Induced Acetylcholine Signaling in Affective Behaviors: Too Much of a Good Thing?

Location: WCC 103

Time: Sunday, November 12, 2023, 11:00 AM - 12:00 PM

Description: Acetylcholine (ACh) transmission is critical for cognition and attention, but is also released in response to stress. Importantly, ACh levels are dysregulated in the brains of human depressed subjects. Using the example of ACh signaling in stress-relevant behaviors, this session will present data using genetically-encoded fluorescent ACh sensors, explore what we can conclude about human stress disorders from mouse models, and address the question of what a neuromodulator is in the context of classical neurotransmitter signaling.

Speakers: M. Picciotto;
Yale University, New Haven, CT.

Disclosures: M. Picciotto: None.

Grant Support: NIH Grant DA050986
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Meet-the-Expert Session

MTE04: Meet-the-Expert: Rajan — The Allure of Computational Neuroscience

Location: WCC 103

Time: Sunday, November 12, 2023, 1:00 PM - 2:00 PM

Description: Many of the brain's most intriguing mechanisms are difficult, if not impossible, to measure directly. For this reason, neuroscientists create artificial models of the brain, inspired by real biology, and study in tandem with carefully directed measurements. Computational neuroscience merges biology's search for brain mechanisms with an engineering-like pursuit of realistic models. Using approaches from engineering and the physical sciences, alongside analysis of data collected from real brains, the field is poised to answer big questions about cognition and what goes wrong in disease.

Speakers: K. Rajan;
Department of Neurobiology, Harvard Medical School; Kempner Institute, Harvard University, Cambridge, MA.

Disclosures: K. Rajan: None.

Grant Support: CIFAR Azrieli Global Scholar
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Meet-the-Expert Session

MTE05: Meet-the-Expert: Chiappe — Go With the Visual Flow: An Experimentalist's Path to Understanding Movement Control

Location: WCC 103

Time: Monday, November 13, 2023, 9:00 AM - 10:00 AM

Description: This session features a former circus performer from Buenos Aires, Argentina, who is interested in how animals move effortlessly through space. This interest is pursued at the Champalimaud Foundation, Portugal, by studying the structure and function of visuomotor circuits in the fly brain. These circuits control locomotion flexibly while maintaining stability, two conserved but poorly understood functional principles of motor systems across animal species.

Sponsor: Thorlabs, Inc.

Speakers: M. Chiappe;
Champalimaud Foundation, Lisboa, PORTUGAL.

Disclosures: M. Chiappe: None

Meet-the-Expert Session

MTE06: Meet-the-Expert: Osumi — Networking, Mentoring, and Diversity in Neuroscience

Location: WCC 103

Time: Monday, November 13, 2023, 11:00 AM - 12:00 PM

Description: From the point of view of a developmental neurobiologist and university vice president promoting communications and diversity, this session will discuss the importance of networking, mentorship, and the need for diverse role models to inspire the next generation of neuroscientists worldwide. Case studies and insights to help young researchers navigate this exciting and evolving field of developmental neurobiology will be shared.

Speakers: N. Osumi;
Tohoku Univ Grad Sch Med, Sendai, JAPAN.

Disclosures: N. Osumi: None.

Grant Support: JPMJMS2292

Meet-the-Expert Session

MTE07: Meet-the-Expert: Dalva — Seeing Into the Synapse: Exploring a Nanoscale World

Location: WCC 103

Time: Monday, November 13, 2023, 1:00 PM - 2:00 PM

Description: Communication in all neural circuits is controlled by a remarkably similar, highly specialized site of cell-cell contact known as a synapse. The human brain contains trillions of these structures. Many open questions remain regarding how synapses are formed and lost, their nanoscale organization, and how defects in synaptic organization are linked to pathology and disease. This session will discuss a path toward defining basic molecular mechanisms that regulate synaptic development, organization, and function, as well as how this is advancing in unexpected directions.

Speakers: M. B. Dalva;
Tulane University, New Orleans, LA.

Disclosures: M.B. Dalva: None.

Grant Support: NIH Grant NS106906
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Meet-the-Expert Session

MTE08: Meet-the-Expert: Lundeberg — Exploration of Tissue Ecosystem: Pandora's Box as Revealed by Gene Expression

Location: WCC 103

Time: Tuesday, November 14, 2023, 9:00 AM - 10:00 AM

Description: Spatial transcriptomics was the first method to provide unbiased whole transcriptome analysis with spatial information from tissue. Since its publication in 2016, the method has been used in multiple biological systems and represents the most widely used spatial transcriptomics platform (aka Visium). The method was featured in Nature Methods' "Method of the Year 2020." This presentation will cover the exciting expansion into new spatial modalities to explore tissue ecosystems.

Speakers: J. Lundeberg;
SciLifeLab, KTH Royal Institute of Technology, Stockholm, SWEDEN.

Disclosures: J. Lundeberg: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock options 10x Genomics. F. Consulting Fees (e.g., advisory boards); Scientific Advisor 10x Genomics.

Meet-the-Expert Session

MTE09: Meet-the-Expert: Tonini — Where and When Neuromodulatory Signaling Meets Behavior

Location: WCC 103

Time: Tuesday, November 14, 2023, 1:00 PM - 2:00 PM

Description: Neuromodulators influence communication across brain areas by shaping the activity of neurons as well as the strength and plasticity of their synapses, ultimately promoting behavioral switching. This session will review a research journey from ion channel neuromodulation via receptors located on anatomically different pathways and in distinct cellular compartments, to the temporal resolution of behaviorally relevant neuromodulatory signals.

Sponsor: Thorlabs, Inc.

Speakers: R. Tonini;

Neuromodulation of Cortical and Subcortical Circuits Laboratory, Fondazione Istituto Italiano Di Tecnologia, Genova, ITALY.

Disclosures: R. Tonini: None.

Grant Support: H2020-SC1-BHC-2018-2020
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