High-Risk, High-Reward Research Symposium

June 8-9, 2023

Agenda

Thursday, June 8

	9:00 - 9:15 AM	**Welcome** Trish Labosky, NIH
Session 1	9:15 - 9:35 AM	**Magnify:** ***Next Generation Expansion Microscopy with a Universal Molecule Anchoring Strategy, the Applications and Beyond*** Yongxin Zhao, Carnegie Mellon University
	9:35 - 9:55 AM	**Cerebellar Dysfunction in Autism Spectrum and Neurodevelopmental Disorders:** ***from discovery genetics to translational neuroscience*** Hsiao-Tuan Chao, Baylor College of Medicine
	9:55 - 10:15 AM	**Wiring Cells:** ***Control of Microbial Electron Export using Natural and Synthetic Protein Nanowires*** Nikhil Malvankar, Yale University
	10:15 - 10:35 AM	**Break**
Session 2	10:35 - 10:55 AM	**Biomaterials -directed Regenerative Immunology** Jennifer Elisseeff, Johns Hopkins University
	10:55 - 11:15 AM	**Neural Signal Propagation Atlas of C. elegans** Andrew Leifer, Princeton University
	11:15 - 11:35 AM	**High-content Image-based CRISPR Screening Reveals Regulators of 3D Genome Architectures** Siyuan Wang, Yale University School of Medicine **National Institute of General Medical Sciences*
	11:35 - 12:00 Noon	**Photos**
	12:00 Noon - 1:10 PM	**Lunch** *(on your own)*
	1:10 - 2:50 PM	**Poster Session/Office Hours**
Session 3	3:00 - 3:20 PM	**Nature-inspired Device for Next Generation Mass Spectrometry** Brian Chait, The Rockefeller University
	3:20 - 3:40 PM	**Gene Expansions Contributing to Human Brain Evolution** Megan Dennis, University of California, Davis

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	3:40 - 4:00 PM	**Break**
Session 4	4:00 - 4:20 PM	**Cell- and Tissue Nanotransfection-driven Therapies for Neurodegenerative Conditions and Metabolic Disorders** Daniel Gallego-Perez, The Ohio State University **Other Office of the Director appropriations*
	4:20 - 4:40 PM	**Single-molecule DNA Sequencing of Single-strand Mismatch and Damage Patterns** Gilad Evrony, NYU Grossman School of Medicine
	4:40 - 5:00 PM	**Structural Determination of Neurodegenerative Disease-associated Proteins Inside Cells** Kendra Frederick, UTSouthwestern

Friday, June 9

	8:30 - 8:45 AM	**Opening Remarks** Bob Eisinger, NIH DPCPSI Director
Session 5	8:45 - 9:05 AM	**Body-brain Communication: *a new frontier in biomedicine*** Christoph Thaiss, University of Pennsylvania **National Institute on Aging*
	9:05 - 9:25 AM	**How Do Cells Learn New Types?** Arjun Raj, University of Pennsylvania
	9:25 - 9:45 AM	**Utilizing Synthetic Biology to Advance Therapeutics** Tara Deans, University of Utah
	9:45 - 10:05 AM	**Improving the Equity of Community-based Screening Programs through Innovative Analytic Approaches** Courtney Yuen, Brigham and Women's Hospital
	10:05 - 10:25 AM	**Break**
Session 6	10:25 - 10:45 AM	**CRACKing Cortical Circuits Underlying Learning and Behavior** Jerry Chen, Boston University
	10:45 - 11:05 AM	**From Non-coding to Coding: *Uncovering the hidden coding potential of non-coding sequences and its role in de novo gene evolution*** Anne-ruxandra Carvunis, University of Pittsburgh

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	11:05 - 11:25 AM	**Building, Maintaining, or Regenerating Diverse Brain Circuitry is Complex: *Subtype-Specific and Dynamic Subcellular Molecular Machinery in Cerebral Cortex*** Jeffrey Macklis, Harvard University
	11:25 - 11:45 AM	**Direct Targeting of Oncogenic Transcription Factors with Synthetic Transcriptional Repressors** Raymond Moellering, The University of Chicago **National Institute of General Medical Sciences*
	11:45 - 12:05 PM	**A Novel Tool to Study Endogenous Human Piezo1 from Single Cells to Tissue Organoids** Medha Pathak, University of California, Irvine
	12:05 - 1:10 PM	**Lunch** *(on your own)*
	1:10 - 2:50 PM	**Poster Session/Office Hours**
Session 7	3:00 - 3:20 PM	**Machines on Genes: A Single-Molecule Perspective** Shixin Liu, The Rockefeller University
	3:20 - 3:40 PM	**Ribosomal Quality Control** Kamena Kostova, Carnegie Mellon University
	3:40 - 4:00 PM	**Break**
Session 8	4:00 - 4:20 PM	**Mitochondria Transfer Rescues Aerobic Respiration in Metabolically Compromised Macrophages** Jonathan Brestoff, Washington University School of Medicine
	4:20 - 4:40 PM	**Control of the Proliferation-quiescence Decision at the Single-cell Level** Sabrina Spencer, University of Colorado-Boulder
	4:40 - 5:00 PM	**Genome Engineering for, of, and as Immunotherapy** Sidi Chen, Yale University **National Cancer Institute*
	5:00 - 5:10 PM	**Closing Remarks** NIH Staff

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