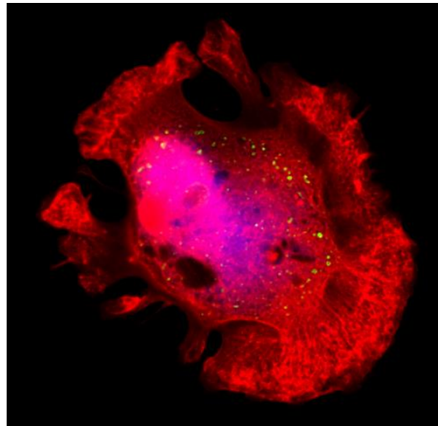
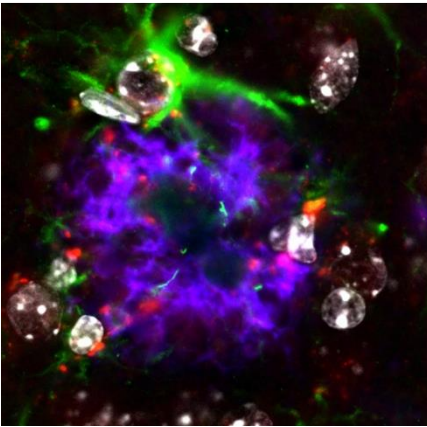
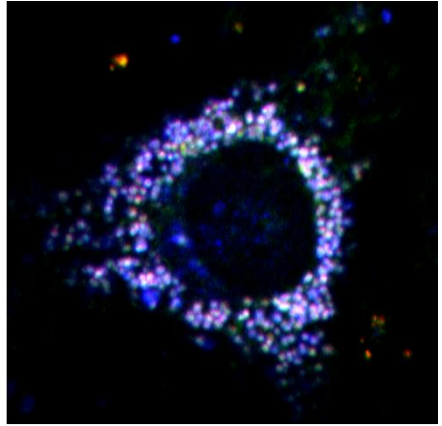
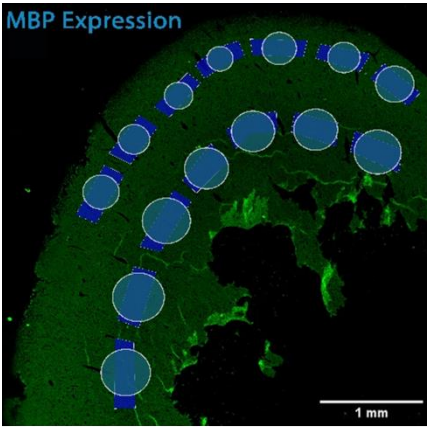


The Nathan Kline Institute Presents Science Day 2025



*June 3rd, 2025
12:30-4:30 PM*

*Brought to you by the
Community Building
Committee*

*Melissa Alldred
GoíKhía Eng
Alex Franco
Renee Hartig
Yíng Jiáng
Amanda Labuza
Annette Moreno
Brian Russ
Rob Sears
Emily Stern
Catia Teixeira
Sharífa Williams*

NKI Science Day

12:30-12:45 Welcome and Introduction

12:45-1:15 Keynote Speaker

Are brain circuits for emotional behavior organized?

Anna Wang Roe, PhD

Director of Division of Translational Neuroscience, Research Scientist, Nathan Kline Institute for Psychiatric Research

1:15-1:30 Effects of 40 Hz tACS Stimulation on Cognition and Symptoms in Patients with Schizophrenia

Robert C. Smith, MD, PhD

Research Scientist, Life Sciences and Schizophrenia, NKI

1:30-1:45 Profiling lamina specific pyramidal neurons using postmortem human formalin fixed paraffin embedded frontal cortex tissue in combination with digital spatial profiling

Aleksandra Stanisavljevic, PhD

Postdoctoral Fellow, Center for Dementia Research, NKI

1:45-2:00 Effect of Cognitive Reserve on Plasma Biomarkers of Alzheimer's Disease in Non-Demented Elderly

Chelsea Reichert Plaska, PhD

Research Scientist, Geriatric Psychiatry Department, NKI

2:00-2:15 Students and Caregivers' Perspectives on Cultural Influences associated with Social Anxiety among Black Youth

Talita Ahmed, M.A. & Melissa Escobar, M.A.

Doctoral Candidates, Social Solutions and Services, NKI

2:15-2:45 Refreshments and poster placements

2:45-4:20 Poster presentations

4:20-4:30 Closing Remarks and Poster Awards

Poster Presentations

1. *Cerebellar mitovesicle secretion is altered in spinocerebellar ataxia and regulated by the activity of the potassium channel Kv3*
Pasquale D'Acunzo, Yalan Zhang, Leonard K. Kaczmarek, Efrat Levy
2. *Frontal cortex pyramidal neurons display laminar specific gene expression in Down syndrome*
Melissa J. Alldred, Kyrillos Ibrahim, Harshitha Pidikiti, Sang Han Lee, Adriana Heguy, Thomas Wisniewski, Elliott J. Mufson, Grace E. Stutzmann, and Stephen D. Ginsberg
3. *Spatio-Temporal Signatures of Cognitive Recovery After Pediatric Arterial Ischemic Stroke*
Karl-Heinz Nenning, Florian Ph.S. Fischmeister, Astrid Novak, Rainer Seidl, Ting Xu, Gregor Kasprian, Lisa Bartha-Doering, Kathrin Kollndorfer
4. *Insights into early hyperexcitability in an Alzheimer's disease mouse model from PIP-seq*
Gabriel Stephens, David Alcantara-Gonzalez, Helen Scharfman
5. *Deficiency of calcium-activated potassium channel (KCA3.1) attenuates neonatal ethanol-induced acute neurodegeneration in the mouse cortex and hippocampus*
Mariko Saito, Shivakumar Subbanna, Anusha Nalluri, Audrey Hashim, Brandon Marino, John Smiley, Donald Wilson, Bhaskar Das
6. *Single-cell Transcriptomic Maps Identify a Novel Pathway to Regulate Brain Plasticity*
Yotam Sagi, Betty Bigio, Shofiul Azam, Amarjyot Singh, Neelu John, Danielle Zelli, Timothy Lau, Paolo de Angelis, Masahiro Okamoto, Hideaki Soya, Carla Nasca
7. *Sleep and cognitive performance in individuals with Chronic Schizophrenia participating in Computerized Cognitive Remediation Therapy*
Anzalee Khan, Amy Polinsky, Beverly Insel, Jean-Pierre Lindenmayer

8. *AI-driven platform to Measure Negative Symptoms of Schizophrenia Through Facial and Acoustic Analysis*
Jean-Pierre Lindenmayer, Beverly Insel, Danyah Nadim, Anzalee Khan, Rachael Mishkind, Vikram Ramanarayanan, Kothare Hardik, David Suendermann-Oeft
9. *Comparative Analysis of Enzymatic Methods for Extracellular Vesicle Isolation from Murine Brain Tissue*
Galit Blecher, Logan Jones, Chris Goulbourne, Monika Pawlik, Pasquale D'Acunzo, Efrat Levy
10. *Infra-slow fluctuations in global brain states shape ongoing memory reactivation dynamics during rest*
Hyun-Woong Kim, Ting Xu, Karl-Heinz Nenning, Mark D'Esposito, Stanley Colcombe, Michael Milham, Arielle Tambini
11. *Higher Childhood Trauma is Related to BOLD Activation Deficits in Emotion Regulation in Schizophrenia Spectrum Disorder with Suicidal Ideation and Behavior*
Matthew J. Hoptman, Kathryn T. Evans, Michael J. Kuhl, Stuti Munjal, Zamfira Parincu, Dan V. Iosifescu
12. *Postnatal ethanol vapor exposure triggers Ezh2-dependent neurodegeneration and memory impairments in mice*
Shivakumar Subbanna, Balapal S. Basavarajappa
13. *Stereologic analysis of basal forebrain cholinergic neurons (BFCNs) in a mouse model of Down syndrome and Alzheimer's disease at 16-18 months of age*
Gabrielle A. Gentile, Melissa J. Alldred, Stephen D. Ginsberg
14. *Clinical and neural features of sensory urges in individuals with obsessive-compulsive disorder and unaffected siblings*
Goi Khia Eng, Nicolette Recchia, Katherine A. Collins, Jeanmarie Harvey, Russell H. Tobe, Emily R. Stern
15. *Aβ12-28P administration alleviates anxiety in an Alzheimer's disease mouse model*
Xutong Guo, Xiaoyi Yang, Shuo Chen

16. *A preclinical intraneuronal stage of autophagy-lysosomal dysfunction, amyloidosis, and neuron death yields senile plaques in human late-onset Alzheimer's Disease*
Ju-Hyun Lee, Philip Stavrides, Sandipkumar Darji, Martin J. Berg, Chris N. Goulbourne, Panaiyur Mohan, Cynthia Bleiwas, James Peddy, Eric B. Dammer, Nicholas T. Seyfried, Ralph A. Nixon
17. *Pharmacological reacidification of lysosomes attenuates intraneuronal amyloidosis, early neuron death, and amyloid plaque formation in 5xFAD mice*
Sandeep Malampati, Philip H. Stavrides, Panaiyur S. Mohan, Martin J. Berg, Eunju Im, Ohno Masuo, Chris N. Goulbourne, Basavaraj S. Balapal, Subbanna Shivakumar, Bhaskar C. Das, Ju-Hyun Lee, Ralph A. Nixon
18. *Orexins as anxiety modulators in instrumental safety-seeking*
Cristina Siller-Perez, Erika C. Andrade, John Smiley, Christopher K. Cain, Robert M. Sears
19. *The Influence of Short-form Videos on Behavior and Brain Activity*
Jenna Lembo, Teddy Hoppe, HyunWoong Kim, Samuel Louviot, Eduardo Gonzalez-Moreira, Karl Heinz-Nenning, Alexandre Franco, Michael Milham, Arielle Tambini
20. *Neuronal responses to omitted tones in the NHP auditory thalamocortical system.*
M.N. O'Connell, A. Barczak, C.A. Mackey, T. McGinnis, K. Mackin, C.E. Schroeder, D.C. Javitt
21. *MicroRNAs exhibit diverse profiles and interactions in three key hippocampal neuron populations in a mouse model of Down syndrome and Alzheimer's disease*
Kyrillos W. Ibrahim, Sang Han Lee, Melissa J. Alldred, and Stephen D. Ginsberg
22. *Integrating Single-Cell and Spatial Transcriptomics to Map Cellular and Regional Alterations in an Alzheimer's Disease Mouse Model*
YunJuan Chang, Philip Stavrides, Christopher Bare, Ju-Hyun Lee, Ralph Nixon

23. *Estrogen regulates BDNF expression in dentate gyrus mossy cells of adult mic*
Chiara Criscuolo, Meghan Kennedy, Helen E Scharfman
24. *Silent Endosomes, Lost Signals: Defective NGF endocytosis and signaling lead to Cholinergic Neurodegeneration in a Tauopathy Model of Frontotemporal Dementia*
Kuldeep Sachdeva, Martin J. Berg, Cynthia Bleiwas, Philip H. Stavrides, Sandipkumar Darji, Chris Goulbourne, John F. Smiley, Mala V. Rao, Ralph A. Nixon
25. *Investigation of EEG and pupillometry correlates of fMRI brain state dynamics*
Teddy Hoppe, Hyun Woong Kim, Samuel Louviot, Jenna Lembo, Eduardo Gonzalez-Moreira, Michael P. Milham, Alexandre R. Franco, Karl-Heinz Henning, Arielle Tambini
26. *Integrating Cultural and Structural Humility in New York State Systems of Care: Qualitative Insights from a Statewide Health Habitus Motivational Interviewing Training Initiative*
Zoe Bertone, Kerstin Pahl, Crystal Lewis, Sebrena Tate, Daniela Galvez, Helen-Maria Lekas
27. *AI-driven platform (Openwillis) to Measure Negative Symptoms of Schizophrenia Through Facial Analysis*
Rachael Mishkind, Jean-Pierre Lindenmayer, Beverly Insel, Danyah Nadim, Anzalee Khan
28. *Precise Functional Localization of the Foveolar Representation in Anesthetized Macaque Visual Cortex*
Meizhen Qian, Meixuan Chen, Anna Wang Roe
29. *Meeting People Where They Are: Field Note Analysis of Participant-Led Goal Setting Amidst Compounding Structural Barriers to Substance Use Treatment and Resource Access in Two Bronx Pharmacies*
Zoe Bertone, Helen-Maria Lekas, Crystal Lewis

30. *Effects of 40 Hz tACS Stimulation on Cognition and Symptoms in Patients with Schizophrenia*

Robert C Smith*, Xinyi Cao, Henry Sershen, Yuanyu Lu, Hua Jin, John M Davis, Chunbo Li

31. *Effect of Cognitive Reserve on Plasma Biomarkers of Alzheimer's Disease in Non-Demented Elderly*

Chelsea Reichert Plaska*, Davide Bruno, Sang Han Lee, Giovanna Novi, Andrew Orefice, Henrik Zetterberg, Kaj Blennow, Nunzio Pomara

Notes

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Front Cover Photo Credits (top left to bottom right):

Aleksandra Stanisavljevic with "Myelin basic protein (MBP) gene expression in ribbons of Layer 3 and Layer 5 of a 5-um thick section of healthy (control) human postmortem FFPE BA9 cortical tissue as measured by the GeoMx digital spatial profiling system".

Sandeep Malampati with "Partially acidified autolysosomes (white) accumulated in Presenilin-1 knock-out blastocysts, identified using tfLC3 (mRFP-eGFP-LC3) plasmid transfection and co-labelled with Cathepsin-D (pseudo blue)".

Philip Stavrides with "120x 1-um Z-slice of an amyloid plaque from a 6MO 5XFAD mouse: IBA1- for microglia (green), CTSD (red), Abeta (blue), DAPI for Nucleus (grey)".

Griffin Arsis with "Human primary fibroblasts stained with DAPI (blue), HCS CellMask Red (red), and Rab5a (green). Rab5a is an early endosomal marker, DAPI stains nuclei, and HCS CellMask Red stains the whole cell".

Back Cover Photo Credits (top to bottom):

Kuldeep with "Shades of Cholinergic Degeneration. Images in the panel illustrate degeneration of ChAT-labeled cholinergic neurons".

Cristina Siller-Perez with "Orexineric terminals in the VTA field. Green: AAV-orexin-specific virus expression. Cyan: TH-positive cells".

