



NEUROBIOLOGY IN CHANGING ENVIRONMENTS PROGRAM

Tuesday, April 15th – Wednesday, April 16th, 2025
with Pre-Event Reception the evening of April 14th

The Allen Institute, Seattle, WA
(Pacific Time)

AGENDA AT-A-GLANCE

PRE-EVENT | MON, APRIL 14th | EVENING

6 – 8 p.m.

Evening reception (Allen Institute café)

DAY 1 | TUES, APRIL 15TH | FULL DAY

8 a.m.	Breakfast (Atrium)
9 a.m.	Initiatives Overview and Keynote (Auditorium)
10:30 a.m.	Break (Atrium)
11 a.m.	Genetics and Development (Auditorium)
12:30 p.m.	Lunch (provided in Atrium)
1:30 p.m.	Neurophysiology (Auditorium)
3 p.m.	Break (Atrium)
3:30 p.m.	Sensory Systems (Auditorium)
5 p.m.	Event Photo (Auditorium)
5:05 p.m.	Break (Atrium)
5:30 – 7:30 p.m.	Reception and Poster Session (Allen Institute café and Gathering Space)

DAY 2 | WEDS, APRIL 16TH | FULL DAY

8 a.m.	Breakfast (Atrium)
9 a.m.	Behavioral Adaptations (Auditorium)
10:30 a.m.	Break (Atrium)
11 a.m.	Ecology and Evolution (Auditorium)
12:30	Lunch (provided in Atrium)
1:45 p.m.	Open Platforms for Multidimensional Neurobiology (Auditorium)
3:15 p.m.	Break (Atrium)
3:35 p.m.	Closing Session (Auditorium)

Symposium adjourns by 5 p.m.

Pre-Event Reception | Monday, April 14th | Evening

6 – 8 p.m.

Pre-Event Evening Reception

Join this not-to-miss opportunity to prepare for an engaging and fruitful Neurobiology in Changing Environments Symposium experience. Meet fellow attendees and speakers over food and drinks, with discussion prompts and stunning views of South Lake Union.

Day 1 | Tuesday, April 15th | Full Day

8 – 9 a.m.

Registration opens

Breakfast (Atrium) and Sound Check (Auditorium)

Opening Session: Initiatives Overview and Keynote (Auditorium)

9 – 9:10 a.m.

Welcome and Opening Remarks

Julie Harris (Vice President, Paul G. Allen Frontiers Group)
Amy Bernard (Vice President of Science, The Kavli Foundation)

9:10 – 9:55 a.m.

The Kavli Foundation

Angie Michael (Associate Program Officer, The Kavli Foundation)

The Paul G. Allen Frontiers Group

Jodi Lilley (Program Officer, Paul G. Allen Frontiers Group)
Han Arbach (Program Officer, Paul G. Allen Frontiers Group)

U.S. National Science Foundation

Michelle Elekonich (Deputy Division Director, National Science Foundation)
Paul Forlano (Program Officer, National Science Foundation)

9:55 – 10:30 a.m.

Keynote: Neuromodulation, acclimation, and the effects of temperature on rhythmic motor systems

Eve Marder (Brandeis University)

10:30 a.m. – 11 a.m.

Break (Atrium)

Genetics and Development: Mechanisms and Adaptations (Auditorium)

Session Chair: Aalok Varma

11 – 11:05 a.m.

Session Introduction

Aalok Varma (UC San Diego)

11:05 – 11:20 a.m.

How cell fate specification and morphogenesis are controlled by developmental gene regulatory networks in marine invertebrates

Deirdre Lyons (UC San Diego)

11:25 – 11:40 a.m.

An unusual, protective behavior in the arsenic-resistant nematode *Tokorhabditis tufae*

James S. Lee (The Rockefeller University)

11:45 a.m. – 12:00 p.m.

RNA recoding in protein diversification and phenotypic plasticity

Kavita Rangan (Johns Hopkins University)

12:05 – 12:20 p.m.

Visualization and manipulation of the sea urchin nervous system

Amro Hamdoun (Scripps Institute of Oceanography, UC San Diego)

12:30 – 1:30 p.m.

Lunch (Provided in the Atrium)

Neurophysiology: Circuit Dynamics, Plasticity, and Resilience (Auditorium)*Session Chair: Kathleen Jacquerie*

1:30 – 1:35 p.m.	Session Introduction Kathleen Jacquerie (Brandeis University)
1:35 – 1:50 p.m.	Neural circuits sustaining an odor-driven state in fish Matthew Lovett-Barron (UC San Diego)
1:55 – 2:10 p.m.	How to cope with the heat? Neuronal plasticity can help Jan Siemens (Heidelberg University)
2:15 – 2:30 p.m.	A comparative approach to studying mechanisms of neuronal acclimation and adaptation to changing ecosystems Wolfgang Stein (Illinois State University)
2:35 – 2:50 p.m.	The critical importance of external and internal microenvironments on the neurobiology of marine animals Martin Tresguerres (Scripps Institution of Oceanography, UC San Diego)
3 – 3:30 p.m.	Break (Atrium)

Sensory Systems: Mechanisms of Transduction and Processing (Auditorium)*Session Chair: Gjenni Voss*

3:30 – 3:35 p.m.	Session Introduction Gjenni Voss (Marine Biological Laboratory)
3:35 – 3:50 p.m.	Double-edged sword effects of agricultural-derived nitrite and nitrate in fish chemical senses Mar Huertas (Texas State University)
3:55 – 4:10 p.m.	Navigating in noise: How brain-to-ear feedback may support resilience in changing acoustic environments Grace Capshaw (Johns Hopkins University)
4:15 – 4:30 p.m.	Octopus “taste by touch” chemosensation is mediated by environmental microbiomes Rebecka Sepela (Harvard University)
4:35 – 4:50 p.m.	Olfactory pollution in the Anthropocene: Impacts of free-radical pollutants in the olfactory processing of insects Jeff Riffell (University of Washington)
5 – 5:05 p.m.	Event Photo (Auditorium)
5:05 – 5:30 p.m.	Break (Atrium) and Poster set-up (Gathering Space)

Reception (Allen Institute café) and Poster Session (Gathering Space)

5:30 – 7:30 p.m.	Poster Session and Reception <i>Food and beverages served</i>
------------------	-------------------------------------------------------------------------

Day 2 | Wednesday, April 16th | Full Day

8 – 9 a.m.	Breakfast (Atrium) and Sound Check (Auditorium)
<i>Behavioral Adaptations: Neural Control and Modularity</i> <i>Session Chair: Dennis Weingarten</i>	
9 – 9:05 a.m.	Session Introduction Dennis Weingarten (Oregon Health and Science University)
9:05 – 9:20 a.m.	Environmental influences on extreme degeneration and regeneration in the avian brain and the impacts on behavior Tracy Larson (University of Virginia)
9:25 – 9:40 a.m.	Mating regulation in invasive mosquitoes Laura Duvall (Columbia University)
9:45 – 10:00 a.m.	Neurobiology of monarch butterflies' migration in response to overwintering coldness Christine Merlin (Texas A&M University)
10:05 – 10:20 a.m.	Neurophysiological adaptations of hibernation: solutions to environmental challenges Elena Gracheva (Yale University School of Medicine)
10:30 – 11 a.m.	Coffee Break (Atrium)
<i>Ecology and Evolution: Perspectives on Adaptation and Interaction (Auditorium)</i> <i>Session Chair: Felix Baier</i>	
11 – 11:05 a.m.	Session Introduction Felix Baier (Max Planck Institute for Brain Research)
11:05 – 11:20 a.m.	The eco-evolutionary dynamics of avian brains Carlos Botero (University of Texas at Austin)
11:25 – 11:40 a.m.	Genetic architecture of adaptation along climate gradients Diana Rennison (UC San Diego)
11:45 a.m. – 12:00 p.m.	Is it hot in here? Attending the thermal needs of social partners Sean O'Donnell (Drexel University)
12:05 – 12:20 p.m.	Resilient Brains: Behavioral and Physiological Homeostasis in Highly Variable Environments Hans Hoffman (The University of Texas at Austin)
12:30 -1:45 p.m.	Lunch (Provided in the Atrium) Optional Allen Institute Education and Engagement Workshop on 'Engaging the public on sensitive science topics' (Auditorium - registration required)

Open Platforms, AI, and Data Sharing for Multidimensional Neurobiology (Auditorium)*Moderated by: Stephanie Albin*

1:45 – 1:50 p.m.	Session Introduction Stephanie Albin (The Kavli Foundation)
1:50 – 2:30 p.m.	Panelist Presentations Rachel Parkinson (University of Oxford) Ben Dichter (CatalystNeuro) Saskia de Vries (Allen Institute for Neural Dynamics) Grace Huynh (Allen Institute, Office of the CTO)
2:30 – 3:15 p.m.	Discussion
3:15 – 3:35 p.m.	Coffee Break
Closing Session: Reflection and Key Insights (Auditorium)	
3:35 – 3:40 p.m.	Session Introduction
3:40 – 4:00 p.m.	Session Summaries Genetics and Development: Mechanisms and Adaptations (Aalok Varma) Neurophysiology: Circuit dynamics, Plasticity, and Resilience (Kathleen Jacquerie) Sensory Systems: Mechanisms of Transduction and Processing (Gjenni Voss) Behavioral Adaptations: Neural Control and Modularity (Dennis Weingarten) Ecology and Evolution: Perspectives on Adaptation and Interaction (Felix Baier) Open Platforms, AI & Data Sharing for Multidimensional Neurobiology (Stephanie Albin)
4:00 – 4:40 p.m.	Think-Pair-Share Synthesis Discussion What is your key takeaway from the meeting? What are you inspired to do next?
4:40 – 4:50 p.m.	Community Announcements
4:50 – 5:00 p.m.	Final Remarks and Survey

Symposium adjourns by 5 p.m.