



ALLEN FRONTIERS SYMPOSIUM PROGRAM

Wednesday, March 19th - Friday, March 21st, 2025
 The Allen Institute, Seattle, WA
 (Pacific Time)

AGENDA AT-A-GLANCE

DAY 1 | WEDS, MARCH 19TH | FULL DAY

9 a.m.	Breakfast (Atrium)
9:30 a.m.	New Frontiers: Introducing the 2024 Awardees (Auditorium)
11 a.m.	Coffee Break (Atrium)
11:30 a.m.	Sex Hormones (Auditorium)
12:45 p.m.	Lunch (Atrium)
2:15 p.m.	Extracellular Vesicles (Auditorium)
3:45 p.m.	Group Photo (Auditorium)
4 p.m.	Refresh (free) time / Allen Inst. Tours (optional)
5 :15 p.m. - 6:15 p.m.	*Shuttles depart Allen Inst. for transport to Awardee Welcome dinner (approx. every 15 mins.)
6 - 9 p.m.	*Awardee Welcome Reception & Dinner at Chihuly Garden & Glass

**The Awardee Welcome Reception & Dinner is for the Allen Discovery Center and Allen Distinguished Investigator awardees and their registered trainees/guests.*

Logo Image Credits

Upper left image: Andela Šarić, Kerstin Göpfrich, Buzz Baum. Upper right image: Sarah Cohen, Assaf Zaritsky, Shalin Mehta. Lower image: Itay Budin, Chris Obara. Logo Design by Kelly Matthee

DAY 2 | THURS, MARCH 20TH | FULL DAY

9 a.m.	Breakfast (Atrium)
9:30 a.m.	Nutrient Sensing (Auditorium)
11 a.m.	Coffee Break (Atrium)
11:30 a.m.	Meet the Allen Institute (Auditorium)
12:15 p.m.	Lunch w/ Allen Inst. Speakers (Atrium)
1:30 p.m.	Allen Discovery Centers (Auditorium)
3:30 p.m.	Poster Session & Reception (Dexter Yard)
5:30 p.m.	Dinner Independently

DAY 3 | FRI, MARCH 21ST | HALF DAY

9 a.m.	Breakfast (Atrium)
9:30 a.m.	Protein Lifespan (Auditorium)
11 a.m.	Coffee Break (Atrium)
11:30 a.m.	Group Discussion: Scanning the Horizons of Bioscience (Auditorium)
12:25 p.m.	Community Announcements, Closing Remarks, & Survey (Auditorium)
1 p.m.	Adjourn & Box Lunches (Atrium)

DAY 1 | WEDNESDAY, MARCH 19TH | FULL DAY

9 - 9:30 a.m.	Breakfast (Atrium) & Sound Check (Auditorium)
<i>New Frontiers: Introducing the 2024 Awardees (Auditorium)</i>	
9:30 - 9:40 a.m.	Welcome & Opening Remarks Kathy Richmond (Executive Vice President, Office of Science and Innovation) Julie Harris (Vice President, Paul G. Allen Frontiers Group)
9:40 - 9:45 a.m.	ADC Introduction
9:45 - 10:10 a.m.	Why and how we study Neurobiology in Changing Environments: The ADC-NiCE approach <u>Allen Discovery Center for Neurobiology in Changing Environments</u> *Martin Tresguerres (Scripps Institution of Oceanography at UC San Diego) *Amro Hamdoun (Scripps Institution of Oceanography at UC San Diego) *Deirdre Lyons (Scripps Institution of Oceanography at UC San Diego)
10:15 - 11 a.m.	2024 ADI Cohort Introductions & Lightning Talk Showcase <i>6-minute talks</i> <u>Membrane Biophysics - Approaches</u> <u>Mechanobiology tools for dissecting drivers of membrane mechanics, form, and function</u> *Amy Rowat (UC Los Angeles) Douglas Robinson (Johns Hopkins School of Medicine) <u>David and Goliath at the cell surface: Photo-crosslinkable lipid derivatives to control membrane mechanics</u> Alba Diz-Muñoz (European Molecular Biology Laboratory) *Carsten Schultz (Oregon Health & Science University) <u>Chemically active membranes in the generation of cell shape</u> Anđela Šarić (Institute of Science and Technology Austria) Kerstin Göpfrich (Heidelberg University) Buzz Baum (Medical Research Council Laboratory of Molecular Biology) <u>Organelle Communication</u> <u>Intra- and inter-cellular communication driven by membrane contact sites within a virus microenvironment</u> *Ileana Cristea (Princeton University) Jared Toettcher (Princeton University) <u>Data-driven modeling of inter-organelle dynamic interactions throughout differentiation with multispectral and label free live imaging</u> *Sarah Cohen (University of North Carolina at Chapel Hill) Assaf Zaritsky (Ben-Gurion University of the Negev) Shalin Mehta (Chan Zuckerberg Biohub) <u>Measuring lipid fluxes at membrane contact sites using new chemogenetic proximity sensors</u> *Itay Budin (UC San Diego) Christopher Obara (UC San Diego)
11 - 11:25 a.m.	Coffee Break (Atrium)
<i>Sex Hormones ADI Cohort (Auditorium)</i>	
11:30 - 11:35 a.m.	Sex Hormones cohort introduction
11:35 - 11:45 a.m.	<u>Optical tools for visualizing sex hormones as drivers of dynamic internal states</u> *Annegret Falkner (Princeton University) Stephanie Correa (UC Los Angeles) *Ed van Veen (UC Los Angeles)

11:50 a.m. – 12 p.m.	<u>Molecular and immune remodelling by Gender Affirming Hormone Therapy (GAHT)</u> *Boris Novakovic (Murdoch Children’s Research Institute) Ada Cheung (University of Melbourne) Rachel Davey (University of Melbourne) Musa Mhlanga (Radboud Institute for Molecular Life Sciences)
12:05 – 12:15 p.m.	<u>Sex hormone morphogenesis: a new frontier in studying organ development</u> *Mijo Simunovic (Columbia University) Elham Azizi (Columbia University) *José McFaline-Figueroa (Columbia University)
12:20 – 12:40 p.m.	Sex Hormones Discussion & Synthesis Session <i>Extended Q&A and discussion between speakers and audience</i>
12:45 – 2:10 p.m.	Lunch (Atrium) + Sound Check (Auditorium) <i>2024 ADIs and your trainees: tables are reserved for you in the mezzanine area</i>
Extracellular Vesicles ADI Cohort (Auditorium)	
2:15 – 2:20 p.m.	Extracellular Vesicles cohort introduction
2:20 – 2:30 p.m.	<u>Blood-brain communication via extracellular vesicles underlying brain function and behavior</u> *Shin-ichi Kano (University of Alabama at Birmingham, Heersink School of Medicine)
2:35 – 2:45 p.m.	<u>Nonlinear Optical Imaging of Inter-Cellular Communication</u> Marni Boppart (University of Illinois at Urbana-Champaign) *Stephen Boppart (University of Illinois at Urbana-Champaign)
2:50 – 3 p.m.	<u>Composition and functionality of the EV corona: learning from lipoproteins</u> *Kenneth Witwer (Johns Hopkins University School of Medicine) *Angela Zivkovic (UC Davis) *Wyatt Vreeland (National Institute of Standards and Technology)
3:05 – 3:15 p.m.	<u>Extracellular vesicles in maintenance of neuronal circuitry</u> *Andrew Chisholm (UC San Diego) *Ann Wehman (Texas A&M)
3:20 – 3:40 p.m.	Extracellular Vesicles Discussion & Synthesis Session <i>Extended Q&A and discussion between speakers and audience</i>
3:40 – 3:55 p.m.	Logistical Reminders & Group Photo
4 – 5:30 p.m.	Optional Allen Institute tours and/or free time to refresh before dinner
Awardee Welcome Dinner (Chihuly Garden & Glass Museum) <i>The Awardee Welcome Reception & Dinner is for the ADC and ADI awardees and their registered trainees/guests.</i>	
5:15 p.m. – 6:15 p.m.	First round of shuttles leaves the Allen Institute for Chihuly Garden & Glass <i>The 5:15 shuttle is for awardees who would like extra time at the museum before the reception begins. Shuttles will loop approximately every 15 minutes until 6:15 p.m.</i>
6 – 7 p.m.	Awardee Welcome Reception
7– 9 p.m.	Awardee Welcome Dinner Opening Remarks from Rui Costa (CEO, Allen Institute) <i>Shuttles will return to Allen Institute approximately every 15 minutes starting at 8 p.m. with the last shuttle departing Chihuly at 9:15 p.m.</i>

DAY 2 | THURSDAY, MARCH 20TH | FULL DAY

9 - 9:30 a.m.	Breakfast (Atrium) & Sound Check (Auditorium) <i>Poster presenters: drop posters off at Registration Desk for transport to Dexter Yard</i>
Nutrient Sensing ADI Cohort (Auditorium)	
9:30 - 9:35 a.m.	Nutrient Sensing cohort introduction
9:35 - 9:45 a.m.	<u>Tracing metabolism with sub-cellular spatial resolution</u> Bilal Sheikh (Helmholtz Munich) Niculina Musat (Helmholtz Centre for Environmental Research - UFZ Leipzig) *Hryhoriy Stryhanyuk (Helmholtz Centre for Environmental Research - UFZ Leipzig)
9:50 - 10 a.m.	<u>Expansion Mass Spectrometry: Literally Stretching Metabolite Sensing to New Spatial Limits</u> *Lydia Kisley (Case Western Reserve University) *Laura Sanchez (UC Santa Cruz)
10:05 - 10:15 a.m.	<u>Spatial nutrientomics based on DNzyme and DNA aptamer sensors</u> *Yi Lu (University of Texas at Austin)
10:20 - 10:30 a.m.	<u>Visualizing lipid nutrient turnover in human tissue models</u> *André Nadler (Max Planck Institute of Molecular Cell Biology and Genetics) Meritxell Huch (Max Planck Institute of Molecular Cell Biology and Genetics) Alf Honigmann (Technische Universität Dresden)
10:35 - 10:55 a.m.	Nutrient Sensing Discussion & Synthesis Session <i>Extended Q&A and discussion between speakers and audience</i>
11 - 11:25 a.m.	Coffee Break (Atrium) & Sound Check for Allen Inst. Speakers (Auditorium)
Meet the Allen Institute (Auditorium)	
11:30 - 11:35 a.m.	Opening Remarks & Introduction Kathy Richmond (Executive Vice President, Office of Science and Innovation)
11:35 - 11:45 a.m.	Rui Costa (CEO, Allen Institute)
11:45 a.m. - 12:15 p.m.	Allen Institute Lightning Talks <i>3-minute talks</i> <u>Allen Institute for Immunology</u> Troy Torgerson (Director, Experimental Immunology) <u>Allen Institute for Neural Dynamics</u> Jim Berg (Director, Scientific Operations) <u>Allen Institute for Brain Science</u> Luke Esposito (Executive Director, Scientific Operations) <u>Allen Institute for Cell Science</u> Susanne Rafelski (Deputy Director, Scientific Programs) <u>The Seattle Hub for Synthetic Biology</u> Jay Shendure (Lead Scientific Director) <u>Office of the Chief Technology Officer & Data-Driven Discovery in Biology</u> Gabi Martins (Associate Director, Scientific Operations) <u>Education & Engagement</u> Kaitlyn Casimo (Manager)

12:15 - 1:25 p.m.	Lunch with Allen Institute Speakers (Atrium) & Sound Check (Auditorium) <i>Poster presenters: drop posters off at Registration Desk for transport to Dexter Yard</i>
Allen Discovery Centers (Auditorium)	
1:30 - 1:40 p.m.	ADC Introductions
1:40 - 2:05 p.m.	Heritable modes of development in monoclonal gastruloids Allen Discovery Center for Cell Lineage Tracing *Jay Shendure (Seattle Hub for Synthetic Biology; University of Washington) Michael Elowitz (California Institute of Technology) Alex Schier (University of Basel)
2:10 - 2:35 p.m.	Allen Discovery Center for Human Brain Evolution (Virtual) Christopher Walsh (Harvard University) Michael Greenberg (Harvard Medical School) *David Reich (Harvard Medical School)
2:40 - 3:05 p.m.	Peripheral Neuroimmunology and Tissue Autonomy Allen Discovery Center for Neuroimmune Interactions *Brian Kim (Icahn School of Medicine at Mount Sinai) David Artis (Weill Cornell Medicine)
3:10 - 3:15 p.m.	Logistical Reminders
Poster Session & Reception (Dexter Yard)	
3:20 - 3:30 p.m.	Walk to Dexter Yard <i>Posters will be transported for you if you dropped them off at Registration Desk by lunchtime, otherwise please carry your own poster. Rain gear recommended.</i>
3:30 - 5:30 p.m.	Poster Session & Reception <i>Posters from Allen Institute researchers and awardee graduate students, postdocs, and guests. Food and drinks will be served.</i>
5:30 p.m.	Dinner independently: explore Seattle! <i>Suggestions: Play mini golf at the Flatstick Pub (first floor of the Allen Institute building), take a trip up the Space Needle, slurp an oyster at Taylor Shellfish, get lost in a book at the Seattle Central Library, explore the Seattle Underground, or check out some of the places on these lists:</i> Seattle's top 25 things to do & Places to eat near the Institute

DAY 3 | FRIDAY, MARCH 21ST | HALF DAY

9 - 9:30 a.m.	Breakfast (Atrium) & Sound Check (Auditorium)
<i>Protein Lifespan ADI Cohort (Auditorium)</i>	
9:30 - 9:35 a.m.	Protein Lifespan cohort introduction
9:35 - 9:45 a.m.	<u>Post-translation modifications and protein lifespan</u> *Mikhail Savitski (European Molecular Biology Laboratory) Alexander Aulehla (European Molecular Biology Laboratory)
9:50 - 10 a.m.	<u>Versatile tagging of the nascent proteome in mammalian cells</u> *Abhishek Chatterjee (Boston College) Eranthie Weerapana (Boston College)
10:05 - 10:15 a.m.	<u>PRO-Watch: an approach to monitor protein lifespan in aging worms</u> Janine Kirstein (Friedrich-Schiller-University Jena and Leibniz Institute for Aging) *Tim Clausen (Research Institute of Molecular Pathology)
10:20 - 10:30 a.m.	<u>Precision live single-cell nano-surgery for revealing proteome dynamics</u> *Gary Mo (University of Illinois Chicago)
10:35 - 10:55 a.m.	Protein Lifespan Discussion & Synthesis Session <i>Extended Q&A and discussion between speakers and audience</i>
11 - 11:25 a.m.	Coffee Break (Atrium)
<i>Scanning the Horizons of Bioscience (Auditorium)</i>	
11:30 - 12:25 p.m.	Scanning the Horizon of Bioscience <i>Discuss emerging frontiers in bioscience as a group</i>
<i>Community Announcements & Closing Remarks (Auditorium)</i>	
12:25 - 12:40 p.m.	Community Announcements <i>Announce anything you'd like to share with the group: job postings, new initiatives, accomplishments, ideas for the future, conferences, etc.</i>
12:40 - 12:45 p.m.	Closing Remarks Julie Harris (Vice President, Frontiers Group)
12:45 - 12:55	Survey <i>Please help us continue to improve the Allen Frontiers Symposium</i>
12:55 - 1 p.m.	Adjourn and Boxed Lunches (Atrium)

Symposium will adjourn by 1 p.m.