9th Annual Boston Area Drosophila Meeting
University of Massachusetts Boston
Friday, June 6, 2025

Local Organizers:
Juliet Girard, Mukulika Ray, Jens Rister, and Alexey Veraksa
With expert help from Clark Davis (UMB) and Jim Walker (MGH, HMS)

Special thanks to our sponsors:

All events will be in the University Hall (U Hall), room 1100 and atrium.

9:00 am Registration & Coffee. Poster presenters: please mount your posters at this time.

9:30 am Meeting Kickoff

Session I: Development, Immunity, and Cell Biology
Moderator: Juliet Girard

9:40 am Khanh Lam-Kamath, UMass Boston
Analyzing the role of a novel transmembrane protein, Mps, in Rhodopsin-deficient Drosophila photoreceptors

9:55 am Noshin Nawar, Boston University
From signal to transcript: mapping heterogeneity in NF-κB spatiotemporal dynamics and transcriptional output in Drosophila innate immunity

10:10 am Bao Ho, UMass Chan Medical School
The inducible expression of Diedel by multiple immune signaling pathways in Drosophila melanogaster

10:25 am Guangmei Liu, Boston University
Impaired phagocytosis in draper mutants drives neuroinflammation and selective neuronal vulnerability in the aging brain

10:40 am Jorel Padilla, Boston College
The post-mitotic myofiber repurposes the mitotic machinery to space nuclei

10:55 am Adam N. Carte, Harvard Medical School
Leveraging Drosophila melanogaster and Sodalis praecaptivus to uncover the cellular, molecular, and genetic mechanisms of host-beneficial endosymbioses

11:10 am Jillian Ness, Boston University
Exploring the functional limits and evolutionary patterns of shadow enhancers versus single enhancers

11:25 am Liz Lane, Harvard Medical School
Cholinergic signaling in a Drosophila model of the Cystic Fibrosis intestine

11:40 am Lightning Talk 1: Mitch McVey, Tufts University
Drosophila pol theta domain mutants provide insight into mutagenic break repair mechanisms

11:47 am Lightning Talk 2: Anne Silveira, Brandeis University
Distinct and opposing functions of the dynamin isoforms at Drosophila synapses

11:52 am Lightning Talk 3: Sunjin Moon, Harvard Medical School
Modeling tissue-specific Drosophila metabolism identifies high sugar diet-induced metabolic dysregulation in muscle at reaction and pathway levels

12:00 pm Lunch
**Boxed lunches will be provided per dietary requests to registered attendees only*

1:00 pm Poster session

Session II: Neurobiology and Metabolism
Moderator: Mukulika Ray

2:00 pm Kristy Jay, MGH, Harvard Medical School
Functional analysis of O-GlcNAc in sleep and circadian rhythm in Drosophila

2:15 pm Jennifer Dumouchel, Brown University
tRNA methyltransferase in ensheathing glial modulates neuronal development and function

2:30 pm Max Zinter, UMass Chan Medical School
Mbnl1, an RNA splicing factor, associates with Arc in an activity-dependent manner

2:45 pm Shlesha Richhariya, Brandeis University
Metabolic rewiring prevents age-dependent neurodegeneration caused by mitochondrial dysfunction

3:00 pm Chhavi Sood, MIT
Calcium conductance mutants of cacophony channels exhibit altered VGCC abundance and retention at active zones.

3:15 pm Lightning Talk 1: Rajan Thakur, Brown University
PDZD8 regulates synaptic growth by promoting autophagy at ER-Lysosome contact sites via WNT signaling

3:22 pm Lightning Talk 2: Ben Ewen-Campen, Harvard Medical School
The Drosophila proventriculus lacks stem cells but compensates for age-related cell loss via endoreplication-mediated cell growth

3:30 pm Coffee break

4:00 pm Keynote Address: Dr. Rachel Wilson
Joseph B. Martin Professor of Basic Research in the Field of Neurobiology, Harvard Medical School; Investigator, Howard Hughes Medical Institute
Neural networks for navigation

5:00 pm Poster Awards (provided by 10X Genomics and The Company of Biologists)
and meeting wrap-up

List of posters:

1. Marty Alani, MIT/Whitehead Institute
Spatial patterning of the first mitosis

2. Michael Allara, UMass Boston
The Toll Pathway cell-autonomously regulates crystal cell development in Drosophila melanogaster larvae

3. Ashid Amarsanaa, MIT/Whitehead Institute
Hydration drives cytoplasmic activation during the egg-to-embryo transition in Drosophila

4. Daniela Barraza, Harvard University
A conserved, immune-regulated peritrophin promotes V. cholerae colonization of the arthropod intestine

5. Elnor Bashir, UMass Boston
Molecular mechanism of a novel transmembrane protein that stabilizes damaged photoreceptors

6. Lydia Bischoff, Boston College
Grainyhead regulates wound-induced polyploidization in Drosophila

7. Emily Brown, UMass Boston
The Drosophila eye as a model for nanoparticle-based drug delivery.

8. Madisen Caferro, Boston College
A Golgi MTOC protein affects identity gene expression

9. Chenghao Chen, UMass Chan Medical School
Cell surface proteomics in Drosophila clock neurons to uncover novel regulators of circadian rhythms and sleep

10. Barron Clancy, Brown University

Guanine exchange factor trio ameliorates Drosophila model of SOD1 ALS

11. Lianne Cohen, Boston University
The composition of Drosophila immune enhancers varies by regulatory time and function

12. Nicolas Cordova Loor, Tufts University
Investigating the role of REV1 and SLX4 scaffolding endonucleases in DNA repair

13. Natalie D'Ambra, Brandeis University
Sleep deprivation impairs plasticity in the mushroom body in an ex vivo model of aversive olfactory learning

14. Diana Davis, Brandeis University
Investigating the regulation of CaMKII local synthesis by ribonucleoprotein granules

15. Suparna Dutta, University of Connecticut
B chromosomes disrupt proper chromosome segregation during female meiosis

16. Thomas Evans, MIT
Force regulates mitotic entry timing during Drosophila gastrulation

17. Peter Fatzinger, University of Connecticut
The role of somatic homolog pairing in chromosome territory compaction during zygotic genome activation

18. Brandon Fricker, Harvard University
Walking dead: Identifying the drivers of locomotor rhythms in E. muscae infected flies

19. Sheri Grill, MIT/Whitehead Institute
Somatic transcriptional memory underlies successful primordial germ cell fate specification

20. Victoria Guarino, Boston University
Synthetic Approaches to investigating shadow enhancers and transcription factor interactions in Drosophila development

21. Sarah Gunasekera, Brown University
Mapping the cell-specific nuclear 3D RNA-RNA and RNA-DNA interactions in Drosophila

22. Charlie Heacock, Harvard University
What's the Goo? Molecular and histological analysis of adhesive secretion in Entomophthora muscae-infected 'zombie' flies

23. Michiko Inouye, MIT
Investigating the effect of mRNA editing on glutamatergic motoneuron protein function

24. Carolina Ferrer, UMass Boston

The Toll and the Imd pathways are involved in hematopoiesis

25. Anna Johnson, University of Connecticut
The interplay of transcription and chromosome territory architecture during zygotic genome activation

26. Ah-Ram Kim, Harvard Medical School
Decoding the kinase–transcription factor interactome through large-scale structural prediction

27. Gretchen Kimmel, Boston College
Dystrophin interacts with Msp300 to impact myonuclear positioning and muscular function

28. Dominic Lanni, UMass Boston
Sterile injury leads to expenditure and replenishment of crystal cells

29. Ying Liu, Harvard Medical School
Full-body transcriptome uncovers hepatic gluconeogenesis and PDK3 upregulation as a key driver of cancer cachexia

30. Torrey Mandigo, MGH/Harvard University
Human genetics-driven approach to Drosophila modeling of insomnia-associated genes reveals diverse underlying sleep phenotypes

31. Antonio Marini-Davis, University of Maryland, Baltimore County
Investigating molecular orchestrators of sexually dimorphic ethanol reward behavior

32. Xuefeng Meng, MIT/Whitehead Institute
Self-restrained sex chromosome drive through sequential asymmetric meiosis

33. Stephanie Montano, UMass Boston
Consumption and replenishment of Drosophila blood cells after injury

34. Julie Moulton, University of New England
Wingless pathway affects nociceptive sensitivity

35. Molly Murphy, UMass Chan Medical School
NinjurinA (NijA) is necessary for survival following Invertebrate Iridescent Virus 6 (IIV6) infection of adult Drosophila

36. Nicholas Olson, Brown University
Age variation impacts efficacy of an α1 antagonist in treating alcohol use disorder

37. Jacob Paiano, Harvard Medical School
Chronic endoplasmic reticulum stress reprograms muscle metabolism

38. Gabrielle Paniccia, Harvard University

Making a model: building protocols for studying the fly-killing "zombie" fungus E. muscae

39. Tânia Paulo, Harvard Medical School
Characterizing the role of the scavenger receptor Ocelot in the D. melanogaster immune response against Vibrio cholerae

40. Sophie Phipps, Brown University
PDZD8 and VAP33 synergize to promote activity-dependent bouton formation at the Drosophila neuromuscular junction

41. Pooja Rai, UMass Chan Medical School
Comprehensive structural insights using AlphaFold 3 for apoptosis regulation in Drosophila

42. Austin Rivera, Boston University
Traffic Jam activates the Flamenco piRNA cluster locus and the Piwi pathway to ensure transposon silencing and Drosophila fertility

43. Edward Russell, University of Connecticut
Accelerating chromosome evolution using the Drosophila melanogaster B chromosome

44. Mariyah Saiduddin, MIT/Whitehead Institute
Control of RTK activity prunes PIP3 from posterior pole membrane for primordial germ cell formation

45. Kaylah Samuelson, University of Connecticut
Uncovering the mechanism behind female meiotic drive of B chromosomes in D. melanogaster

46. Emily Sarkisian, Brown University
Characterization of Drosophila Amyotrophic Lateral Sclerosis (ALS) upon genetic modification to stress granule-associated genes

47. Bryanna Scott, UMass Boston
Molecular response of photoreceptor neurons to vitamin A deprivation

48. Lewis Sherer, Brown University
Hunger recruits a parallel circuit encoding alcohol reward

49. Jessica Sidisky, MIT
Characterizing maturation and maintenance of presynaptic active zones at adult neuromuscular junctions during aging

50. Rina Sotiropoulou, Harvard University
Unlocking the secrets of the zombie fungus: developing innovative tools to study Drosophila melanogaster behavioral manipulation

51. Annette St. Jacques, University of Connecticut

Investigating how oocyte age impacts B chromosome transmission in Drosophila melanogaster

52. Komal Suthar, UMass Chan Medical School
The role of Ca^{2+} signaling in apoptosis-induced proliferation

53. Fatima Tleiss, UMass Chan Medical School
The immune role of CG15553 in Drosophila spermatheca: linking reproductive and pathogen defense mechanisms

54. Logan Tohline, Boston University
Subcellular localization of vacuolar ATPase during ovarian cell death in Drosophila

55. Megan Wang, Brown University
Investigating the relationship between neuronal morphology and alcohol preference in Drosophila melanogaster

56. Caroline Wong, UMass Boston
Unraveling the role of a novel transmembrane protein, Mps, and its interaction with a scaffolding protein, InaD during the development of photoreceptor neurons

57. Emily Yang, Boston University
Illuminating the non-genetic factors of immune activation

58. Jessenia Yupangui Yupa, Harvard University
The invasion of the blood brain barrier: the effects of transforming the blood brain barrier on E. muscae infect D. melanogaster