

**7<sup>th</sup> Annual Boston Area Drosophila Meeting**  
Brandeis University

Local organizers

Sebastian Kadener and Michael Marr

9:00 am Registration & Coffee (outside Gerstenzang "Gzang" 123)

**Session I: From molecules to organism (Gzang 123)**

Moderator: Sebastian Kadener, Professor, Brandeis University

- 9:30 am Meeting kick off
- 9:40 am Melissa Brown, UMass Boston  
*Control of brain development by the DYRK1A kinase Minibrain*
- 9:55 am Hassan Bukhari, Brigham WH, Harvard University  
*A CRISPR-engineered endogenous tauopathy model brain at single-cell resolution*
- 10:10 am Yu-Chieh David Chen, New York University  
*Using single-cell RNA sequencing to generate predictive cell-type-specific split-GAL4 reagents throughout development*
- 10:25 am Ruoyu Chen, Whitehead Institute, MIT  
*Drosophila germ granules activate the translation of localized mRNA*
- 10:40 am Alex Dyson, MGH, Harvard University  
*Loss of dNf1 in Drosophila larvae causes hyper-responsivity and impaired synaptic transmission*
- 10:55 am Biljana Ermanoska, Brandeis University  
*Presynaptic actomyosin regulates the mechanobiology of the neuromuscular junction*
- 11:10 am Yerbol Kurmangaliyev, Brandeis University  
*Integrating connectomes and transcriptomes uncovers determinants of synaptic specificity*
- 11:25 am Ying Liu, Harvard Medical School, Harvard University  
*Tumor Cytokine-Induced Hepatic Gluconeogenesis Contributes to Cancer Cachexia: Insights from Full Body Single Nuclei Sequencing*
- 11:40 am SHORT TALK: Susan Gerbi, Brown University  
*Chromosome antics of Sciara --- a lower dipteran new/old model organism*
- 11:50 am Sian Gramates, Harvard University  
*New and Classic Features in FlyBase*

**12:00 pm Lunch (Sherman Function Hall in Hassenfeld Conference Center)**

Round Table Topics:

*Emerging tools in Drosophila*

*What you wish you knew in grad school/Post-doc/New Faculty*

*Career Development & Mentorship*

*Cell Signaling*

*RNA Research in Drosophila,*

*Neurobiology & Behavior*

*\*Boxed lunches will be provided per dietary requests to registered attendees only*

**Session II: From Organism to molecules (Gzang 123)**

Moderator: Michael Marr, Associate Professor, Brandeis University

- 1:00 pm Yuki Shindo, Dartmouth College  
*Beyond the Gateway: nuclear pore control of nuclear composition in early development*
- 1:15 pm Ryan Maloney, Harvard University  
*Spontaneous Drift in Individual Preference as a Strategy for Unpredictable Worlds*
- 1:30 pm Ane Martin Anduaga, Brandeis University  
*tim-cold slows down the circadian clock allowing temperature compensation to low temperatures in Drosophila*
- 1:45 pm Jonathan Nelson, Whitehead Institute, MIT  
*Dynamic modulation of insulin signaling activity in germline stem cells regulates germline ribosomal DNA copy number expansion*
- 2:00 pm Mukulika Ray, Brown University  
*Sex-specific transcript diversity is regulated by a maternal transcription factor in early Drosophila embryos.*
- 2:15 pm Ruoxi Wang, UMass Medical School  
*Selective clearance of endoplasmic reticulum is regulated by PINK1, Keap1 and Rtnl1 during development*
- 2:30 pm Prathibha Yarikipati, UMass Chan Medical School  
*Single Cell transcriptomic analysis of hemocytes in Drosophila overgrowth/tumor models*
- 2:45 pm Albert Yu, Brandeis University  
*Butt-Seq: Transcriptional Features of the Drosophila Clock*
- 3:00 pm SHORT TALK: Claire Hu, Harvard Medical School, Harvard University  
*DRSC informatics tools/resources for mining and analyzing data of model organisms*

- 3:10 pm      SHORT TALK: Suresh Kumar, MIT  
*Molecular Logic of Functional Synaptic Diversity in Drosophila Tonic and Phasic Larval Motoneurons.*
- 3:20 pm      SHORT TALK: Willem Laursen, Brandeis University  
*Short-range heat and humidity detectors for mosquito host-seeking and egg-laying behaviors.*
- 3:30 pm      Coffee Break (Outside Gzang 123)**
- 4:00 pm      Norbert Perrimon, Harvard University  
*A holistic understanding of inter-organ communication and metabolic regulation*
- 5:00 pm      Poster Session & Reception (Shapiro Science Center Atrium)**
- 7:00 pm      Meeting concludes

## Sponsorship provided by:



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## **Poster presentations:**

1. Christopher Abdullah, Springfield College  
*Development of a GBA2-associated neuromuscular disease model in Drosophila*
2. Michael Allara, UMass Boston  
*The role of the ToccII Pathway in blood cell development*
3. Olivia Annes, Boston College  
*LINC complex-dependent nuclear spacing in the blood-brain barrier*
4. Md Fakhrul Azad, Boston University Chobanian & Avedisian School of Medicine  
*Re-examining how Transposable Elements (TEs) impact RNA splicing and gene expression in Drosophila transcriptomes.*
5. Sydney Bailey, UMass Boston  
*The Ecdysone pathway regulates color photoreceptor fate in the developing Drosophila retina*
6. Mhamed Bashir, UMass Boston  
*The homeodomain transcription factor Hmx represses the Hippo pathway to specify blue-sensitive photoreceptor fate.*
7. Emily Brown, UMass Boston  
*The Drosophila eye as a model for nanoparticle-based drug delivery.*
8. Joseph Bunker, UMass Boston  
*The homeodomain transcription factor Hmx represses the Hippo pathway to specify blue-sensitive Photoreceptor fate.*
9. Nawat Bunnag, Dartmouth College  
*Revisiting the role of PP2A-B56 in Axin regulation and Wnt signaling*
10. Alexandra Chasse, Boston University  
*Investigating the Role of Hemocytes in the Immune-Privileged Ovary*
11. Weihang Chen, Harvard Medical School  
*Building bioinformatics resources at the DRSC: 2023 update*
12. Kelsey Clements, Brandeis University  
*Investigating the localization of newly-synthesized presynaptic and postsynaptic CaMKII*
13. Lianne Cohen, Boston University  
*Identifying of Enhancers of the Drosophila Innate Immune System*
14. Xihuimin Dai, HHMI and Brandeis University  
*Identification of 4 Drosophila SpsP neurons as sleep need counters*
15. Aleah Davidsen, Brown University  
*Investigating sex-specific defects in SOD1 models of ALS*

16. Steven Del Signore, Brandeis University  
*Quantification of coupling between synaptic exocytic and endocytic machineries*
17. Deepshe Dewett, UMass Boston  
*A novel transmembrane protein stabilizes the degenerating photoreceptors upon vitamin A deficiency by interacting with the photoreceptor scaffolding protein*
18. Cameron Dixon, Boston University  
*Characterization of female reproductive disturbances post-Traumatic Injury in *Drosophila melanogaster**
19. Erica Dresselhaus, Brandeis University  
*ESCRT is required for biogenesis of synaptic exosomes but not for cargo function*
20. Carolyn Elya, Harvard University  
*The last of fungus: Neural mechanisms of fruit fly behavioral manipulation by the killer fungus *Entomophthora muscae**
21. Elizabeth Filine, Harvard Medical School  
*Role of REPTOR in muscle energy metabolism in Yki gut tumor model*
22. Juliet Girard, UMass Boston  
*Injury-induced inflammatory signaling and hematopoiesis in *Drosophila**
23. Jay Goodman, Whitehead Institute  
*Maternal organelle contribution to offspring germline health*
24. Srishti Goswami, Harvard Medical School  
*From *Drosophila* to Ticks: Expanding Pooled CRISPR Screening in Cultured Cells*
25. Yousuf Hashmi, Harvard Medical School  
*Assessment of microsatellite stability after continuous germline expression of a dominant negative mismatch repair protein in *Drosophila**
26. Kerui Huang, Harvard Medical School  
*Oenocyte TOR-Dawdle axis regulates adipocyte glycogen homeostasis*
27. Ruth Johnson, Wesleyan University  
*Cell-specific organization of the cytoskeleton in the *Drosophila* pupal eye*
28. Neha Joshi, HHMI and Harvard Medical School  
*Using the Split-intein Gal4 System to Map scRNAseq Clusters to Anatomy*
29. Jongkyun Kang, Harvard Medical School  
*Lipophorin Receptors Genetically Modulate Neurodegeneration Caused by Reduction of Psn Expression in the Aging *Drosophila* Brain*
30. Heena Khurana, UMass Boston  
*Unfolded Protein Response sensor kinase, Perk prevents the death of vitamin A deprived photoreceptors via a novel stabilizing protein, Mps.*

31. Ah-Ram Kim, Harvard Medical School  
*Protein-Protein Interaction Discovery in Drosophila Proteomics via AlphaFold-Multimer*
32. Shraddha Lall, Harvard University  
*Artificial Selection Increases Variability In Left-Right Turning Bias In Drosophila melanogaster*
33. Khanh Lam-Kamath, UMass Boston  
*The novel transmembrane protein, Mps, stabilizes damaged photoreceptors upon vitamin A deprivation*
34. Stanislav Lazopulo, Harvard University  
*Two pairs of TRPA1-expressing neurons in Drosophila larva brain regulate response to innocuous temperatures*
35. Maijia Liao, Northeastern University  
*Scaling laws in branching morphogenesis*
36. Troy Littleton, MIT  
*Stochastic RNA editing of the Complexin C-terminus within single neurons regulates neurotransmitter release*
37. Guangmei Liu, Boston University  
*Cell corpse clearance mechanisms in glial phagocytosis-deficient fly brains*
38. Raphael Lopes, Harvard Medical School  
*Expanding the toolkit for dual control of gene expression*
39. Dylan Ma, Brandeis University  
*Novel clock neuron subtypes regulate temporal aspects of sleep*
40. Torrey Mandigo, Massachusetts General Hospital/Harvard University  
*Dissecting the Causal Role of Insomnia in Cardiovascular Disease*
41. Suraj Math, Massachusetts General Hospital  
*Developing Drosophila Models of Congenital Disorders of Glycosylation (CDGs)*
42. Tyler McDermott, University of Connecticut  
*Testing models of insertional bias for the Drosophila centromere-enriched non-LTR retroelement Jockey-3*
43. Jazmin Morales, Brandeis University  
*Investigating Neuronal Functions of circMbl*
44. Jillian Ness, Boston University  
*Shining a Light on the Design Principles of Developmental Shadow Enhancers*
45. Jorel Padilla, Boston College  
*Regulators of microtubule sliding in the mitotic spindle contribute to myonuclear spacing in Drosophila*
46. Amelie Raz, Whitehead Institute for Biomedical Research  
*Transcriptional regulation of germline stem cell identity*

47. Camilla Regalia, Brown University  
*Atf6 identified as a dominant modifier of (G4C2)<sub>30+</sub> toxicity associated with adult-onset, motor-neuron-specific model of C9orf72-ALS in Drosophila*
48. Alexandria Risbeck, Harvard Medical School  
*New technology and resource development at the Drosophila Research and Screening Center-Biomedical Technology Research Resource (DRSC-BTRR) and DRSC/TRiP*
49. Austin Rivera, Boston University Chobanian & Avedisian School of Medicine  
*Defining the transcriptional enhancers and regulators of flamenco, a prominent Drosophila piRNA cluster essential for female fertility*
50. Ghalia Saad Siddiqui, Dartmouth College  
*The DUB complex increases Wingless/Wnt signaling strength by stabilizing Arrow/LRP6*
51. Anne Silveira, Brandeis University  
*Dynamin and F-actin interactions at neuronal synapses*
52. Honghao Song, Harvard University  
*Uncovering the Genes and Mechanisms behind Cell Competition in the Female Germline of Drosophila melanogaster*
53. Ruiyi Sun, University of Connecticut  
*Investigating the role of centromere transcripts in maintaining centromere integrity*
54. Komal Suthar, UMass Chan Medical School  
*The Role of Ca<sup>2+</sup> Signaling in Apoptosis-induced Proliferation*
55. Panagiotis Velentzas, UMass Chan Medical School  
*A monocarboxylate transporter and its role in cell health and cell death*
56. Melissa Vieira, UMass Boston  
*Optimization of Vitamin-A Depleted Media for Rearing Drosophila Melanogaster*
57. Ruoxi Wang, UMass Medical School  
*Selective clearance of endoplasmic reticulum is regulated by PINK1, Keap1 and Rtnl1 during development*
58. Prathibha Yarikipati, UMass Chan Medical School, Worcester  
*Single Cell transcriptomic analysis of hemocytes in Drosophila overgrowth/tumor models*
59. Yunpeng Zhang, Brandeis University  
*Widespread posttranscriptional regulation of co-transmission*
60. Helen Zhou, Brown University  
*Modulation of metabolic flux through de novo purine biosynthesis and adjacent pathways rescues neurodegeneration in heterogeneous Drosophila models of amyotrophic lateral sclerosis*