7th 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 SHORT TALK: 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, Harvard University
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:

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 Toccll 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)30+ 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 Ca2+ 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