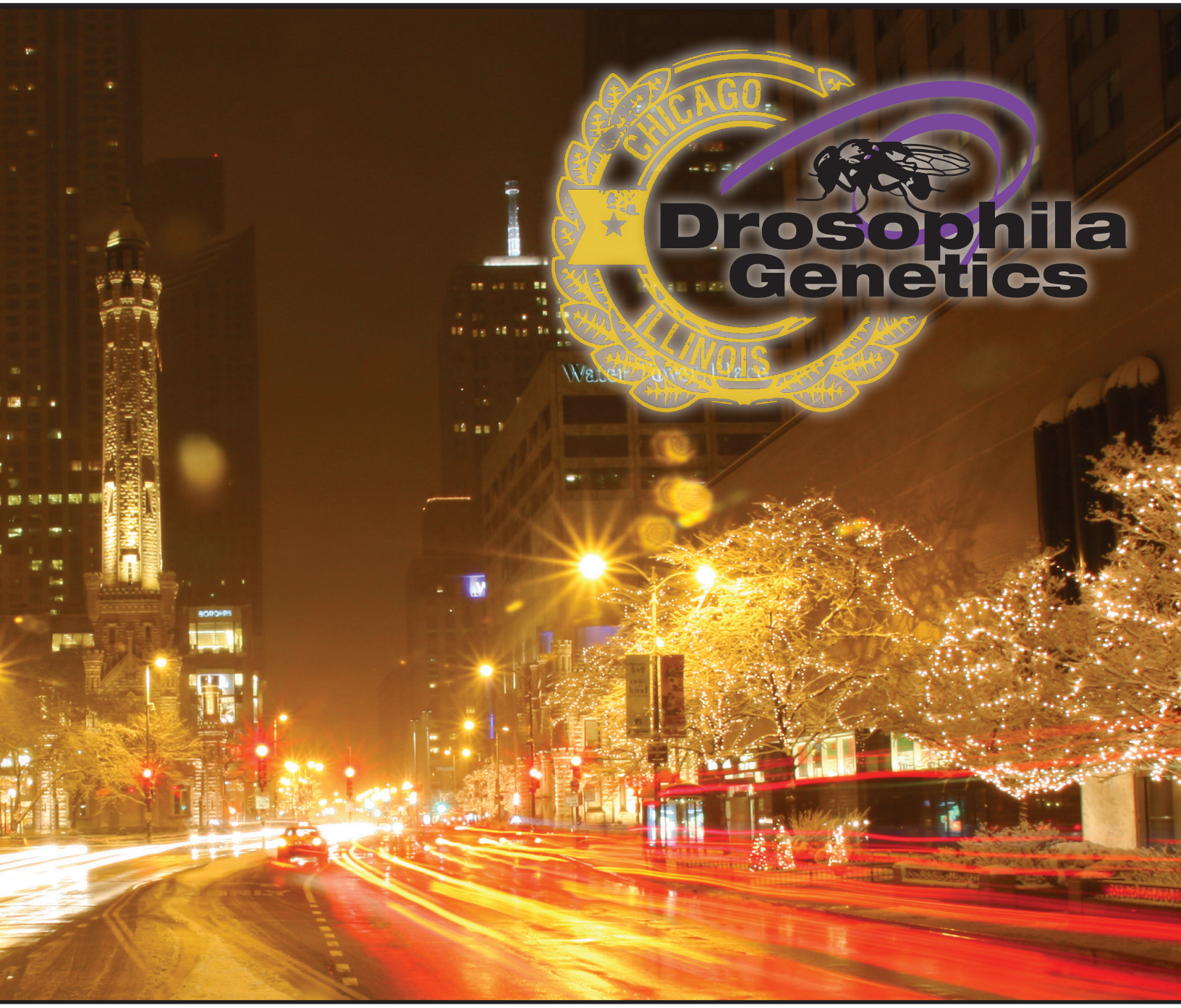
The Genetics Society of America Conferences



56th Annual Drosophila Research Conference

March 4-8, 2015 • Chicago, IL

PROGRAM GUIDE

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The Genetics Society of America Conferences

- **Meeting Organizers**

  Greg Beitel
  Michael Eisen
  Marc Freeman
  Ilaria Rebay

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- **Drosophila Board of Directors**

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Conference Web site: genetics-gsa.org/drosophila/2015

Genetics Society of America

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Future Drosophila Research Conference Meeting Dates

2016

57th Annual Drosophila Research Conference

@ The Allied Genetics Conference
July 13-17
Orlando, FL

2017
58th Annual Drosophila Research Conference
March 29-April 2
San Diego, CA

2018
59th Annual Drosophila Research Conference
April 11-15
Philadelphia, PA

2019
60th Annual Drosophila Research Conference
March 27-31
Dallas, TX

2020
61st Annual Drosophila Research Conference
March 25-29
San Diego, CA

SCHEDULE OF EVENTS

WEDNESDAY, March 4		
10:30 am - 4:00 pm	**GSA Trainee Boot Camp** *Separate registration required*	**Ohio**
12:00 noon - 6:00 pm	**Ecdysone Workshop** *Organizers:* Laurie von Kalm, University of Central Florida ; and Nick Sokal, Indiana University	**Chicago 8**
3:00 pm - 6:30 pm	**Speaker Ready Room**	**Columbus A**
3:00 pm - 6:00 pm	**Drosophila Board of Directors Meeting**	**Michigan A/B**
3:30 pm - 9:00 pm	**Registration and Book/T-Shirt Pick Up Open**	**Sheraton/Chicago Ballroom Promenade**
4:00 pm - 7:00 pm	**Workshop - Preparing your Educational Resources for Online Publication** *Separate registration required*	**Ohio**
5:00 pm - 7:00 pm	**GSA Education Special Interest Group Mixer**	**Mississippi**
5:00 pm - 12:00 am	**Posters Open**	**River Exhibit Hall**
7:00 pm - 9:15 pm	**Opening General Session** *Moderators:* Ilaria Rebay, University of Chicago, IL; and Greg Beitel, Northwestern University, Evanston, IL	**Sheraton/Chicago Center**
7:00 pm	**Welcome and Opening Remarks** Ilaria Rebay, University of Chicago, IL	
7:10 pm	**GSA Update** Adam Fagen, Genetics Society of America, Bethesda, MD	
7:20 pm	**Presentation of Larry Sandler Award** Erika Bach, NYU Langone Medical Center, NY	
7:25 pm	**Larry Sandler Award Lecture**	
7:55 pm	**Keynote Address Introduction** Greg Beitel, Northwestern University, Evanston, IL	
8:00 pm	**Drosophila: Assuming the Mantle of Leadership in Biological Research** Allan Spradling, HHMI and Carnegie Institution for Science, Baltimore, MD	
9:00 pm	**GSA Awards Presentation** Lynn Cooley, GSA Board Member and Yale University, New Haven, CT	
9:15 pm - 11:00 pm	**Mixer/Reception** ***Sponsored by the Journals GENETICS and G3: Genes|Genomes|Genetics***	**Sheraton 1-3 and Promenade**

SCHEDULE OF EVENTS

THURSDAY, March 5		
12:01 am - 12:00 am	**Posters Open**	**River Exhibit Hall**
7:00 am - 3:00 pm	**Speaker Ready Room**	**Columbus A**
7:15 am - 8:30 am	**Undergrad Mixer with Continental Breakfast** *Ticket required*	**Sheraton 2**
7:15 am - 8:30 am	**How To Get Published Continental Breakfast** *Ticket required*	**Sheraton 3**
7:15 am - 8:30 am	**Continental Breakfast**	**Sheraton/Chicago Ballroom Promenade**
8:00 am - 5:00 pm	**Registration and Book/T-Shirt Pick Up Open**	**Sheraton/Chicago Ballroom Promenade**
8:30 am - 12:00 noon	**Plenary Session 1** *Moderator:* Marc Freeman, HHMI & University of Massachusetts Medical School, Worcester, MA	**Sheraton/Chicago Center**
8:30 am	**Image Award Presentation** Michelle Arbeitman, Florida State University College of Medicine, Tallahassee	
8:35 am	**Cell Division and Epithelial Tissue Morphogenesis** Yohanns Bellaiche, Genetics and Developmental Biology Department, Institut Curie, Paris, France	
9:05 am	**Genetic Conflicts During Meiosis Drive Innovation in Centromeric Proteins** Harmit Malik, Dept Basic Sci & HHMI, Fred Hutchinson CA Res Ctr, Seattle, WA	
9:35 am	**Coordinate Migration of Mesoderm Cells in the *Drosophila* Embryo** Angela Stathopoulos, Division of Biology and Bioengineering, Caltech, Pasadena, CA	
10:05 am	**Break**	
10:30 am	**Signaling Kinetics in the Early Embryo** Stanislav Shvartsman, Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ	
11:00 am	**Addressing Complexity of Notch in Cancer: When Less is More** Maria Dominguez, Neuroscience Institute of Alicante, UMH-CSIC, San Juan de Alicante Spain	
11:30 am	**Using Drosophila Neuroblasts as a Model for Stem Cell Biology and Tumorigenesis** Juergen Knoblich, IMBA - Institute of Molecular Biotechnology, Vienna, Austria	
8:30 am - 12:30 pm	**The Genetics Conference Experience** *By invitation*	**Sheraton 1**
12:45 pm - 2:00 pm	**GSA Career Luncheon** *Ticket required*	**Sheraton 2**
1:00 pm - 5:00 pm	**FlyBase Demo Room Open for Tutorials & Discussions** *Presentations:* *2:00-2:15 pm: Human Disease Models and Gene Groups in FlyBase* *2:20-2:35 pm: New Views in GBrowse2: Release 6 melanogaster Assembly, RNA-Seq data, and more*	**Mayfair**
2:00 pm - 4:00 pm	**Exhibits Open & Poster Presentations** *Presentations - 2:00 pm EVEN Posters, 3:00 pm ODD posters*	**River Exhibit Hall**
4:30 pm - 6:30 pm	**Concurrent Platform Sessions**	
	Cell Division & Growth Control	**Sheraton 4/5**
	Neural Development	**Chicago 6/7**
	Organogenesis & Gametogenesis	**Chicago 8-10**
8:00 pm - 11:00 pm	**Exhibits Open & Poster Viewing**	**River Exhibit Hall**

SCHEDULE OF EVENTS

FRIDAY, March 6		
12:01 am - 12:00 am	**Posters Open**	**River Exhibit Hall**
7:00 am - 3:00 pm	**Speaker Ready Room**	**Columbus A**
8:15 am - 5:00 pm	**Registration and Book/T-Shirt Pick Up Open**	**Sheraton/Chicago Ballroom Promenade**
8:30 am - 10:15 am	**Concurrent Platform Sessions**	
	Cell Cycle & Cell Death	**Sheraton 4/5**
	Evolution & Quantitative Genetics I	**Chicago 6/7**
	Neurophysiology & Behavior I	**Chicago 8-10**
10:15 am - 10:45 am	**Coffee Break**	**Sheraton/Chicago Ballroom Promenade**
10:45 am - 12:30 pm	**Concurrent Platform Sessions**	
	Evolution & Quantitative Genetics II	**Chicago 6/7**
	Chromatin & Epigenetics	**Sheraton 4/5**
	Neurophysiology & Behavior II	**Chicago 8-10**
12:30 pm - 1:30 pm	**GSA Advocacy Lunch** *Ticket required*	**Huron**
1:00 pm - 6:00 pm	**FlyBase Demo Room Open for Tutorials & Discussion** *Presentations:* *3:45-4:00 pm:* *Human Disease Models and Gene Groups in FlyBase* *4:05-4:20 pm:* *New Views in GBrowse2: Release 6 melanogaster Assembly, RNA-Seq data, and more*	**Mayfair**
1:30 pm - 4:00 pm	**Plenary Session and Workshop for Undergraduate Researchers**	**Missouri**
1:45 pm - 3:45 pm	**Concurrent Workshops**	
	Communicating Your Drosophila Research to Scientific and Non-scientific Audiences	**Michigan A/B**
	Feeding Behavior, Nutrition and Metabolism	**Chicago 8-10**
	Integration of Computational Approaches and Big Data to Tackle Systems-Biology Problems in Drosophila and other Model systems	**Sheraton 2**
	Tools for Functional Genomics Analyses	**Sheraton 1**
	Harnessing Community Resources for Drosophila Neuroscience	**Sheraton 3**
2:00 pm - 4:00 pm	**Dedicated Exhibit Time**	**River Exhibit Hall**
4:30 pm - 6:30 pm	**Concurrent Platform Sessions**	
	Physiology, Organismal Growth & Aging I	**Sheraton 4/5**
	Pattern Formation (4 Talks) and RNA Biology (4 Talks)	**Chicago 6/7**
	Techniques & Resources	**Chicago 8-10**
6:30 pm-8:00 pm	**Special Screening of The Fly Movie**	**Sheraton 4/5**
8:00 pm - 11:00 pm	**Exhibits Open & Poster Presentations** *Presentations - 8:00 pm "C" Posters, 9:00 pm "B" Posters, 10:00 pm "A" Posters*	**River Exhibit Hall**

SCHEDULE OF EVENTS

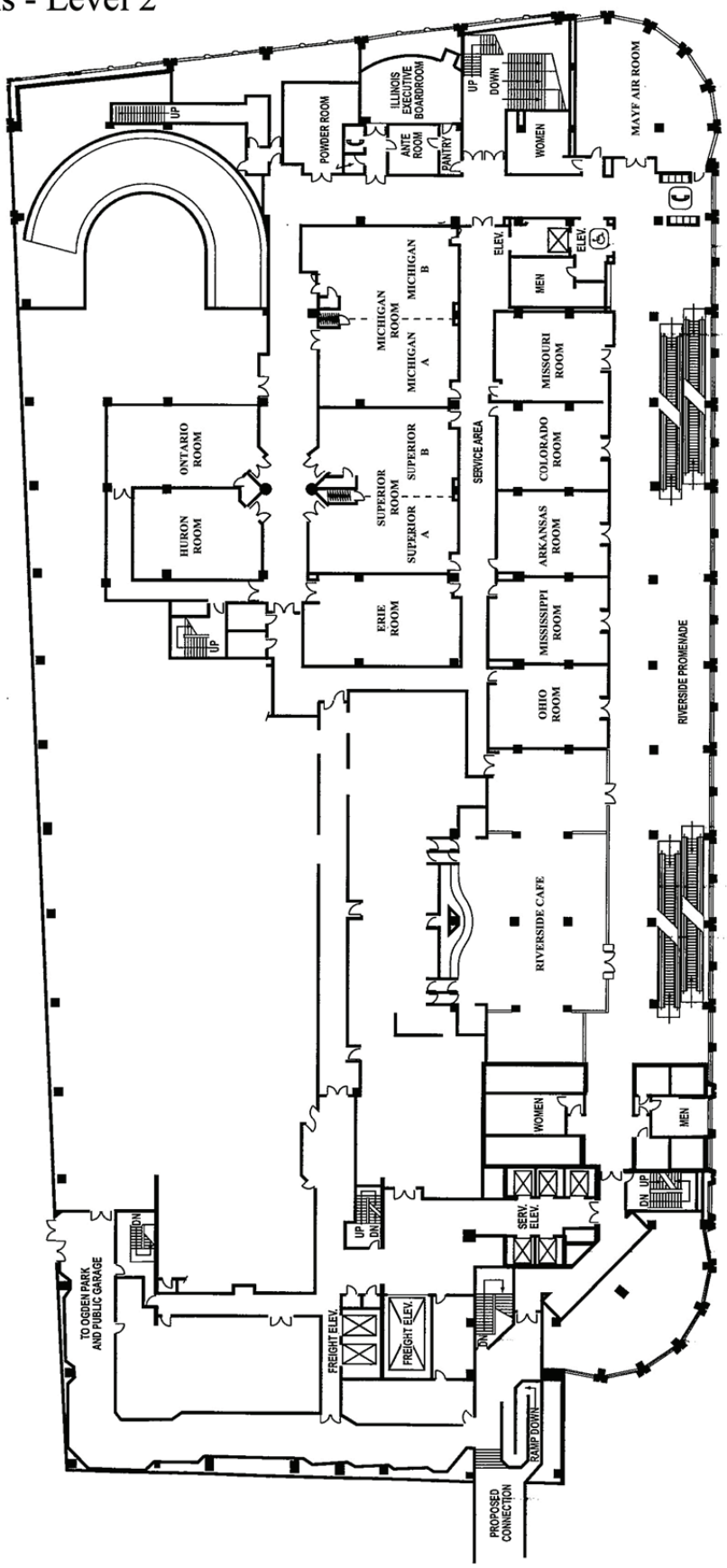
SATURDAY, March 7		
12:01 am - 10:00 pm	**Posters Open**	**River Exhibit Hall**
7:00 am - 3:00 pm	**Speaker Ready Room**	**Columbus A**
8:15 am - 3:00 pm	**Registration and Book/T-Shirt Pick Up Open**	**Sheraton/Chicago Ballroom Promenade**
8:30 am - 10:15 am	**Concurrent Platform Sessions**	
	Cell Biology & Signal Transduction	**Sheraton 4/5**
	Drosophila Models of Human Disease I	**Chicago 6/7**
	Regulation of Gene Expression I	**Chicago 8-10**
10:15 am - 10:45 am	**Coffee Break**	**Sheraton/Chicago Ballroom Promenade**
10:45 am - 12:30 pm	**Concurrent Platform Sessions**	
	Cell Biology & Cytoskeleton I	**Sheraton 4/5**
	Drosophila Models of Human Disease II	**Chicago 6/7**
	Gene Expression & Chromatin II	**Chicago 8-10**
1:30 pm - 3:30 pm	**Exhibits Open & Poster Presentations** *Presentations - 1:30 pm ODD Posters, 2:30 pm EVEN posters*	**River Exhibit Hall**
4:00 pm - 6:00 pm	**Concurrent Platform Sessions**	
	Cell Biology & Cytoskeleton II	**Sheraton 4/5**
	Stem Cells	**Chicago 6/7**
	Immunity & Pathogenesis (4 talks) and Physiology, Organismal Growth & Aging II (4 talks)	**Chicago 8-10**
6:45 pm - 8:45 pm	**Concurrent Workshops**	
	Diverse Applications of CRISPR-Cas9 Genome Engineering	**Sheraton 3**
	Drosophila Research and Pedagogy at Primarily Undergraduate Institutions (PUI)	**Sheraton 1**
	Everything You Ever Wanted to Know About Sex	**Missouri**
	Cracking the Cis Regulatory Code: New Computational and Physical Approaches	**Sheraton 2**
7:00 pm - 10:00 pm	**Exhibits Open & Poster Viewing**	**River Exhibit Hall**
9:15 pm - 11:15 pm	**Concurrent Workshops**	
	Homologous Recombination Mechanisms and Metrics	**Sheraton 1**
	Developmental Mechanics	**Sheraton 2**
	New Tools and Approaches for Behavioral Phenotyping in Drosophila	**Sheraton 3**

SCHEDULE OF EVENTS

SUNDAY, March 8		
8:30 am - 12:00 noon	**Plenary Session II** *Moderator:* Michael Eisen, HHMI & University of California, Berkeley	**Sheraton/Chicago Center**
8:30 am	**Poster Awards Presentation** Ilaria Rebay, University of Chicago, IL	
8:35 am	**How Zelda Promotes Enhancer Activity During Zygotic Genome Activation** C. Rushlow, Department of Biology, New York University, New York, NY	
9:05 am	**Asymmetric Stem Cell Division in Drosophila Testis** Yukiko Yamashita, Ctr Stem Cell Biol, Univ Michigan, Ann Arbor, Ann Arbor, MI; Howard Hughes Medical Institute	
9:35 am	**Mechanisms and Functions of RNA Silencing Pathways** Phillip Zamore, RNA Therapeutics Institute, University of Massachusetts Medical School, Worcester, MA 01605	
10:05 am	**Break**	
10:30 am	**Control of Proliferative and Immune Homeostasis in the Aging Intestine** Heinrich Jasper, Buck Institute for Research on Aging, Novato, CA	
11:00 am	**Decapentaplegic and the Control of Growth in the *Drosophila* Wing Imaginal Disc** Matthew Gibson, Stowers Institute for Medical Research, Kansas City, MO 64110 USA	
11:30 am	**Flies and Alcohol: Interplay of Nature and Nurture** Ulrike Heberlein, HHMI/Janelia Farm Research Campus, Ashburn, VA	

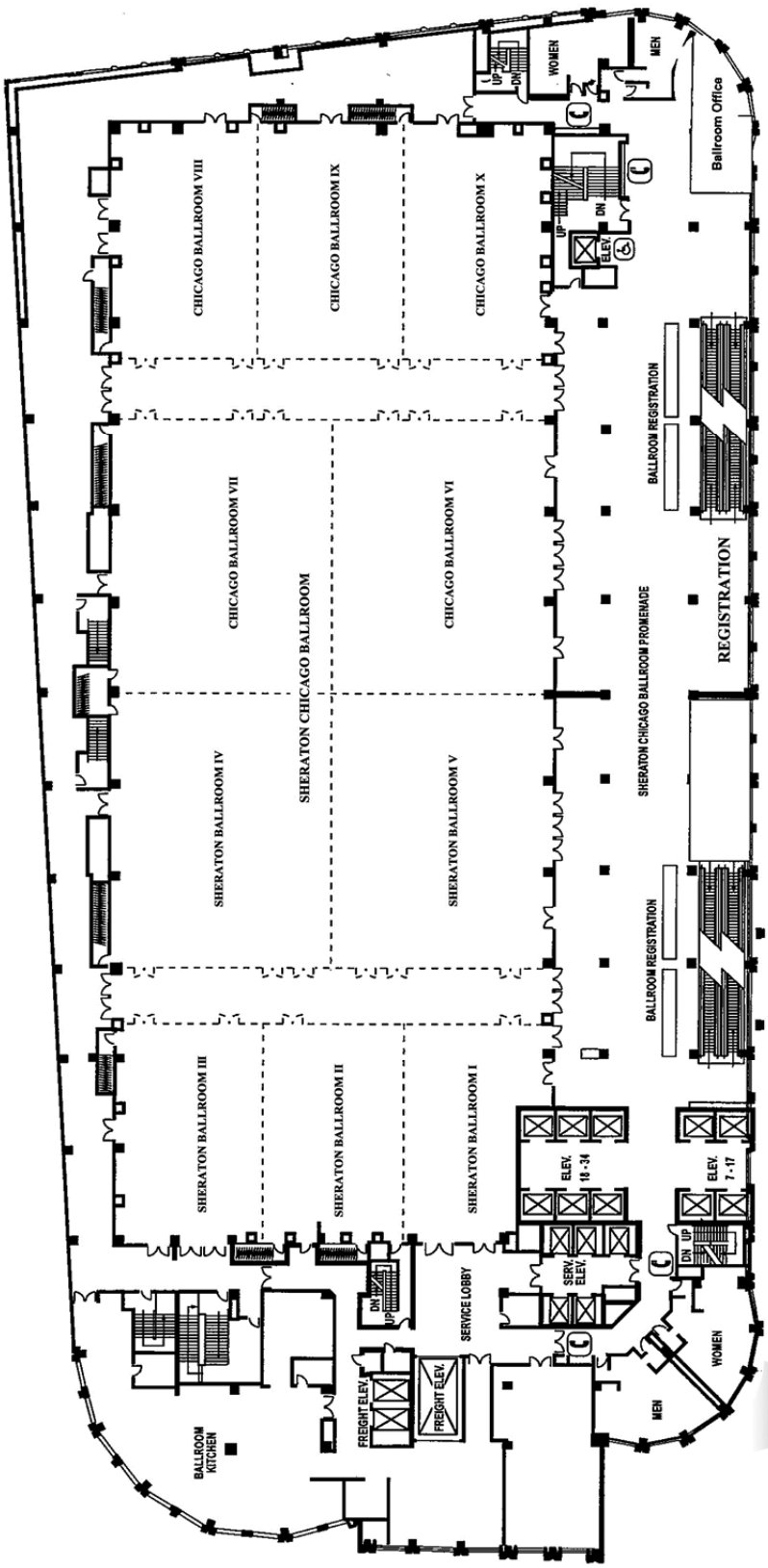
HOTEL MAP

Meeting Rooms - Level 2



HOTEL MAP

Ballrooms - Level 4



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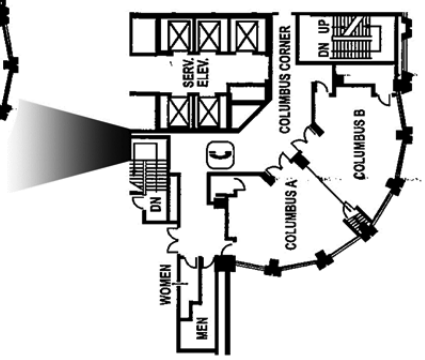
Drosophila Genetics

Speaker Ready Room - Level 3



GENERAL INFORMATION

- **Badges**

Badges are **required** for admission to all sessions, the opening mixer, and the posters and exhibits in the Exhibit Hall. Security officers will not allow individuals without badges to enter the Exhibit Hall. If you lose your badge, a replacement may be requested at the Registration and Information Counters during posted registration hours. Badges may not be used by anyone other than the registered attendee. Each attendee must have his/her own badge.

- **Employment Opportunities/Seeking Employment Notices – Convention Registration Desk, Ballroom Foyer**

Individuals and institutions offering or seeking employment may post notices and résumés on the "Employment Opportunities" bulletin boards set up near the Registration and Information Counters at the Convention Registration Desk. Be sure to stop by the GSA Booth and ask about the Jobs Board online at www.geneticscareers.org

- **Family Room/Childcare – Tennessee, Level 2**

A Family Room for nursing mothers will be available at the Sheraton Chicago Hotel & Towers. Please note that parents and guardians are responsible for providing infant care supplies. The Family Room is unsupervised and The Genetics Society of America is not responsible for any accidents or injuries that may occur. Onsite childcare services may be available through your hotel concierge. It is the responsibility of the parent(s), guardian, legal guardian, or individual requesting childcare services to screen caregivers and to make a determination as to the appropriateness of the caregiver. The Genetics Society of America does not screen any of the childcare services and assumes no responsibility with respect to these services and accepts no liabilities.

- **FlyBase Demonstrations – Mayfair**

FlyBase invites all Conference registrants to come to the demo room to learn how to make the best use of the new FlyBase tools and features for your research and teaching. Throughout the afternoon, other than the scheduled group presentations noted below, FlyBase personnel are available in the demo room for one-on-one tutorials, troubleshooting and discussions. Any thoughts on improvements we can make to FlyBase are gratefully appreciated.

Thursday
1:00pm - 5:00pm Demo room open for tutorials and discussions

Presentations:
2:00pm-2:15pm: "Human Disease Models and Gene Groups in FlyBase"
2:20pm-2:35pm: "New views in GBrowse2: release 6 melanogaster assembly, RNA-Seq data, and more"

Friday
1:00pm - 6:00pm Demo room open for tutorials and discussions

Presentations:
3:45pm-4:00pm: "Human Disease Models and Gene Groups in FlyBase"
4:05pm-4:20pm: "New views in GBrowse2: release 6 melanogaster assembly, RNA-Seq data, and more"

- **Internet Access**

Complimentary high speed internet access is available in the Sheraton/Chicago Ballroom Promenade (DROS2015) as well as in your guest room (Sheraton Guest) and in the hotel lobby (Sheraton Lobby). No password is required.

- **Meals**

Please note there are two food functions included in your meeting registration: the Opening Mixer on Wednesday night (with light hors d'oeuvres and a cash bar) and the Continental Breakfast on Thursday morning. All other meals are not included in your conference registration. For all other meals you may choose from options within the hotel or at nearby locations. Please see the hotel concierge for a list of area dining options.

- **Message Boards – Conference Registration Area**

Message boards will be located in the Conference Registration area.

- **Parking**

Valet overnight parking is available at the Sheraton Chicago Hotel & Towers at a rate of $61 per 24 hours with in/out privileges. Daily parking is available for $51 per day. There are many less expensive parking lots within walking distance of the hotel.

GENERAL INFORMATION

- **Photography**

Absolutely no photography is allowed in the exhibit hall/poster display areas.

- **Poster Sessions and Exhibits – River Exhibit Hall, Level 1**

All posters will be displayed in the River Exhibit Hall. The Hall will be open to Conference registrants on a 24-hour basis beginning at 5:00 pm, Wednesday, March 4, until 10:00 pm, Saturday, March 7. **Security will be posted at the entrance to the Hall and only individuals with official Drosophila Conference registration badges will be admitted**. All attendees are responsible for their own personal items and should not leave things unattended. Guest pass requests may be made at the registration counter during regular registration hours.

Exhibit representatives will be in their booths:

Thursday, March 5:	2:00 pm–4:00 pm and 8:00 pm–11:00 pm
Friday, March 6:	2:00 pm–4:00 pm and 8:00 pm–11:00 pm
Saturday, March 7:	1:30 pm–3:30 pm and 7:00 pm–10:00 pm

Authors are expected to be present at their boards according to the following schedule:

Thursday, March 5:	2:00 pm–3:00 pm	Even-Numbered Posters
	3:00 pm–4:00 pm	Odd-Numbered Posters
	8:00 pm–11:00 pm	Open poster viewing (Authors not required to be present)
Friday, March 6	2:00 pm–4:00 pm	Open poster viewing (Authors not required to be present)
	8:00 pm–9:00 pm	"C" posters
	9:00 pm–10:00 pm	"B" posters
	10:00 pm–11:00 pm	"A" posters
Saturday, March 7:	1:30 pm-2:30 pm	Odd-Numbered Posters
	2:30 pm-3:30 pm	Even-Numbered Posters
	7:00 pm–10:00 pm	Open poster viewing (Authors not required to be present)

All posters must be removed from poster boards no later than 11:00 pm on Saturday, March 7. After that time, remaining posters will be removed by vendors and may be lost. The GSA Administrative Office does not take responsibility for posters that are not removed by 11:00 pm on Saturday.

- **Registration, Book and T-Shirt Pickup – Ballroom Promenade, Level 4**

Conference registration and book pickup will be open as follows:

Wednesday, March 4	3:30 pm–9:00 pm
Thursday, March 5	8:00 am–5:00 pm
Friday, March 6	8:30 am–5:00 pm
Saturday, March 7	8:30 am–3:00 pm

Note that attendees must be registered before attending the Opening General Session on Wednesday, March 4, 7:00 pm in order to attend that session.

Those who purchased t-shirts can pick them up at any time during normal registration hours but BEFORE noon on March 7. A limited number of additional t-shirts have been ordered and will be available for sale onsite.

- **Speaker Ready Room – Columbus A, Lobby Level 3**

All Speakers are required to load and check their presentation at least four hours (preferably the day before) in advance of the start of the session (not your specific time slot but the overall session time) in the Speaker Ready Room. Here is a schedule of the times that the Speaker Ready Room will be open:

Wednesday, March 4	3:00 pm-6:30 pm
Thursday, March 5	7:00 am-3:00 pm
Friday, March 6	7:00 am-3:00 pm
Saturday, March 7	7:00 am-3:00 pm

IMPORTANT – Even if you have loaded your presentation before the conference you still must check in at the Speaker Ready Room. Presentations cannot be loaded in the meeting rooms.

EDUCATION OPPORTUNITIES

There are great opportunities for undergraduate researchers; graduate student and postdoctoral trainees; genetics students at local undergraduate institutions; and genetics educators.

Wednesday, March 4

10:30 am-4:00 pm: GSA Trainee Boot Camp **Advanced Registration Required**

Based on feedback from trainees both in focus groups and individual conversations, GSA will implement a pre-conference "bootcamp" with a series of professional development workshops. Open to Grad Students and Postdocs only.

4:00-7:00 pm: Preparing your Educational Resources for Online Publication **Advanced Registration Required**

Educators who have been wondering how to prepare their teaching resources for publication in an online repository should apply for this workshop, which will guide attendees through the submission process for both CourseSource and GSA PREP, and give them a dedicated time to work on their submissions. Robin Wright, Editor-in-Chief for CourseSource and GSA Education Committee member; Sarah (Sally) Elgin, GSA Education Committee member and member of the GSA Board of Directors; and Beth Ruedi (GSA) will be on hand to describe the two resource portals, answer questions, and provide guidance to attendees.

5:00-7:00 pm: GSA Education Special Interest Group Mixer

Faculty with a passion for genetics education are encouraged to attend this event, where they can mix and mingle with other educators. Current members of the Education SIG can catch up on actions taken by GSA with regards to the education initiative, and those who are not yet SIG members can learn about the Education SIG. Information about GSA PREP, the Primers in GENETICS, and other education-related opportunities will also be available.

Thursday, March 5, 2015

7:15-8:30 am: Undergraduate Mixer

On the first full day of the conference, undergraduate researchers will network on their own during breakfast, forming a peer-group that will help provide lasting support for the remainder of the meeting.

8:30 am–12:30 pm: "The Genetics Conference Experience" **Invitation-only**

The GSA Genetics Conference Experience provides students from genetics classes at local undergraduate institutions with the unique opportunity to observe distinguished career scientists present their current research in a conference setting. The students, accompanied by their professor, will receive a background lecture and participate in an interactive discussion before attending part of a plenary session. This informative and engaging program is meant to give students a glimpse into the real world of genetic research, and is NOT intended for students who are already involved in scientific research, but rather will provide students with the opportunity to learn about current scientific research outside of a textbook, witness the communication of scientific research first-hand, and ideally will foster an interest in furthering their science education. It is free of cost, and invitation-only.

12:45-2:00 pm: GSA Career Luncheon **Ticket Required**

The GSA Career Luncheon is an excellent opportunity for undergraduates, graduate students, and postdoctoral fellows to have informal conversations with senior career scientists regarding the unique challenges and rewards of a scientific career. The luncheon is organized by topic table. Topics may include things like: transition to independence, work-family balance, teaching at undergraduate institutions, careers outside traditional academia, the job search, the postdoc search, choosing the right advisor, etc.

Friday, March 6, 2015

1:30 – 4:00 pm: Plenary Session and Workshop for Undergraduate Researchers

Undergraduate conference attendees will attend an "Undergraduate Plenary Session" from 1:30-2:45 pm, with two talks presented at a level appropriate for an undergraduate audience. From 3:00-4:00 pm, undergraduates will have a chance to talk to a panel of graduate students about applications, interviewing, admission, choosing a lab, and quality of life in grad school.

Saturday, March 7, 2015

6:45 PM–8:45 PM: Drosophila Research and Pedagogy at Primarily Undergraduate Institutions (PUI)

This workshop provides a platform for presentation and discussion of Drosophila research and pedagogy at primarily undergraduate institutions (PUIs). The goals include: 1) promoting undergraduate research by providing a forum for students to make oral presentations; 2) connecting people interested in research and teaching at a PUI with current PUI faculty; 3) establishing a network among current PUI faculty to promote discussion and collaboration, and to provide support on professional issues that differ from those at large institutions; 4) sharing concepts and techniques that encourage the integration of Drosophila as a teaching tool in the classroom and laboratory.

AWARDS

Larry Sandler Memorial Lecture

The Larry Sandler Memorial Lecture was established in 1988 by the colleagues, friends and students of Dr. Larry Sandler after his untimely death in February 1987. The award serves to honor Dr. Sandler for his many contributions to Drosophila genetics and his exceptional dedication to the training of Drosophila biologists. Any student completing his Ph.D. in an area of Drosophila research in the calendar year preceding the annual Drosophila Research Conference is eligible and may be nominated by his/her dissertation advisor. The Selection Committee for 2015 includes chair, Erika Bach, and committee, Daniela Drummond-Barbosa, Wes Grueber, Artyom Kopp and Louisa Wu. The Committee reviews nominations, reads the dissertations of the finalists, and selects the awardee.

Past recipients of this honor are:

Bruce Edgar, 1988
Kate Harding, 1989
Michael Dickinson, 1990
Maurice Kernan, 1991
Doug Kellogg, 1992
David Schneider, 1993
Kendal Broadie, 1994
David Begun, 1995
Chaoyong Ma, 1996
Abby Dernburg, 1997
Nir Hacohen, 1998
Terence Murphy, 1999
Bin Chen, 2000
James Wilhelm, 2001
Matthew C. Gibson, 2002
Sinisa Urban, 2003
Sean McGuire, 2004
Elissa Hallem, 2005
Daniel Ortiz-Barrientos, 2006
Yu-Chiun Wang, 2007
Adam A. L. Friedman, 2008
Timothy Weil, 2009
Leonardo Barbosa Koerich, 2010
Daniel Babcock, 2011
Stephanie Chen, 2012
Weizhe Hong, 2013
Ruei-Jiun Hung, 2014

The Victoria Finnerty Memorial Fund for Undergraduate Travel Award

This fund, which honors the memory of Victoria Finnerty, has been established to support travel costs for undergraduates engaged in research to attend the Annual Drosophila Research Conference. Vickie, who died in February 2011, was a long-time member of the Genetics Society of America and served the Drosophila community and the Genetics community at large in many capacities.

A wonderful geneticist, Vickie's ground-breaking work as a graduate student used high resolution recombination analysis to dissect gene structure. This set the stage for a 35 year career in which she excelled as a gifted teacher as well as research scientist.

Congratulations to this year's winners:

Jonathan Cohen, Swarthmore College
Alexander Kneubehl, Ohio Northern University
Kiu Ming April Kong, York University
Meera Namireddy, Rice University
Irina Pushel, Michigan State University
Anna Zeidman, Brown University

To make a tax deductible contribution, send your check to the attention of Adam Fagen, Executive Director, The Genetics Society of America, 9650 Rockville Pike, Bethesda, MD 20814-3998. Please write "Finnerty Fund" in the memo portion of the check. Or you can make an online donation by visiting www.genetics-gsa.org.

The DeLill Nasser Award for Professional Development in Genetics

The DeLill Nasser Award for Professional Development in Genetics was established by The Genetics Society of America in mid-2001 in honor of the late DeLill Nasser, who served for 22 years as the program director of the Eukaryotic Genetics Section at the National Science Foundation.

The award fund, made possible by contributions from her family and friends. It recognizes Dr. Nasser's contributions to the field of genetics and her strong support of young scientists. Travel and tuition awards will be made annually to allow graduate students and postdoctoral trainees to attend meetings or enroll in laboratory courses.

So far this year eight awards have been given, four of which were used to attend the Drosophila Research Conference. DeLill Nasser Awards have two rounds of applications per year; one for courses and conferences occurring between January 1 and June 30, and another for courses and conferences occurring between July 1 and December 31. Monitor the GSA e-News and homepage (www.genetics-gsa.org) for updates regarding application windows.

The GSA encourages all of its members and friends to donate. Please make your check payable to The Genetics Society of America and send it to Adam Fagen, Executive Director, GSA, 9650 Rockville Pike, Bethesda, MD 20814-3998. Please write "Nasser Fund" on the bottom left of the check.

Poster Award Competition

Posters are an important component of the Drosophila meeting and the Poster Award appropriately highlights the work that goes into a professional presentation of outstanding science.

Nine awards will be given for the best poster designs. First ($500), second ($300) and third ($200) place prizes will be given to the undergraduate students, graduate students and postdocs judged to have the best posters. Both scientific merit and clarity of visual presentation will be evaluated. To be eligible, your poster must be displayed from 11:00 pm on March 4 through 10:00 pm on March 7, 2015. Additionally, your poster number, which will be preset, should not be moved or covered. Posters that are removed, not displayed or don't adhere to poster display guidelines will not be considered.

This competition is only open to students and postdocs who are members of GSA. PI's are not eligible.

If you are a session chair you should submit your selections for top undergraduate, graduate and postdoc in your section via e-mail to Marc Freeman (Marc.Freeman@umassmed.edu) by 7:00 p.m. on Friday, March 6. **Please put "poster awards" in the subject line.**

Award Winners – Please bring and display your poster in the Sheraton/Chicago Ballroom Promenade on Sunday, March 8 by 7:00 a.m. (boards will be available beginning at 5:00 p.m. on Saturday, March 7). Your award will be presented during the Sunday morning Plenary Session.

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URL: https://dgrc.bio.indiana.edu

The Drosophila Genomics Resource Center (http://www.dgrc.cgb.indiana.edu) serves the Drosophila community by collecting and distributing clones and cell lines of general interest and by assisting the community in using these materials. Visit our booth for information about upcoming services or to speak to DGRC personnel about our materials.

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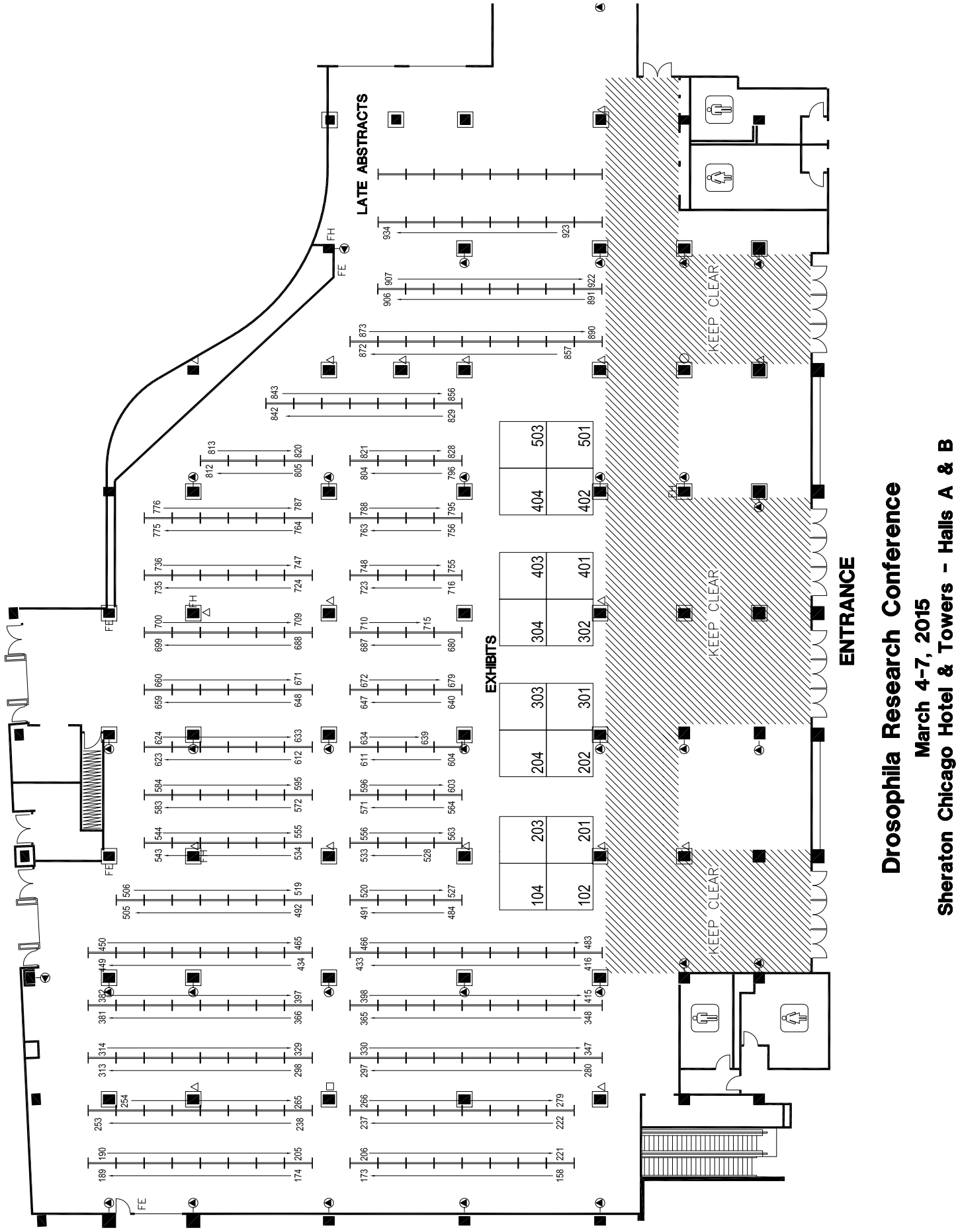
POSTERS AND EXHIBITS MAP



OPENING AND PLENARY SESSIONS

Wednesday, March 4 7:00 PM–9:15 PM

Opening General Session

Co-Moderators: Ilaria Rebay, University of Chicago, IL and Greg Beitel, Northwestern University, Evanston, IL

Room: Sheraton/Chicago Center
Presentations:

7:00 pm **Welcome and Opening Remarks. Ilaria Rebay**. University of Chicago, IL.

7:10 pm **GSA Update. Adam Fagen**. Genetics Society of America, Bethesda, MD.

7:20 pm **Presentation of Larry Sandler Award. Erika Bach**. NYU Langone Medical Center, NY.

7:25 pm **Larry Sandler Award Lecture.**

7:55 pm **Keynote Address Introduction. Greg Beitel**. Northwestern University, Evanston, IL.

8:00 pm **Drosophila: Assuming the Mantle of Leadership in Biological Research. Allan Spradling**. HHMI and Carnegie Institution for Science, Baltimore, MD.

9:00 pm **GSA Awards Presentation. Lynn Cooley**. GSA Board of Directors and Yale University, New Haven, CT.

Thursday, March 5 8:30 AM–12:00 NOON

Plenary Session I

Moderator: Marc Freeman, HHMI & University of Massachusetts Medical School, Worcester, MA

Room: Sheraton/Chicago Center
Presentations:

8:30 am **Image Award Presentation. Michelle Arbeitman**. Florida State University College of Medicine, Tallahassee.

8:35 am **Cell division and epithelial tissue morphogenesis. Yohanns Bellaiche**. Genetics and Developmental Biology Department, Institut Curie, Paris, France.

9:05 am **Genetic conflicts during meiosis drive innovation in centromeric proteins. Harmit Malik**. Dept Basic Sci & HHMI, Fred Hutchinson CA Res Ctr, Seattle, WA.

9:35 am **Coordinate Migration of Mesoderm Cells in the *Drosophila* Embryo. Angela Stathopoulos**. Division of Biology and Bioengineering, Caltech, Pasadena, CA.

10:05 am - **Break**

10:30 am **Signaling kinetics in the early embryo. Stanislav Shvartsman**. Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ.

11:00 am **Addressing complexity of Notch in cancer: When less is more. Maria Dominguez**. Neuroscience Institute of Alicante, UMH-CSIC, San Juan de Alicante Spain

11:30 am **Using Drosophila neuroblasts as a model for stem cell biology and tumorigenesis. Juergen Knoblich**. IMBA - Institute of Molecular Biotechnology, Vienna, Austria.

Sunday, March 8 8:30 AM–12:00 NOON

Plenary Session II

Moderator: Michael Eisen, HHMI & University of California, Berkeley

Room: Sheraton/Chicago Center
Presentations:

8:30 am **Poster Awards Presentation. Ilaria Rebay**. University of Chicago, IL.

8:35 am **How Zelda promotes enhancer activity during zygotic genome activation. C. Rushlow**[1], Y. Sun[1], C.-Y. Nien[1], SM. Foo[1], H.-Y. Liu[1], K. Chen[2], J. Zeitlinger[2]. 1) Department of Biology, New York University, New York, NY; 2) Stowers Institute for Medical Research, Kansas City, MO.

9:05 am **Asymmetric stem cell division in Drosophila testis. Yukiko Yamashita**[1,2]. 1) Ctr Stem Cell Biol, Univ Michigan, Ann Arbor, Ann Arbor, MI; 2) Howard Hughes Medical Institute.

9:35 am **Mechanisms and Functions of RNA Silencing Pathways. Phillip Zamore**. RNA Therapeutics Institute, University of Massachusetts Medical School, Worcester, MA 01605.

10:05 am - **Break**

10:30 am **Control of Proliferative and Immune Homeostasis in the Aging Intestine. Heinrich Jasper**. Buck Institute for Research on Aging, Novato, CA.

11:00 am **Decapentaplegic and the control of growth in the *Drosophila* wing imaginal disc. Matthew Gibson**, Takuya Akiyama. Stowers Institute for Medical Research, Kansas City, MO 64110 USA.

11:30 am **Flies and Alcohol: Interplay of Nature and Nurture. Ulrike Heberlein**[1], Ulrike Heberlein, past and current lab members[2]. 1) HHMI/Janelia Farm Research Campus, Ashburn, VA; 2) University of California at San Francisco, San Francisco, CA.

Notes

WORKSHOPS

Wednesday, March 4 12:00 NOON–6:00 PM

Ecdysone Workshop

Room: Chicago 8

Organizers: **Laurie von Kalm**, University of Central Florida , and
Nick Sokal, Indiana University

The Ecdysone Workshop welcomes all those interested in insect endocrinology. Importantly, this workshop is a forum to discuss the role of different hormones (e.g., 20-hydroxyecdysone, juvenile hormone, peptide hormones, insulin) and the crosstalk between their signaling pathways. The topics covered include, but are not limited to, hormone synthesis and secretion, and hormonal control of transcription, differentiation, morphogenesis, growth, metabolism, timing and behavior. Platform talks of 15 minutes will be selected from interested applicants and grouped into sessions, with each session highlighted by an invited speaker. To apply and/or receive the final program, please email the organizers. Laurie von Kalm, University of Central Florida (lvonkalm@ucf.edu), Nick Sokal, Indiana University (nsokol@indiana.edu)

Friday, March 6 1:30 PM–4:00 PM

Plenary Session and Workshop for Undergraduate Researchers

Room: Missouri

Organizers: **Alexis Nagengast**, Widener University, Chester, PA, and
Beth Ruedi, Genetics Society of America, Bethesda, MD

Undergraduate conference attendees will attend an "Undergraduate Plenary Session" from 1:30-2:45 pm, with two talks presented at a level appropriate for an undergraduate audience. From 3:00-4:00 pm, undergraduates will have a chance to talk to a panel of graduate students about applications, interviewing, admission, choosing a lab, and quality of life in graduate school.

Friday, March 6 1:45 PM–3:45 PM

Communicating Your Drosophila Research to Scientific and Non-scientific Audiences

Room: Michigan A/B

Organizers: **Joyce Fernandez**, Miami University, Oxford, OH, and
Raeka Aiyar, Genetics Society of America, Bethesda, MD, and
Andreas Prokop, The University of Manchester, UK

This workshop will focus on science communication. First, we will discuss its importance for our research productivity, explaining relevant communication skills and how they can improve our publications, grant applications, presentations, to effectively communicate relevance of the research. We will then explain Drosophila-specific strategies for science communication, providing examples from University, lay audience and school contexts. It will become clear how science communication can improve our own research and the use of our model organism Drosophila, its recognition by non-fly researchers and the general public, and even science teaching at schools. There will be ample opportunity for discussion.

Friday, March 6 1:45 PM–3:45 PM

Feeding Behavior, Nutrition and Metabolism

Room: Chicago 8-10

Organizers: **Tânia Reis**, University of Colorado School of Medicine, Denver, and
William W. Ja, The Scripps Research Institute, La Jolla, CA

Drosophila has become as a powerful model system for studying how diet and nutrition can influence a wide range of metabolic processes. This workshop is designed to assemble a diverse group of presentations that highlight recent advances in the field of nutrition and metabolism. The goal of this workshop is to foster discussions and encourage collaborations among individuals interested in topics ranging from food intake as a fundamental parameter of metabolism to the effects of diet on energy storage and utilization.

Friday, March 6 1:45 PM–3:45 PM

Integration of Computational Approaches and Big Data to Tackle Systems-Biology Problems in Drosophila and other Model systems

Room: Sheraton 2

Organizers: **Marc S. Halfon**, University at Buffalo-SUNY; **Molly Duman-Scheel**, Indiana University School of Medicine, South Bend, IN and the University of Notre Dame, Notre Dame, IN; **Alexander Fletcher**, Oxford University, England; **Greg Reeves**, North Carolina State University, Raleigh; and **Jeremiah Zartman**, University of Notre Dame.

With the rapid advancement of molecular biology and gene editing tools, the concept and rationale of simpler model organisms is being blurred, yet it is clear that Drosophila still has a great deal to offer the scientific community in both fundamental and applied research in many areas for a long time to come. In this workshop, speakers will discuss how computation and big data approaches can employ Drosophila either as a tool or a test bed to break down barriers between individual fields as well as a powerful system that provides the impetus and the means to advance into unexplored intellectual territories. The goal is to provide a forum for investigators working on computational and big data problems to discuss how Drosophila researchers can extend their studies to impact a wide range of both medically and agriculturally relevant questions, learn about available resources and techniques, and form new collaborations.

Friday, March 6 1:45 PM–3:45 PM

Tools for Functional Genomics Analyses

Room: Sheraton 1

Organizers: **Stephanie Mohr**, Harvard Medical School, Boston, MA; **Norbert Perrimon**, Harvard Medical School, Boston, MA; and **Lizabeth Perkins**, Harvard Medical School, Boston, MA

The workshop will focus on online tools for analysis of functional genomics data. We will present functional genomics pipelines that utilize tools developed for the community by our group (DIOPT, COMPLEAT, RSVP, etc.) and others (DAVID, Cytoscape etc.). We will emphasize tools relevant to analysis of datasets from various types of studies, tools for identifying reagents for large-scale studies, and tools for network representation of data sets, e.g. from in vivo RNAi screens. Attendees will then be able to use the tools to analyze test data, and ask questions, provide feedback, and discuss the need for additional tools and resources.

Friday, March 6 1:45 PM–3:45 PM

Harnessing Community Resources for Drosophila Neuroscience

Room: Sheraton 3

Organizers: **Cahir O'Kane**, University of Cambridge, UK, and **David Osumi-Sutherland**, European Bioinformatics Institute, Cambridge, UK

Drosophila allows the dissection of neuronal circuits on a tractable scale, in an organism that exhibits sophisticated behaviour. The emergence of characterized connectome-scale reagent collections and other transgenes to visualise and manipulate neurons underpins advances towards this goal. A major challenge is to integrate these reagents and rich accompanying datasets with each other and the wider literature, while providing public access through efficient text and image-based searches. This workshop will highlight emerging experimental, genetic and informational resources for this purpose, crystallise the needs of the user community, and discuss how reagents and datasets can be made better accessible.

Saturday, March 7 6:45 PM–8:45 PM

Diverse Applications of CRISPR-Cas9 Genome Engineering

Room: Sheraton 3

Organizers: **Jill Wildonger**, University of Wisconsin, Madison; **Kate O'Connor-Giles**, University of Wisconsin, Madison; and **Melissa Harrison**, University of Wisconsin, Madison

In the short time since its first application, the CRISPR-Cas9 system has transformed genome engineering in Drosophila. This workshop will detail new advances, highlight successful application of the system to address diverse biological questions, and encourage discussion of methods for further expanding the utility of this technology. Following six 15-minute presentations, a question-and-answer discussion forum will promote a dynamic exchange of information for successfully applying CRISPR technology and ideas on creative strategies for future applications.

Saturday, March 7 6:45 PM–8:45 PM

Drosophila Research and Pedagogy at Primarily Undergraduate Institutions (PUI)

Room: Sheraton 1

Organizers: **Josefa Steinhauer**, Yeshiva University, New York, NY, and **David Roberts**, Franklin and Marshall College, Lancaster, PA, and **Eric Stoffregen**, Lewis-Clark State College, Lewiston, ID, and **Rebeccah Kurzhals**, Southeast Missouri State University

This workshop provides a platform for presentation and discussion of Drosophila research and pedagogy at primarily undergraduate institutions (PUIs). The goals include: 1) promoting undergraduate research by providing a forum for students to make oral presentations; 2) connecting people interested in research and teaching at a PUI with current PUI faculty; 3) establishing a network among current PUI faculty to promote discussion and collaboration, and to provide support on professional issues that differ from those at large institutions; 4) sharing concepts and techniques that encourage the integration of Drosophila as a teaching tool in the classroom and laboratory.

Saturday, March 7 6:45 PM–8:45 PM

Everything You Ever Wanted to Know About Sex

Room: Missouri

Organizers: **Michelle Arbeitman**, Florida State University, and **Mark Siegal**, New York University, and **Artyom Kopp**, University of California, Davis, and **Mark VanDoren**, Johns Hopkins University, Baltimore, MD

The workshop will cover the molecular genetics, development, neurobiology, genomics, evolution, and population genetics of sexual dimorphism, with an emphasis on cross-disciplinary interactions. Presentations by invited speakers and selected abstracts from each discipline will be followed by moderated discussions. The speakers are encouraged to summarize the key ideas behind their research for people working in other fields, outline the main unsolved questions, offer their opinions about future directions, and suggest connections that could be built with other disciplines.

Saturday, March 7 6:45 PM–8:45 PM

Cracking the Cis Regulatory Code: New Computational and Physical Approaches

Room: Sheraton 2

Organizers: **David Arnosti**, Michigan State University, and **Saurabh Sinha**, University of Illinois, Urbana-Champaign, and **Hernan Garcia**, University of California, Berkeley

Because of the complex and redundant nature of cis regulatory information, conventional genomics approaches have yet to crack the DNA regulatory code driving metazoan gene expression. Drosophila affords a uniquely powerful system to uncover the action of complex transcriptional regulation involving proximal and distally acting enhancers, laying the path towards the predictive understanding of developmental programs. This workshop will focus on new approaches from biophysics, computational biology, and mathematical modeling that offer important opportunities to significantly move this field of research forward.

WORKSHOPS

Saturday, March 7 9:15 PM–11:15 PM

Homologous Recombination Mechanisms and Metrics

Room: Sheraton 1

Organizers: **Mitch McVey**, Tufts University, and **Jeff Sekelsky**, University of North Carolina, and **Jan LaRocque**, Georgetown University

The goal of this workshop is to promote discussion between researchers working at the interface of recombination, repair, and genome evolution. Major themes will include factors that influence the timing and location of meiotic and mitotic crossovers, chromatin effects on recombination, and systems for measuring recombination.

Saturday, March 7 9:15 PM–11:15 PM

Developmental Mechanics

Room: Sheraton 2

Organizers: **Rodrigo Fernandez-Gonzalez**, University of Toronto, and **Guy Tanentzapf**, University of British Columbia

D'Arcy Thompson in his seminal book on growth and form proposed that physical forces play a central role in animal development. Over the last twenty years, the establishment of tools to measure and manipulate mechanical forces in living organisms has demonstrated that indeed mechanical forces influence molecular dynamics and cell behaviors during tissue morphogenesis. In this workshop, we will review the most recent technical advances to visualize and quantify force generation during Drosophila development, and we will discuss the latest results demonstrating the interplay between physical forces, molecular dynamics and tissue morphogenesis.

Saturday, March 7 9:15 PM–11:15 PM

New Tools and Approaches for Behavioral Phenotyping in Drosophila

Room: Sheraton 3

Organizers: **Pavel M Itskov**, Champalimaud Centre for the Unknown, Lisbon, Portugal, and **Giorgio F Gillestro**, Imperial College London, UK, and **Carlos Ribeiro**, Champalimaud Centre for the Unknown

Analyzing behavior and interpreting behavioral data can be a tedious, complicated and intimidating task for non experts. The workshop will focus on state-of-the-art behavioral phenotyping tools that have been created for the broader Drosophila community. The aim is to introduce recent advances and to foster new collaborations. The workshop will emphasize automated unbiased approaches using open source technologies enabling next generation high-throughput behavioral screening. The workshop will include, but will not be limited to, the following topics: video tracking and automated classification of adult and larval behavior, automated methods to monitor feeding behavior, circadian activity and sleep.

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Thank You!

To the Organizers and Session Chairs who spent countless hours reviewing abstracts and developing the program.

Organizers

Greg Beitel
Michael Eisen
Marc Freeman
Ilaria Rebay

Session Chairs

Erika Bach
Utpal Banerjee
Patricia Beldade
Giovanni Bosco
Sarah Bray
Nicolas Buchon
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CONCURRENT PLATFORM SESSIONS

THURSDAY, MARCH 5 4:30-6:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Cell Division and Growth Control

Co-Moderators: Giovanni Bosco, Geisel School of Medicine at Dartmouth, Hanover, NH and Nic Tapon, Cancer Research UK London Research Institute, UK

Room: Sheraton 4/5

1 - 4:30
A quantitative study of the *de novo* nucleolus formation in *Drosophila melanogaster* embryos. **Hanieh Falahati**[1,2], Barbra Pelham-Webb[2], Shelby Blythe[2], Eric Wieschaus[2]. 1) Lewis-Sigler Institute for Integrative Genomics; 2) Howard Hughes Medical Institute, Department of Molecular Biology, Princeton University, Princeton NJ. 08544.

2 - 4:45
Examining chromatin structure in different states of G_0. **Yiqin Ma**, Laura Buttitta. MCDB, University of Michigan, Ann Arbor, MI.

3 - 5:00
Chromatin Modifier Trithorax Regulates Systemic Signaling during *Drosophila* Imaginal Disc Regeneration. **Andrea Skinner**, Sumbul Jawed Khan, Rachel K. Smith-Bolton. Cell & Developmental Biology, University of Illinois Urbana-Champaign, Urbana, IL.

4 - 5:15
Growth coordination during regeneration occurs through nitric oxide regulation of steroid hormone production. **Jacob Jaszczak**, Jacob Wolpe, Anh Dao, Adrian Halme. Department of Cell Biology, University of Virginia School of Medicine, Charlottesville, VA.

5 - 5:30
Both damage-responsive WNT expression and an age-dependent decline in regenerative capacity are mediated by a bipartite regulatory element in the WNT cluster. **Robin Harris**, Joshua Saul, Iswar Hariharan. MCB, University of California, Berkeley, Berkeley, CA.

6 - 5:45
Identification of the Dilp8 receptor and characterization of its role in the coordination of organs growth and developmental transitions. **Julien Colombani**, Ditte S. Andersen, Pierre Leopold. Institut of Biology Valrose (iBV), CNRS UMR7277 / INSERM UMR1091 / UNS, Nice, France.

7 - 6:00
Identification of the ligand-receptor system that governs tumor-suppressive cell competition. **Tatsushi Igaki**[1,2], Masatoshi Yamamoto[1], Kei Kunimasa[1], Shizue Ohsawa[1]. 1) Laboratory of Genetics, Graduate School of Biostudies, Kyoto University, Kyoto, Japan; 2) PRESTO, Japan Science and Technology Agency.

8 - 6:15
Localization of Warts activation in vivo. **Shuguo Sun**[1], Venu Reddy[2], Ken Irvine[1]. 1) Waksman Institute, piscataway, NJ; 2) Tata Memorial Center, Navi Mumbai, Maharashtra, India.

Neural Development

Co-Moderators: Cheng-Yu Lee, University of Michigan, Ann Arbor and Oren Schuldiner, Weizmann Institute, Rehovot

Room: Chicago 6/7

9 - 4:30
Dscam Switches Slit Repulsion to Attraction via the Robo Receptor. **Maryam Alavi**, Minmin Song, Gracie Andrews, Taylor Gillis, Thomas Kidd. Dept. of Biology/MS 314, University of Nevada Reno, Reno, NV.

10 - 4:45
Drosophila S6 kinase like inhibits neuromuscular junction growth by downregulating the BMP receptor Thickveins. **Guoli Zhao**[1], Yingga Wu[1], Li Du[2], Qifu Wang[1], Wenhua Li[1], Yongqing Zhang[1]. 1) institute of genetics and developmental biology, CAS, Beijing, China; 2) College of Life Science, Hubei University, Wuhan, Hubei, China.

11 - 5:00
Hippo and its negative regulator Strip regulate synapse formation at *Drosophila* larval neuromuscular junctions. **Takahiro Chihara**[1,2], Chisako Sakuma[1], Yoshie Saito[1], Tomoki Umehara[1], Keisuke Kamimura[3], Timothy Mosca[4], Nobuaki Maeda[3], Masayuki Miura[1,2]. 1) Dept Gen, Grad Sch Pharm, Univ Tokyo, Tokyo, Tokyo, Japan; 2) CREST, JST, Japan; 3) Dept of Brain Dev and Neural Reg, Tokyo Metro Inst of Med Sci, Japan; 4) Dept of Biol, HHMI, Stanford Univ, Stanford, CA.

12 - 5:15
Tenectin (Tnc) recruits Integrins to stabilize postsynaptic structures at the *Drosophila* NMJ. **Qi Wang**, TaeHee Han, Mihaela Serpe. NICHD/NIH, Bethesda, MD.

13 - 5:30
Specification of individual adult motor neuron morphologies by combinatorial transcription factor codes. **Jonathan Enriquez**[1], Myungin Baek[2], Meredith Peterson[1], Lalanti Venkatasubramanian[1], Ulkar Aghayeva[1], Richard Mann[1]. 1) Department of Biochemistry and Molecular Biophysic, Columbia University Medical Center, New York, NY; 2) NYU Neuroscience Institute, Department of Neuroscience and Physiology, NYU School of Medicine.

14 - 5:45
Molecular Dissection of a Cell Specification Regulatory Cascade. **Johannes Stratmannn**[1], Hugo Gabolindo[2], Jonathan Benito-Sipos[2], Stefan Thor[1]. 1) Department of Clinical and Experimental Medicine, Linköping University, SE-581 83 Linköping, SWEDEN; 2) Departamento de Biología, Universidad Autónoma de Madrid, Cantoblanco, E 28049 Madrid, SPAIN.

15 - 6:00
Morphogenesis and development of the postembryonic cortex glial niche. **Renee Read**, Coston Rowe. Pharmacology, Emory University School of Medicine, Atlanta, GA.

16 - 6:15
A novel neurotrophic pathway regulates core features of neuronal identity. **Colleen McLaughlin**, Heather Broihier. Case Western Reserve University, Cleveland, OH.

CONCURRENT PLATFORM SESSIONS

THURSDAY, MARCH 5 4:30-6:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Organogenesis and Gametogenesis

Co-Moderators: Lan Jiang, Oakland University, Rochester, MI and Erika Matunis, Johns Hopkins University, Baltimore, MD

Room: Chicago 8-10

17 - 4:30
Molecular and cellular mechanism of epithelial invagination in the Drosophila salivary gland. **Se-Yeon Chung**, Sangjoon Kim, Deborah Andrew. Dept Cell Biol, Johns Hopkins Univ, Baltimore, MD.

18 - 4:45
Two Forkhead transcription factors regulate cardiac progenitor specification by controlling the expression of receptors of the fibroblast growth factor and Wnt signaling pathways. **Shaad M. Ahmad**[1], Pritha Bhattacharyya[1], Neal Jeffries[2], Stephen S. Gisselbrecht[3], Alan M. Michelson[1]. 1) Laboratory of Developmental Systems Biology, National Heart, Lung and Blood Institute, NIH, Bethesda, MD; 2) Office of Biostatistics Research, National Heart, Lung and Blood Institute, NIH, Bethesda, MD; 3) Division of Genetics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA.

19 - 5:00
The adult midgut progenitor cells are established through asymmetric cell division. **Jessica R. K. Seifert**[1,2], Ruth Lehmann[2]. 1) Farmingdale State College, Farmingdale, NY; 2) NYU School of Medicine, New York, NY.

20 - 5:15
The Wnt signaling and cytoskeletal regulator APC2 controls stem cell niche size, architecture, and stem cell number in the Drosophila ovary. **Stacie Oliver**, Ezgi Kunttas-Tatli, David Vinson, Brooke McCartney. Biological Sciences, Carnegie Mellon University, Pittsburgh, PA.

21 - 5:30
Investigating the role of pHi in promoting stem cell differentiation. **Bryne Ulmschneider**[1], Bree Grillo-Hill[2], Diane Barber[2], Todd Nystul[1]. 1) Anatomy, University of California, SF, San Francisco, CA; 2) Cell and Tissue Biology, University of California, SF, San Francisco, CA.

22 - 5:45
Sex-lethal, Set1, and sexual identity in the adult female germline. **Anne Smolko**, Helen Salz. Department of Genetics and Genome Sciences, Case Western Reserve University, Cleveland, OH.

23 - 6:00
The role of the PIWI/piRNA pathway in the maintenance of genomic integrity. **S. Mani**, M. Zhong, N. Liu, H. Lin. Cell Biology, Yale University, New Haven, CT.

24 - 6:15
Follicular adrenergic signaling plays an essential and conserved role in Drosophila ovulation. **Lylah Deady**[1], Jianjun Sun[1,2]. 1) Physiology and Neurobiology, University of Connecticut, Storrs, CT; 2) Institute for Systems Genomics, University of Connecticut, Storrs, CT.

Notes

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 8:30-10:15 AM

Presenting author is in **bold**. Full abstracts can be found online.

Cell Cycle and Cell Death

Co-Moderators: Bruce A. Edgar, DKFZ & Center for Molecular Biology, University of Heidelberg, Germany and Masayuki Miura, The University of Tokyo, Japan

Room: Sheraton 4/5

25 - 8:30
A novel regulator of cell death, Bulsa, controls nuclear shrinkage during apoptosis. **Yunsik Kang**[1], Gina Castelvecchi[1,2], Doug Braun[1], Arash Bashirullah[1]. 1) University of Wisconsin-Madison, Madison, WI; 2) Washington University, St. Louis,MO.

26 - 8:45
Neural stem cell progeny regulate stem cell death in Notch and Hox dependent manner. **Richa Arya**, Tatevik Sarkissian, Kristin White. CBRC, MGH/HARVARD, CHARLESTOWN, MA.

27 - 9:00
A Krebs cycle component and the mitochondria limit the rate of caspase activation during spermatid remodeling. Lior Aram, Carmel Braverman, Yosef Kaplan, Liat Ravid, **Eli Arama**. Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel.

28 - 9:15
Extracellular reactive oxygen species drive apoptosis-induced proliferation. **Caitlin Fogarty**, Jillian Lindblad, Neha Diwanji, Meghana Tare, Andreas Bergmann. Dept of Cancer Biology, University of Massachusetts Medical School, Worcester, MA.

29 - 9:30
The role of innate immune pathways in cell competition. **Stefanie N. Meyer**[1], Marc Amyoel[2,3], Cora Bergantinos[2], Konrad Basler[1], Laura Johnston[2]. 1) University of Zurich, Zurich, Switzerland; 2) Columbia University, New York, NY USA; 3) New York University School of Medicine, NY, NY USA.

30 - 9:45
Fly-FUCCI - a versatile tool for studying cell proliferation in complex tissues. **Norman Zielke**, Jerome Korzelius, Monique van Straaten, Katharina Bender, Gregor Schuhknecht, Devanjali Dutta, Jinyi Xiang, Bruce Edgar. Deutsches Krebsforschungszentrum (DKFZ) - Zentrum für Molekulare Biologie der Universität Heidelberg (ZMBH) Allianz, Im Neuenheimer Feld 282, 69120 Heidelberg, Germany.

31 - 10:00
Indispensable pre-mitotic endocycles promote aneuploidy in the *Drosophila* rectum. **Kevin Schoenfelder**[1], Ruth Montague[1], Sarah Paramore[1], Ashley Lennox[1], Anthony Mahowald[2], Donald Fox[1]. 1) Duke University, Durham, NC; 2) University of Chicago, Chicago, IL

Evolution and Quantitative Genetics I

Co-Moderators: Patricia Beldade, Instituto Gulbenkian de Ciência, Portugal and Erin Kelleher, University of Houston, TX

Room: Chicago 6/7

32 - 8:30
The *couch potato* gene mediates life history plasticity in *Drosophila melanogaster*. **Katherine R. O'Brien**[1,2], Paul S. Schmidt[2]. 1) Biology, University of Nebraska , Lincoln, NE; 2) Biology, University of Pennsylvania, Philadelphia, PA.

33 - 8:45
Investigating the molecular basis of species interactions: *Saccharomyces cerevisiae* mitochondria are required for optimal attractiveness to *Drosophila melanogaster*. **Kelly Schiabor**[1], Allison Quan[1], Michael Eisen[1,2]. 1) Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA; 2) Howard Hughes Medical Institute, Berkeley, CA.

34 - 9:00
Mitochondrial DNA x nuclear DNA interactions and environment modify fitness in the Drosophila Genetic Reference Panel (DGRP). **Jim Mossman**, Leann Biancani, Marissa Holmbeck, Lei Zhu, David Rand. Ecology and Evolutionary Biology, Brown University, Providence, RI.

35 - 9:15
Contribution of sex, genotype, and environment to individual gene expression profiles. **Kseniya Golovnina**[1], Yanzhu Lin[2], Zhenxia Chen[1], Haiwang Yang[1], Hina Sultana[1], Brian Oliver[1], Susan Harbison[2]. 1) NIH/NIDDK, Bethesda, MD; 2) NIH/NHLBI, Bethesda, MD.

36 - 9:30
The evolution of maternal mRNA deposition and zygotic genome activation across 14 *Drosophila* species. **Joel Atallah**, Susan E. Lott. Evolution & Ecology, University of California - Davis, Davis, CA.

37 - 9:45
Logic and mechanism of natural variation in the compound eye. **Ariane Ramaekers**[1], Simon Weinberger[1], Annelies Claeys[1], Erich Buchner[2], Reinhard Wolf[3], Bassem Hassan[1]. 1) VIB - KULeuven,Belgium; 2) University Hospital Würzburg, Germany; 3) University of Würzburg, Germany.

38 - 10:00
The molecular mechanism behind the evolution of a novel sex-specific trait. **Gavin Rice**[1], Olga Barmina[1], Michelle Arbeitman[2], Artyom Kopp[1]. 1) Evolution and Ecology, University of California at Davis, Davis, CA; 2) College of Medicine, Florida State University, Tallahassee, FL.

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 8:30-10:15 AM

Presenting author is in **bold**. Full abstracts can be found online.

Neurophysiology and Behavior I

Co-Moderators: Coral Warr, Monash University, Clayton, Australia and John Ewer, Universidad de Valparaiso, Chile

Room: Chicago 8-10

39 - 8:30
Talking Flies: Predator-induced changes in behavior can be socially communicated from exposed to naïve flies. **Giovanni Bosco**[1], Balint Kacsoh[1], Julianna Bozler[1], Mani Ramaswami[2]. 1) Genetics & Norris Cotton Cancer Ctr, Geisel Sch Med at Dartmouth, Hanover, NH; 2) Trinity College, Dublin, Ireland.

40 - 8:45
Charaterization of a long-distance neurotransmitter recycling pathway essential for *Drosophila* visual transmission. **Ratna Chaturvedi**, Hong-Sheng Li. Department of Neurobiology , University of Massachusetts Medical School, Worcester, MA.

41 - 9:00
Maturation of central brain flight circuit in Drosophila requires Fz2/Ca^{2+} signaling. **Tarjani Agrawal**, Gaiti Hasan. NCBS-TIFR, Bangalore, India.

42 - 9:15
Systematic characterization of sensorimotor transformations in the Drosophila larva. **Luis A. Hernandez Nunez**, Mason Klein, Lindsey Claus, Aravinthan Samuel. Department of Physics and Center for Brain Science, Harvard University, Cambridge, MA.

43 - 9:30
Drosophila exercise-training requires octopaminergic neuron activity. **Alyson Sujkowski**, Robert Wessells. Wayne State School of Medicine, Detroit, MI.

44 - 9:45
Sensorimotor transformation of cooling in the *Drosophila* larva. **M. Klein**[1], B. Afonso[1,2], M. Berck[1], L. Hernandez-Nunez[1], L. Ni[3], M. Zlatic[2], P. A. Garrity[3], A. D. T. Samuel[1]. 1) Dept. of Physics and Center for Brain Science, Harvard University, Cambridge, MA; 2) HHMI Janelia Farm Research Campus, Ashburn, VA; 3) Dept. of Biology, Brandeis University, Waltham, MA.

45 - 10:00
An RNAi/CRISPR screen for novel regulators of synaptic development and function. **C. Dustin Rubinstein**[1], Caley A. Hogan[2], Nathan J. Carpenter[1], Emily M. Fong[1], Grace Heglund-Lohman[1], Anna E. Zeidman[1,3], Gene H. Thiede[1], Kate M. O'Connor-Giles[1,4]. 1) Laboratory of Cell and Molecular Biology, U. of Wisconsin-Madison, Madison, WI; 2) Genetics Training Program, U. of Wisconsin-Madison, Madison, WI; 3) IBS-SRP, U. of Wisconsin-Madison, Madison, WI; 4) Department of Genetics, U. of Wisconsin-Madison, Madison, WI.

Notes

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 10:45 AM-12:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Evolution and Quantitative Genetics II

Co-Moderators: Mariana Wolfner, Cornell University, Ithaca, New York and Susan Lott, University of California, Davis

Room: Chicago 6/7

46 - 10:45
Krüppel expression levels are maintained through compensatory evolution of shadow enhancers. **Zeba Wunderlich**[1], Meghan D. J. Bragdon[1], Ben J. Vincent[1], Jonathan White[2], Angela H. DePace[1]. 1) Systems Biol, Harvard Med Sch, Boston, MA; 2) Swarthmore College, Swarthmore, PA.

47 - 11:00
Evolution of the Novel Gene Zeus. **Robert Arthur**[1,3], Benjamin Krinsky[1,2], Kevin White[1,2,4], Manyuan Long[1]. 1) Ecology and Evolution, University of Chicago, Chicago, IL; 2) Institute for Genomics and Systems Biology, University of Chicago, Chicago, IL; 3) Committee on Evolutionary Biology, University of Chicago, Chicago, IL; 4) Department of Human Genetics, University of Chicago, Chicago, IL.

48 - 11:15
Mapping genetic background effects on transvection. **Teresa Rzezniczak**, Thomas J. S. Merritt. Department of Chemistry & Biochemistry, Laurentian University, Sudbury, Ontario, Canada.

49 - 11:30
Intragenomic conflict and satellite DNA evolution in *Drosophila*. **Amanda M. Larracuente**, Daniel E. Khost, Anthony Geneva. Department of Biology, University of Rochester, Rochester, NY.

50 - 11:45
P-element invasion of *Drosophila simulans*. **Andrea Betancourt**, Tom Hill, Robert Kofler, Viola Nolte, Christian Schlötterer. Institute for Populationsgenetik, Vetmeduni Vienna, Vienna, Austria.

51 - 12:00
African and European admixture in southeast US and Caribbean Islands populations of *Drosophila melanogaster* affect postmating reproductive phenotypes. **Joyce Kao**[1,2], Asif Zubair[1], Matthew Salomon[1], Seana Lymer[1,2], Sea Hwang[1], Albert Sung[1], Daniel Campo[1], Sergey Nuzhdin[1]. 1) University of Southern California, Los Angeles, CA; 2) New York University, New York, NY.

52 - 12:15
Natural Selection Shapes the Mosaic Ancestry of the *Drosophila* Genetic Reference Panel and the *D. melanogaster* Reference Genome. **John Pool**. Laboratory of Genetics, University of Wisconsin - Madison, Madison, WI.

Chromatin and Epigenetics

Co-Moderators: Felice Elefant, Drexel University, Philadelphia, PA and Xin Chen, Johns Hopkins University, Baltimore, MD

Room: Sheraton 4/5

53 - 10:45
Three-step mechanism for the spatial and cell-cycle dynamics of pericentric chromatin. **Eric Joyce**, Tharanga Senaratne, Ting Wu. Department of Genetics, Harvard Medical School, Boston, MA.

54 - 11:00
Mrg15-dependent binding of Cap-H2 to chromatin is required for chromosome organization and regulation of gene expression. **Heather Wallace**[1], Huy Nguyen[1], Julianna Bozler[1], Gregory Rogers[2], Giovanni Bosco[1]. 1) Genetics, Geisel School of Medicine at Dartmouth, Hanover , NH; 2) Department of Cellular and Molecular Medicine University of Arizona, Tucson, Arizona.

55 - 11:15
Trimethylation of Histone H3 at lysine 27 by Polycomb Repressive Complex 2 and its role in epigenetic memory. **Rory T. Coleman**, Gary Struhl. Department of Genetics and Development, Columbia University College of Physicians and Surgeons, New York, NY.

56 - 11:30
Tip60 HAT Action in Environmental Enrichment induced Cognitive Restoration. **Songjun Xu**. Biology, Drexel University, Philadelphia, PA.

57 - 11:45
Dietary restriction reduces transposable element expression in aging *Drosophila* heads. **Jason G. Wood**, Brian C. Jones, Nan Jiang, Stephen L. Helfand. Dept. of Molecular Biology, Cell Biology, and Biochemistry, Brown University, Providence, RI.

58 - 12:00
A novel chromatin factor Enhancer of Polycomb acts in somatic cells to maintain germ cell identity and activity in Drosophila adult testis. **Lijuan Feng**, Zhen Shi, Xin Chen. Biology, Johns Hopkins University, Baltimore, MD.

59 - 12:15
Impacts of centromere misregulation on genome stability and cancer progression in a Drosophila model of glioblastoma. **Nicole Beier**[1,2], Renee Read[3], Gary Karpen[1,2]. 1) Department of Molecular and Cell Biology, University of California Berkeley; 2) Genome Sciences Division, Lawrence Berkeley National Laboratory; 3) Emory University.

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 10:45 AM-12:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Neurophysiology and Behavior II

Co-Moderators: Coral Warr, Monash University, Clayton, Australia and John Ewer, Universidad de Valparaiso, Chile

Room: Chicago 8-10

60 - 10:45
Physiological connectivity and inter-clock coupling in the *Drosophila* circadian clock neuron network. **Zepeng Yao**, Jenna Clem, Amy Bennett, Orie Shafer. Department of Molecular, Cellular, and Developmental Biology, University of Michigan, Ann Arbor, MI.

61 - 11:00
Dynamic central neuron activities that underlie courtship pursuit in *Drosophila* male. **S. Kohatsu**, D. Yamamoto. Graduate School of Life Sciences, Tohoku University, Sendai, Japan.

62 - 11:15
Previous socio-sexual experience modulates the mating investmentof male *Drosophila melanogaster*. **Woo Jae Kim**[1], Yuh Nung Jan[2], Lily Yeh Jan[2]. 1) Department of Cellular and Molecular Medicine, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada; 2) Howard Hughes Medical Institute, Departments of Physiology, Biochemistry, and Biophysics, University of California San Francisco, San Francisco, California 94158, USA.

63 - 11:30
Physiological and behavioural correlates of natural variation in an insect olfactory receptor. **Katherine H. Shaw**[1,2], Alisha Anderson[2], Marien de Bruyne[1], Coral G. Warr[1]. 1) Biological Sciences, Monash University, Clayton, VIC, Australia; 2) Ecosystems Sciences, CSIRO, Black Mountain, ACT, Australia.

64 - 11:45
New Pheromones and Olfactory Receptor Pathways Mediating Behavior in Larvae. **Jonathan T. Clark**, Anandasankar Ray. University of California, Riverside, Riverside, CA.

65 - 12:00
Innexin7 containing gap junctions in *Drosophila* Antennal Lobe Projection Neurons contribute to synchronous neuronal activity and olfactory responses. **Jorge M. Campusano**[1], Nicolás Fuenzalida-Uribe[1], Bryon Silva[1], Diane K. O'Dowd[2]. 1) Pontificia Universidad Católica de Chile, Santiago, Chile; 2) Dept. Developmental and Cell Biology, University of California Irvine.

66 - 12:15
Photoreceptor neurotransduction requires a conserved Ncc69 activating kinase cascade specifically in glia. **Drew Stenesen**[1], Jeffrey Schellinger[2], Aylin Rodan[2], Helmut Krämer[1]. 1) Neuroscience, UT Southwestern Medical Center, Dallas, TX; 2) Internal Medicine, UT Southwestern Medical Center, Dallas, TX.

Notes

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 4:30-6:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Physiology, Organismal Growth and Aging I

Co-Moderators: David Walker, University of California, Los Angeles and Joanna Chiu, University of California, Davis

Room: Sheraton 4/5

67 - 4:30
Male Costs of Reproduction are Self-Imposed and Mediated by Perception of the Opposite Sex. **Zachary Harvanek**[1], Emily Feuka[1], Sean Kelly[1,2], Scott Pletcher[1]. 1) Mol/Int Physiology, Univ. of Michigan, Ann Arbor, MI; 2) Univ. of Rochester, Rochester, NY.

68 - 4:45
Tissue specific orchestration of nutrient dependent responses in *D. Melanogaster*. **Guiping Du**, Patrick Wai-Lun Li, Artem Zykovich, Kazutaka Akagi, Sean D. Mooney, Simon Melov, Pankaj Kapahi. Buck Institute for Research on Aging, Novato, CA.

69 - 5:00
A novel role for Dpp as an endocrine signal potentially linking growth status to the regulation of ecdysteroidogenesis and developmental progression. **Linda Setiawan**, Iswar K. Hariharan. Department of Molecular and Cell Biology, University California Berkeley, Berkeley, CA.

70 - 5:15
Metabolic processes implicated in developmental robustness under thermal stress. **Steven G. Kuntz**[1], Anthony T. Iavarone[1], Kelly M. Schiabor[2], Peter A. Combs[3], Michael B. Eisen[1,4]. 1) QB3, UC Berkeley, CA; 2) Molecular and Cell Biology, UC Berkeley, CA; 3) Biophysics Grad Group, UC Berkeley, CA; 4) HHMI, Berkeley, CA.

71 - 5:30
A new mechanism of sexual differentiation controls sexually dimorphic physiology in the adult intestine. **Bruno Hudry**, Irene Miguel-Aliaga. MRC Clinical Sciences Centre, Imperial College London, London, United Kingdom.

72 - 5:45
Activinβ/TGF-β signaling in skeletal muscle controls insulin signaling and metabolism to influence final body size. **Lindsay Moss-Taylor**[1], Michael O'Connor[2]. 1) Molecular, Cellular, Developmental Biology, and Genetics Program, University of Minnesota, Minneapolis, MN; 2) Department of Genetics, Cell Biology and Development, University of Minnesota, Minneapolis, MN.

73 - 6:00
Let-7 Overexpression Extends Longevity and Alters Fat Metabolism in Female *Drosophila Melanogaster*. **Christi Gendron**, Scott Pletcher. The Geriatric Center and the Molecular and Integrative Physiology Department, University of Michigan, Ann Arbor, MI.

74 - 6:15
Regulation of protein consumption by an ovarian peptide transporter. **Sonali Deshpande**, William Ja. Metabolism and Aging, The Scripps Research Institute, Jupiter, FL.

Pattern Formation (4 Talks) and RNA Biology (4 Talks)

Co-Moderators: Marek Mlodzik, Mt. Sinai School of Medicine, New York and Zeba Wunderlich, University of California, Irvine and Mitzi Kuroda, Harvard Medical School, Boston, MA and Nelson Lau, Brandeis University, Waltham, MA

Room: Chicago 6/7

75 - 4:30
Muscle migration is directed by a combination of intrinsic polarity and short-range signaling. **Elly Ordan**[1], Marko Brankatschk[2], Barry Dickson[3], Frank Schnorrer[4], Talila Volk[1]. 1) molecular genetics, Weizmann Institute of Sc1-Department of Molecular Genetics, Weizmann Institute of Science, Rehovot 76100, Israelience, Rehovot, Israel; 2) 2-Institute of Molecular Pathology (IMP), A-1030 Vienna, Austria. Present address: Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany; 3) Institute of Molecular Pathology (IMP), A-1030 Vienna, Austria; 4) 4-Max Planck Institute of Biochemistry, 82152 Martinsried, Germany.

76 - 4:45
Understanding EGFR activation in patterning the proximal-distal axis of the *Drosophila* leg. **S. Tozier**[1], R. Voutev[2], R. S. Mann[2]. 1) Biological Sciences, Columbia University, New York, NY; 2) Biochemistry and Molecular Biophysics, Columbia University, New York, NY.

77 - 5:00
Nemo kinase: a multi-step regulator of planar cell polarity. **Giovanna M. Collu**[1], Konstantin Gaengel[1], Ivana Mirkovic[1], Wang A. Yanfeng[1], Mei-Ling Chin[1], Andreas Jenny[2], Marek Mlodzik[1]. 1) Developmental and Regenerative Biology, Icahn School of Medicine at Mount Sinai, New York, NY; 2) Department of Developmental and Molecular Biology Department of Genetics Albert Einstein College of Medicine.

78 - 5:15
Notch-Dependent Tissue Folding Determines Boundary between Developmental Fields. **Hui-Yu Ku**[1,2], Y. Henry Sun[1,2]. 1) Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan; 2) Institute of Genome Sciences, National Yang-Ming University, Taipei, Taiwan.

79 - 5:30
Systematic analysis of protein-RNA interactions in *Drosophila*. **John Laver**[1], Xiao Li[1], Hong Na[1], Juhyun Jeon[1], Fateh Singh[1], Timothy Westwood[2], Philip Kim[1], Sachdev Sidhu[1], Quaid Morris[1], Craig Smibert[1,3], Howard Lipshitz[1]. 1) Department of Molecular Genetics, University of Toronto, Toronto, Ontario, Canada; 2) Department of Cell and Systems Biology, University of Toronto; 3) Department of Biochemistry, University of Toronto.

80 - 5:45
Targeted degradation of *Gadd45* mRNA by the nonsense-mediated decay pathway is essential for viability. **Jonathan O. Nelson**, Alex Chapin, Mark M. Metzstein. Department of Human Genetics, University of Utah, Salt Lake City, UT.

81 - 6:00
Cis-regulation of miRNA clusters tempers strong miRNA phenotypes. **Mary Truscott**[1], Abul Bmmk Islam[2], Maxim Frolov[1]. 1) Biochemistry & Molecular Genetics, University of Illinois at Chicago, Chicago, IL; 2) Genetic Engineering & Biotechnology, University of Dhaka, Dhaka, Bangladesh.

CONCURRENT PLATFORM SESSIONS

FRIDAY, MARCH 6 4:30-6:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

82 - 6:15
The evolution of Drosophilid piRNA generating clusters is extremely rapid and variable. Gung-wei Chirn[1], Reazur Rahman[1], Yuliya Sytnikova[1], Jessica Matts[1], Cosmas Arnold[2], Alexander Stark[2], Michael Yu[3], Bonnie Berger[3], **Nelson Lau**[1]. 1) Biology, Brandeis University, Waltham,MA, USA; 2) Research Institute of Molecular Pathology, Vienna Biocenter, Austria; 3) Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, MA USA.

Techniques and Resources

Co-Moderators: Guanjun Gao, Tsinghua University, Beijing and Kate O'Connor-Giles, University of Wisconsin, Madison

Room: Chicago 8-10

83 - 4:30
Development of high pressure freezing and correlative light/electron microscopy for *Drosophila* larvae identifies novel subcellular lumen intermediates. Linda Nikolova[1,2], **Mark Metzstein**[1]. 1) Dept Human Gen, Univ Utah, Salt Lake City, UT; 2) Electron Microscopy Core Laboratory, Univ Utah, Salt Lake City, UT.

84 - 4:45
A genome-wide resource for the analysis of gene function and protein localization in *Drosophila*. Mihail Sarov[1], Christiane Barz[2], Katja Finkl[2], Marco Hein[2], Stephan Janosch[1], Nicole Plewka[2], Bettina Stender[2], Dana Suchold[1], Vinay Vikas[3], Matthias Mann[2], Mani Ramaswami[4], K. VijayRaghavan[3], Pavel Tomancak[1], **Frank Schnorrer**[2]. 1) Max Planck Institute of Cell Biology and Genetics, Dresden, Germany; 2) Max Planck Institute of Biochemistry, Martinsried, Germany; 3) National Centre for Biological Sciences, Bangalore, India; 4) Trinity College Dublin, Ireland.

85 - 5:00
Computational tissue labeling: Tissue and Cellular Recognition in Developing *Drosophila* Embryos. **Soile V. E. Keranen**[1], Jonathan T. Barron[2], Pablo Arbeláez[2], Mark D. Biggin[1], Jitendra Malik[2], David W. Knowles[1]. 1) Lawrence Berkeley National Laboratory, Berkeley, CA; 2) University of California Berkeley, Berkeley, CA.

86 - 5:15
Model-driven data visualization and quantitative animation of developmental signaling. **Bomyi Lim**[1], Carmeline Silva[2], Adam Finkelstein[3], Ioannis Kevrekidis[2], Stanislav Shvartsman[1]. 1) Department of Chemical and Biological Engineering and Lewis-Sigler Institute for Integrative Genomics, Princeton University, NJ; 2) Department of Chemical and Biological Engineering and Program in Applied and Computational Mathematics, Princeton University, NJ; 3) Department of Computer Science, Princeton University, NJ.

87 - 5:30
High-throughput Investigation of Drosophila Brains via Structure-Based Similarity. **Florian Ganglberger**[1], Laszlo Tirian[2], Florian Schulze[1], Andrew Straw[2], Katja Bühler[1]. 1) VRVis Research Center, Vienna, Austria; 2) Institute of Molecular Pathology, Vienna, Austria.

88 - 5:45
An automated image analysis tool to track cell divisions during *Drosophila* axis elongation. **Michael F. Z. Wang**[1], Rodrigo Fernandez-Gonzalez[1,2,3]. 1) Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, Canada; 2) Cell and Systems Biology, University of Toronto, Toronto, Canada; 3) Developmental and Stem Cell Biology Program, The Hospital for Sick Children, Toronto, Canada.

89 - 6:00
FlyVar: a database for genetic variation in Drosophila melanogaster. **Rui Chen**[1,2], Lichu Jiang[1], Yong Chen[4], Nele Haelterman[3], Hugo Bellen[2,3,5], Fei Wang[4]. 1) HGSC,Baylor College of Medicine, Houston, TX; 2) Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, Texas; 3) Program of Developmental Biology, Baylor College of Medicine, Houston, Texas; 4) Information Processing, Department of Computer Science and Technology, Fudan University, Shanghai, China; 5) Howard Hughes Medical Institute.

90 - 6:15
Identification of novel drug targets for Tuberous Sclerosis Complex by cross-species synthetic screens combining CRISPR-based knockouts with RNAi. **Benjamin E. Housden**[1], Alexander J. Valvezan[2], Colleen Kelley[1], Richelle Sopko[1], Yanhui Hu[1], Charles Roesel[1], Shuailiang Lin[1], Michael Buckner[1], Rong Tao[1], Bahar Yilmazel[1], Stephanie E. Mohr[1], Brendan D. Manning[2], Norbert Perrimon[1,3]. 1) Department of Genetics, Harvard Medical School, Boston, MA; 2) Department of Genetics and Complex Diseases, Harvard School of Public Health; 3) Howard Hughes Medical Institute.**90** - 6:15
Ribosomal protein RACK1 is a specific host factor required for IRES-mediated translation of fly and human viruses. **Carine Meignin**[1], Karim Majzoub[1], Mohamed Lamine Hafirassou[2], Stefano Marzi[3], Franck Martin[3], Thomas Baumert[2], Catherine Schuster[2], Jean-Luc Imler[1]. 1) IBMC UPR9022, University of Strasbourg, Strasbourg, France; 2) UMR 1110, University of Strasbourg, Strasbourg, France Institut de Virologie; 3) IBMC UPR9002, University of Strasbourg, Strasbourg, France.

Notes

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 8:30-10:15 AM

Presenting author is in **bold**. Full abstracts can be found online.

Cell Biology and Signal Transduction

Co-Moderators: Utpal Banerjee, University of California, Los Angeles and Andrew Zelhof, Indiana University, Bloomington

Room: Sheraton 4/5

91 - 8:30
Cooperation of Mad and Akt signaling in a *Drosophila* model of epithelial plasticity. Courtney Onodera[4,5], Björn Gärtner[6], Katrina S. Gold[2,5], Samantha Aguinaldo-Wetterholm[2,5], David Casso[2,5], J. Alex Rondon[2,5,7], Yoko Katsuno[2,5], Samuel Meier[6], Aiguo Tian[2,5,8], Rik Derynck[1,2,3,5], Jun S. Song[4,5,9], Julia Zeitlinger[6], **Katja Brückner**[1,2,3,5]. 1) Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research; 2) Department of Cell and Tissue Biology; 3) Cardiovascular Research Institute; 4) Institute for Human Genetics; 5) University of California San Francisco, CA; 6) Stowers Institute for Medical Research, Kansas City, MO; 7) present address: Genentech; 8) present address: UT Southwestern; 9) present address: University of Illinois at Urbana-Champaign.

92 - 8:45
Cis-interactions between Notch and its ligands block ligand-independent Notch activity. William Palmer, Dongyu Jia, **Wu-Min Deng**. Dept Biological Sci, Florida State Univ, Tallahassee, FL.

93 - 9:00
Drosophila Matrix Metalloproteinase 2 mediates long-distance attenuation of follicle stem cell proliferation by cleaving Dlp to inhibit Wg diffusion. **Xiaoxi Wang**[1,2], Andrea Page-McCaw[1,2,3]. 1) Development of Cell and Developmental Biology, Vanderbilt University Medical Center, Nashville, TN; 2) Program in Developmental Biology, Vanderbilt University Medical Center, Nashville, TN; 3) Development of Cancer Biology, Vanderbilt University Medical Center, Nashville, TN.

94 - 9:15
Ion channel function regulates Dpp release to correctly specify pattern. **Emily Bates**, Giri Dahal, Sarala Pradhan, Colleen Bartman. Department of Pediatrics, University of Colorado Denver, Aurora, CO.

95 - 9:30
Secretion and exovesicle mediated transport of the Hedgehog morphogen is regulated by the ESCRT complex. **T. Matusek**, F. Wendler, M. Fürthauer, S. Pizette, G. D'Angelo, P. Thérond. Institute of Biology Valrose, UNS - CNRS UMR7277 - Inserm U1091, Faculté des Sciences, Parc Valrose, 06108, Nice cedex 2, France.

96 - 9:45
Nanotubes mediate the niche-stem cell signaling in *Drosophila* testis. **M. Inaba**[1,2,3], M. Buszczak[2], YM. Yamashita[1,3]. 1) Life Sciences Institute, University of Michigan, Ann Arbor, MI; 2) Department of Molecular Biology, University of Texas Southwestern Medical Center at Dallas, Dallas, TX; 3) Howard Hughes Medical Institute, University of Michigan Ann Arbor, MI.

97 - 10:00
Rme-8 depletion perturbs Notch recycling and predisposes to pathogenic signalling. **Maria J. Gomez-Lamarca**[1], Laura A. Snowdon[1], Ekatarina Seib[2], Thomas Klein[2], Sarah J. Bray[1]. 1) Physiology, Development and Neuroscience, University of Cambridge, Cambridge, United Kingdom; 2) Institute of Genetics, Heinrich-Heine-University Düsseldorf, Universitätsstr. 1 40225 Düsseldorf, Germany.

Drosophila Models of Human Disease I

Co-Moderators: Tom Lloyd, Johns Hopkins University School of Medicine, Baltimore, MD and Sheng Zhang, University of Texas Health Science Center, Houston

Room: Chicago 6/7

98 - 8:30
Human and fly genetics implicate a *CD2AP/cindr* susceptibility network at synapses in Alzheimer's disease. Nikolaos Giagtzoglou[1,2], Paula Porter[1,2], Kathleen Quast[1,2], Benjamin Arenkiel[1,2], **Joshua Shulman**[1,2]. 1) Baylor College of Medicine, Houston, TX; 2) Duncan Neurological Research Institute, Houston, TX.

99 - 8:45
The PINK1/Parkin Pathway Regulates the Mitochondrial Outer Membrane Localization and Translation of Select Nuclear-Encoded Respiratory Chain Component mRNAs. Stephan Gehrke[1],**Zhihao Wu**[1], Michael Klinkenberg[2], Georg Auburger[2], Su Guo[3], Bingwei Lu[1]. 1) Department of Pathology, Stanford University School of Medicine, Stanford, CA 94305, USA; 2) Experimental Neurology, Goethe University Medical School, Theodor Stern Kai 7, 60590 Frankfurt am Main, Germany; 3) Department of Biopharmaceutical Sciences, Programs in Biological Sciences and Human Genetics, University of California, San Francisco, CA 94143, USA.

100 - 9:00
The ALS/FTD *C9ORF72* hexanucleotide expansion disrupts nucleocytoplasmic transport via RanGAP1. **Ke Zhang**[1], Christopher Donnelly[2], Aaron Haeusler[3], Rita Sattler[2], Jiou Wang[3], Jeffrey Rothstein[1,2,4,5], Thomas Lloyd[1,4]. 1) Department of Neurology, Johns Hopkins University, Baltimore, MD. 21205; 2) Brain Science Institute, Johns Hopkins University, Baltimore, MD. 21205; 3) Department of Biochemistry and Molecular Biology, Johns Hopkins University, Baltimore, MD. 21205; 4) The Solomon H. Snyder Department of Neuroscience,Johns Hopkins University, Baltimore, MD. 21205; 5) Department of Cellular and Molecular Medicine, Johns Hopkins University, Baltimore, MD. 21205.

101 - 9:15
Inter-cellular transmission of huntingtin aggregates in the *Drosophila* central nervous system. **Margaret Pearce**[1], Ellen Spartz[1], Weizhe Hong[1,2], Liqun Luo[1,2], Ron Kopito[1]. 1) Stanford University, Stanford, CA; 2) Howard Hughes Medical Institute.

102 - 9:30
Neuronal mitochondrial defects elevate synthesis of lipid droplets in glia and promote neurodegeneration. **Lucy Liu**[1], Ke Zhang[2], Hector Sandoval[3], Shinya Yamamoto[3,4,5], Manish Jaiswal[3,6], Elisenda Sanz[7], Zhihong Li[3], Jessica Hui[7], Brett Graham[3], Albert Quintana[7,8,9], Hugo Bellen[1,2,3,4,5,6]. 1) Department of Neuroscience, Baylor College of Medicine; 2) Structural and Computational Biology & Molecular Biophysics Graduate Program, Baylor College of Medicine; 3) Department of Molecular and Human Genetics, Baylor College of Medicine; 4) Program in Developmental Biology, Baylor College of Medicine; 5) Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital; 6) Howard Hughes Medical Institute, Baylor College of Medicine, Houston, TX 77030; 7) Center for Integrative Brain Research, Seattle Children's Research Institute; 8) Center for Developmental Therapeutics,; 9) Department of Pediatrics, University of Washington, Seattle, WA, 98195.

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 8:30-10:15 AM

Presenting author is in **bold**. Full abstracts can be found online.

103 - 9:45
The Bubblegum model of Adrenoleukodystrophy provides a basis for new therapeutic approaches. **Hannah B. Gordon**, Anthea Letsou. Eccles Institute of Human Genetics, University of Utah, Salt Lake City, UT.

104 - 10:00
Mutations in SLC25A, a mitochondrial carrier protein, protect against systemic manganese-induced neuronal toxicity. **Jan R. Slabbaert**[1,2], Sabine Kuenen[1,2], Ana Clara Fernandes[1,2], Jef Swerts[1,2], Valerie Uytterhoeven[1,2], Jaroslaw Kasprowicz[1,2], Ronny Blust[3], Patrik Verstreken[1,2]. 1) Center for the Biology of Disease, VIB, Leuven, Vlaams-Brabant, Belgium; 2) Center for Human Genetics and Leuven Research Institute for Neurodegenerative Diseases (LIND), KULeuven, Leuven, Vlaams-Brabant, Belgium; 3) Department of Biology, University of Antwerp, Antwerp, Belgium.

Regulation of Gene Expression I

Co-Moderators: Sarah Bray, University of Cambridge, England and Melissa Harrison, University of Wisconsin, Madison

Room: Chicago 8-10

105 - 8:30
Early zygotic dosage compensation in *Drosophila melanogaster* is *Sxl* dependent. **Susan E. Lott**[1,2], Jacqueline E. Villalta[3], Michael B. Eisen[2,3]. 1) Evolution and Ecology, University of California, Davis, Davis, CA; 2) Department of Molecular and Cell Biology, University of California, Berkeley, CA; 3) Howard Hughes Medical Institute, University of California, Berkeley, CA.

106 - 8:45
Low affinity binding site clusters confer Hox specificity and regulatory robustness. **Justin Crocker**[1], Namiko Abe[2], Lucrezia Rinaldi[2], Alistair P. McGregor[3], Nicolás Frankel[4], Shu Wang[5], Ahmad Alsawadi[6,7], Philippe Valenti[6,7], Serge Plaza[6,7], François Payre[6,7], Richard S. Mann[2], David L. Stern[1]. 1) HHMI Janelia, Ashburn, VA; 2) Columbia University Medical Center; 3) Oxford Brookes University; 4) Universidad de Buenos Aires; 5) New Jersey Neuroscience Institute; 6) Centre de Biologie du Développement; 7) CNRS.

107 - 9:00
A cell type specific transcriptional repressor directs selective upregulation of terminal differentiation program. **Jongmin Kim**, Margaret Fuller. Stanford University, Stanford, CA.

108 - 9:15
Genome-wide futile cycling by Hairy transcriptional repressor reveals mechanism for development of nascent gene regulatory networks. Kurtulus Kok[2], Ahmet Ay[3], **David Arnosti**[1,2]. 1) Dept Biochem & Molec Biol, Michigan State Univ, East Lansing, MI; 2) Program in Genetics, Michigan State University, East Lansing, MI; 3) Departments of Biology and Mathematics, Colgate University, Hamilton NY.

109 - 9:30
Color vision: Single base differences in a shared *cis*-regulatory element are critical for *rhodopsin* expression in distinct photoreceptor subtypes. **Jens Rister**, Claude Desplan. Department of Biology, New York University, New York City, NY.

110 - 9:45
Integration of repressive and patterning inputs at cardiac gene loci. **Jemma Webber**, Ilaria Rebay. Ben May Dept Cancer Res, University of Chicago, Chicago, IL.

111 - 10:00
Differential binding and activation of enhancers by Bcd and Otd in the embryo. **Rhea Datta**[1], Danyang Yu[2], Stephen Small[1]. 1) Department of Biology, New York University, New York, NY; 2) Fairleigh Dickinson University, 1000 River Road, Teaneck NJ 07666.

Notes

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 10:45 AM-12:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Cell Biology and Cytoskeleton I

Co-Moderators: Rodrigo Fernandez-Gonzalez, University of Toronto. Ontario and Denise Montel, University of California, Santa Barbara

Room: Sheraton 4/5

112 - 10:45
An Evolutionarily Conserved Polybasic Motif Mediates the Plasma Membrane Targeting of Lgl and Its Regulation by Hypoxia. **Yang Hong**, Wei Dong, Xuejing Zhang, Weijie Liu, Yi-jiun Chen, Juan Huang. Dept Cell Biol & Physiology, Univ Pittsburgh Med Sch, Pittsburgh, PA.

113 - 11:00
Huntingtin transports a novel class of vesicles on *Drosophila* larval axons. **J. White**, E. Anderson, K. Zimmerman, K. H. Zheng, R. Rouhani, T. Kelsang, S. Gunawardena. Biological Sciences, University at Buffalo, Buffalo, NY.

114 - 11:15
Maturation of cytokinetic ring and abscission in *Drosophila* polarized epithelial cells. **Roland Le Borgne**, Emeline Daniel, Irina Kolotueva. Institut de Génétique et Développement de Rennes, CNRS UMR 6290, Rennes, France.

115 - 11:30
Detachment versus cohesion: novel roles for PDZ-GEF and Rap1 during collective cell migration. **Ketki Sawant**[1,2], George Aranjuez[2,3], Jocelyn McDonald[1,2,3]. 1) 1Department of Biological, Geological and Environmental Sciences, Cleveland State University, OH; 2) Department of Molecular Genetics, Lerner Research Institute, Cleveland Clinic , OH; 3) Department of Genetics, School of Medicine, case Western Reserve University, OH.

116 - 11:45
Linking epithelial apical-basal polarity to cell height determination via the microtubule minus end protector Patronin. Michiko Takeda, **Yu-Chiun Wang**. Laboratory for Epithelial Morphogenesis, RIKEN Center for Developmental Biology, Kobe, Hyogo, Japan.

117 - 12:00
An essential morphogenetic role for Integrins in regulating tissue level tensile force by modulation of cell mobility. **Emily Lostchuck**[1], Stephanie J. Ellis[1], Katharine E. Goodwin[1], Teresa Zulueta-Coarasa[2], Daniela Gunne[1], Sabrina Wistorf[1], Rodrigo Fernandez-Gonzalez[2], James Feng[3], Guy Tanentzapf[1]. 1) Cell and Physiological Sciences, University of British Columbia, Vancouver, British Columbia, Canada; 2) Department of Cell and Systems Biology at the University of Toronto, Ontario, M5S 3G5, Canada; 3) Dept of Mathematics, University of British Columbia, Vancouver, British Columbia, Canada.

118 - 12:15
Combining imaging and genetics to elucidate how integrin adhesion sites are built. **Nicholas H. Brown**[1,2], Natalia Bulgakova[1,2], Annabel G. M. Griffiths[1,2], Yoshiko Inoue[1,2], Maddy Parsons[3], Robert Stojnic[2]. 1) Gurdon Institute, Univ Cambridge, Cambridge, UK; 2) Dept of Physiology, Development and Neuroscience, Univ Cambridge, Cambridge, UK; 3) Randall Division of Cell and Molecular Biophysics, King's College London, London, UK.

Drosophila Models of Human Disease II

Co-Moderators: Erika Bach, NYU School of Medicine, New York and Renee Read, Emory University, Atlanta, GA

Room: Chicago 6/7

119 - 10:45
Malignant *Drosophila* tumors interrupt insulin signaling to induce cachexia-like wasting. **Alejandra Figueroa-Clarevega**, David Bilder. Molecular and Cell Biology, UC Berkeley, Berkeley, CA.

120 - 11:00
Tumor progression by a genetic heterogeneity of cell clones with distinct oncogenic activities. **M. Enomoto**[1], D. Takemoto[1], T. Igaki[1,2]. 1) Laboratory of Genetics, Graduate School of Biostudies, Kyoto University, Japan; 2) PRESTO, Japan Science and Technology Agency (JST), Japan.

121 - 11:15
Conserved Rab-11 regulation of intestinal inflammation as potential therapeutic targets in colon cancer. **Yingchao Nie**[1], Shiyan Yu[3], Alla Amcheslavsky[1], Qi Li[1], Zhong Jiang[2], Nan Gao[3], Tony Ip[1]. 1) Program in Molecular Medicine, UMASS Medical School, Worcester, MA; 2) Department of Pathology, UMASS Medical School, Worcester, MA; 3) Department of Biological Sciences, Rutgers University, Newark, NJ.

122 - 11:30
Using *Drosophila* to Develop Drug Cocktails to Treat Multiple Cancer Networks. **T. K. Das**, J. Esernio, R. L. Cagan. DRB, Mount Sinai School of Medicine, New York.

123 - 11:45
Mechanism of the metabolic shift induced by activating oncogenic pathways in *Drosophila* tumorigenesis. **Cheng-Wei Wang**[1], Arunima Purkayastha[1], Kevin T. Jones[1], Wei Liao[1], Utpal Banerjee[1,2,3,4,5]. 1) Department of Molecular, Cell and Developmental Biology; 2) Department of Biological Chemistry; 3) Molecular Biology Institute; 4) Broad Stem Cell Research Center; 5) Minor in Biomedical Research, UCLA, Los Angeles, CA 90095.

124 - 12:00
Obesity-induced Cardiac Dysfunction in Starvation-Selected *Drosophila*. **Christopher Hardy**[1], Ryan Birse[2], Matthew Wolf[3], Allen Gibbs[1]. 1) School of Life Sciences, University of Nevada Las Vegas, 4505 S. Maryland Pkwy., Las Vegas, NV. 89154; 2) Development, Aging and Regeneration Program, Sanford Burnham Medical Research Institute, 10901 North Torrey Pines Road, La Jolla, CA. 92037; 3) School of Medicine - Cardiology, Duke University, DUMC 103208, Durham, NC, 27710.

125 - 12:15
Muscle specific depletion of *twinstar* in *Drosophila* phenocopies Nemaline Myopathy. **Mridula Balakrishnan**[1,2], Shannon F. Yu[1], Mary K. Baylies[1]. 1) Developmental Biology, Sloan Kettering Institute, New York, NY; 2) Weill Cornell Graduate School of Medical Sciences, New York, NY.

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 10:45 AM-12:30 PM

Presenting author is in **bold**. Full abstracts can be found online.

Gene Expression and Chromatin II

Co-Moderators: Ali Shilatifard, Northwestern University, Evanston, IL and Tiffany Cook, Cincinnati Children's Hospital Medical Center, OH

Room: Chicago 8-10

126 - 10:45
Transcriptional activation by a low-complexity domain is a conserved feature of Zelda and orthologous proteins. **Danielle Hamm**, Eliana Bondra, Melissa Harrison. Dept. of Biomolecular Chemistry, University of Wisconsin, Madison, WI.

127 - 11:00
Discovery of Novel Enhancers Using Natural Variation. **Ashley Jermusyk**, Sarah Gharavi, Gregory Reeves. Chemical and Biomedical Engineering, North Carolina State University, Raleigh, NC.

128 - 11:15
Shadow enhancers enable Hunchback bifunctionality in the *Drosophila* embryo. M. Staller, B. Vincent, M. Bragdon, J. Estrada, Z. Wunderlich, **A. DePace**. Systems Biol, Harvard Med Sch, Boston, MA.

129 - 11:30
Changes in a P-MAD binding site underlie species diversity of *wishful thinking* patterning. **Rob Marmion**[1], Milica Jevtic[2], George Pyrowolakis[2], Nir Yakoby[1]. 1) Biology Department and Center for Computational and Integrative Biology, Rutgers University, Camden, NJ; 2) Institute for Biology I, Albert-Ludwigs University of Freiburg, Freiburg, Germany.

130 - 11:45
A genetic screen for new Polycomb group genes. **James Kennison**, Monica Cooper. Genomics of Differentiation, Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, Bethesda, MD.

131 - 12:00
Super-resolution imaging of chromatin nanostructure reveals tight coupling of epigenetic state and 3D genome organization. **Alistair Boettiger**[1], Bogdan Bintu[2], Jeff Moffitt[1], Brian Beliveau[4], Chao-ting Wu[4], Xiaowei Zhuang[1,2,3]. 1) Chemistry and Chemical Biology, Harvard University, Cambridge, MA; 2) Department of Physics, Harvard University, Cambridge, MA; 3) Howard Hughes Medical Institute, Harvard University, Cambridge, MA; 4) Department of Genetics, Harvard Medical School, Boston, MA.

132 - 12:15
The RNA binding protein Arrest (Aret) regulates myofibril maturation in *Drosophila* flight muscle. **M. Spletter**[1], C. Barz[1], A. Yeroslaviz[1], C. Schönbauer[1], D. Gerlach[3], I. Ferreira[1], M. Sarov[4], A. Stark[2], B. Habermann[1], F. Schnorrer[1]. 1) Max Planck Institute for Biochemistry, Martinsried, Germany; 2) Research Institute of Molecular Pathology, Vienna, Austria; 3) Boehringer Ingelheim RCV GmbH & Co KG, Vienna, Austria; 4) Max-Planck-Institute of Cell Biology and Genetics, Dresden, Germany.

133 - 12:30
Ultraconserved core elements are an essential feature of insect enhancers. **Thomas Brody**, Ward Odenwald. Neural Cell-Fate Determinants Section, NINDS/NIH, Bethesda, MD.

Notes

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 4:00-6:00 PM

Presenting author is in **bold**. Full abstracts can be found online.

Cell Biology and Cytoskeleton II

Co-Moderators: Denise Montel, University of California, Santa Barbara and Rodrigo Fernandez-Gonzalez, University of Toronto, Ontario

Room: Sheraton 4/5

134 - 4:00
Wash interacts with Lamin and affects global nuclear organization. J. Verboon, H. Rincon-Arano, B. Sugumar, T. Werwie, D. Scalzo, V. Nandakumar, J. Delrow, M. Groudine, **S. Parkhurst**. Div Basic Sci, Fred Hutchinson Cancer Res Ctr, Seattle, WA.

135 - 4:15
Compliance sensing by actomyosin self-organization determines the direction of tensile force during morphogenesis. **Soline Chanet**[1], Callie Miller[2], Bard Ermentrout[3], Eeshit Vaishnav[1], Lance Davidson[4], Adam Martin[1]. 1) Department of Biology, MIT, Cambridge, MA; 2) Bioengineering, University of Pittsburgh, Pittsburgh PA; 3) Mathematics, University of Pittsburgh, Pittsburgh PA; 4) Bioengineering, Developmental Biology, and Computational and Systems Biology, University of Pittsburgh, Pittsburgh PA.

136 - 4:30
Endocytosis drives junctional and cytoskeletal protein redistribution to promote rapid embryonic wound repair. **Miranda V. Hunter**[1], Rodrigo Fernandez-Gonzalez[1,2,3]. 1) Cell and Systems Biology, University of Toronto, Toronto, Canada; 2) Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, Canada; 3) Developmental and Stem Cell Biology Program, The Hospital for Sick Children, Toronto, Canada.

137 - 4:45
Dunk stabilizes the tensile actomyosin network at the leading edge of the cleavage furrows during *Drosophila* cellularization. **Bing He**[1], Adam Martin[2], Eric Wieschaus[1,3]. 1) Department of Molecular Biology, Princeton University, Princeton, NJ; 2) Department of Biology, Massachusetts Institute of Technology, Cambridge, MA; 3) HHMI, Princeton University, Princeton, NJ.

138 - 5:00
A Balance between Arf and Rho1 G Protein Pathways Patterns the Early *Drosophila* Embryo. **Donghoon Lee**, Tony Harris. Cell and Systems Biology, University of Toronto, Toronto, Ontario, Canada.

139 - 5:15
Cellular Mechanisms of Heart Morphogenesis and Lumen Formation in *Drosophila*. **Georg Vogler**[1], Jiandong Liu[3], Timothy W. Iafe[4], Ede Migh[2], József Mihály[2], Rolf Bodmer[1]. 1) Development and Aging, Sanford Burnham Medical Research Institute, La Jolla, CA; 2) Biological Research Centre, Hungarian Academy of Sciences, Institute of Genetics, H-6726 Szeged, Hungary; 3) Dept. of Pathology and Laboratory Medicine, and McAllister Heart Institute, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599; 4) New York University School of Medicine, New York, NY 10016.

140 - 5:30
Myosin light chain phosphatase regulates actomyosin contractility in the *Drosophila* follicular epithelium. **M. D. Martin-Bermudo**[1], I. Grosheva[1], D. Gómez-Mígues[2]. 1) Dept Developmental Biol, CSIC, Seville, Spain; 2) 2Departamento de Física de la Materia Condensada, Univ. Autonoma de Madrid, Madrid, Spain.

141 - 5:45
Coordinated cell area contractions drive the formation of new cell contacts in germband extension. **Deqing Kong**[1], Lars Reichl[2], Yujun Zhang[1], Fred Wolf[2], Jörg Groβhans[1]. 1) Institute for Developmental Biochemistry, Medical School, University of Göttingen, Justus-von-Liebig Weg 11, 37077 Göttingen, Germany; 2) Max Planck Institute for Dynamics and Self-Organization, Am Faβberg, 37077 Göttingen, Germany. .

Stem Cells

Co-Moderators: Todd Nystul, University of California, San Francisco and Tony Ip, University of Massachusetts Medical Center, Worcester

Room: Chicago 6/7

142 - 4:00
Neuroblasts build their own adhesive daughter cell niche through activation of PI3-Kinase signaling. **Sarah Siegrist**, Susan Doyle, Matthew Pahl. Biology Department, University of Virginia, Charlottesville, VA.

143 - 4:15
The conserved Misshapen-Warts-Yorkie pathway acts in the epithelial niche to regulate intestinal stem cell division. **Qi Li**[1], Shuangxi Li[2], Sebastian Mana-Capelli[3], Rachel J. Roth Flach[1], Laura V. Danai[1], Alla Amcheslavsky[1], Yingchao Nie[1], Satoshi Kaneko[1], Xiaohao Yao[1], Xiaochu Chen[1], Jennifer L. Cotton[4], Junhao Mao[4], Dannel McCollum[3], Jin Jiang[2], Michael P. Czech[1], Lan Xu[1], Tony Ip[1]. 1) Molecular Medicine, UMass medical school, Worcester, MA; 2) Department of Developmental Biology, University of Texas Southwestern Medical Center, Dallas, TX; 3) Department of Biochemistry and Molecular Pharmacology, UMass medical school, Worcester, MA; 4) Department of Cancer Biology, UMass medical school, Worcester, MA.

144 - 4:30
Identification of Novel Factors Required for Triggering the Drosophila Intestinal Stem Cell Response to Tissue Damage. **Julieta A. Maldera**, Marwa Elrefaey, Christine Gläβer, Bruce A. Edgar. DKFZ-ZMBH Alliance, Heidelberg, Germany.

145 - 4:45
Septate Junction Proteins are Required in the Testis Niche for Stem Cell Differentiation. **Cameron Berry**, Jaclyn Lim, Margaret Fuller. Stanford University, Menlo Park, CA.

146 - 5:00
The tumor suppressor homolog Rbf maintains hub cell quiescence and identity, and prevents ectopic niche formation. **Leah Greenspan**, Erika Matunis. Department of Cell Biology, Johns Hopkins School of Medicine, Baltimore, MD, 21205.

147 - 5:15
A somatic permeability barrier around the germline is essential for *Drosophila* spermatogenesis. **Michael Fairchild**, Christopher Smendziuk, Guy Tanentzapf. Cell and Developmental Biology, University of British Columbia, Vancouver, British Columbia, Canada.

148 - 5:30
c-Fos targeting by the Piwi-piRNA pathway regulates *Drosophila* ovarian germline. **Jonathon D. Klein**[1], Chunxu Qu[2], Chunlao Tang[2], Jamy C. Peng[1]. 1) Developmental Neurobiology, St. Jude Children's Research Hospital, Memphis, TN; 2) Computational Biology, St. Jude Children's Research Hospital, Memphis, TN.

CONCURRENT PLATFORM SESSIONS

SATURDAY, MARCH 7 4:00-6:00 PM

Presenting author is in **bold**. Full abstracts can be found online.

149 - 5:45
Role of non-coding RNAs in stem cell regulation. **Megha Ghildiyal**[1,3], Blaise Li[2], Hervé Seitz[2], Allan Spradling[1,3]. 1) Department of Embryology, Carnegie Institution for Science, Baltimore, MD, 21210, USA; 2) Institute of Human Genetics, CNRS UPR 1142, Montpellier, France; 3) Howard Hughes Medical Institute.

Immunity and Pathogenesis (4 talks) and Physiology, Organismal Growth and Aging II (4 talks)

Co-Moderators: Neal Silverman, University of Massachusetts, Medical School, Worcester and Nicolas Buchon, Cornell University, Ithaca NY and Joanna Chiu, University of California Davis

Room: Chicago 8-10

150 - 4:00
Genome wide transcriptional analysis of *Drosophila* larvae towards entomopathogenic nematodes. **Md. Badrul Arefin**[1], Lucie Kučerová[1], Pavel Dobeš[2], Pavel Hyršl[2], Michal Žurovec[3], Ulrich Theopold[1]. 1) Department of Molecular Biosciences, The Wenner-Gren Institute, University of Stockholm, 10691 Stockholm, Sweden; 2) Department of Animal Physiology and Immunology, Institute of Experimental Biology, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic; 3) Biology Centre of the AS CR, Institute of Entomology, Branišovská 1160/31, 370 05 České Budějovice, Czech Republic.

151 - 4:15
Investigating the immune function of the *Drosophila melanogaster* MACPF protein Torso-like. **L. J. Forbes Beadle**[1], T. Crossman[1], J. C. Whisstock[2], C. G. Warr[1]. 1) School of Biological Sciences, Monash University, Clayton VIC 3800 Australia; 2) Department of Biochemistry and Molecular Biology, Monash University, Clayton VIC 3800 Australia.

152 - 4:30
The acetate switch of an intestinal pathogen disrupts host insulin signaling and lipid metabolism. **S. Hang**[1], A. Purdy[1], W. Robins[2], Z. Wang[1], M. Mandal[1], S. Chang[1], J. Mekalanos[2], P. Watnick[1]. 1) Division of infectious Diseases, Boston Children's Hospital, Boston, MA; 2) Department of Microbiology and Immunobiology, Harvard Medical School, Boston, MA.

153 - 4:45
Armadillo modulates intracellular titers of *Wolbachia* bacteria in *Drosophila* gonads. **Ajit Kamath**, Michelle Toomey, Rama Krishna Simhadri, Horacio Frydman. Biology, Boston University, Boston, MA.

154 - 5:00
Preventing age-related metaplasia promotes homeostasis of the gastrointestinal tract and extends lifespan. **Hongjie Li**[1,2], Yanyan Qi[1], Heinrich Jasper[1]. 1) Buck Institute for Research on Aging, Novato, CA; 2) University of Rochester, Biology Department, Rochester, NY.

155 - 5:15
Regulation of metabolism and insulin sensitivity by Sir2 in *Drosophila*. **Rebecca A. S. Palu**, Carl S. Thummel. Human Genetics, University of Utah School of Medicine, Salt Lake City, UT.

156 - 5:30
Systemic organ wasting induced by localized expression of the secreted insulin/IGF antagonist *ImpL2*. **Young Kwon**[1], Wei Song[1], Ilia Droujinine[1], Yanhui Hu[1], John Asara[3,4], Norbert Perrimon[1,2]. 1) Department of Genetics, Harvard Medical School, Boston, MA; 2) Howard Hughes Medical Institute, Harvard Medical School, Boston, MA; 3) Department of Medicine, Harvard Medical School, Boston, MA; 4) Division of Signal Transduction, Beth Israel Deaconess Medical Center, Boston, MA.

157 - 5:45
Mechanism of Body Fat Regulation by Split ends. **Kelsey Jensen**, Tânia Reis. Department of Medicine, University of Colorado Medical School, Aurora, CO.

Notes

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POSTER LEGEND

POSTER SESSIONS

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Cell Biology and Cytoskeleton

158A
Quantification of mechanical force driving left-right asymmetric morphogenesis of the embryonic gut in *Drosophila*. **Mai Adachi**[1], Naotaka Nakazawa[2], Shukei Sugita[3], Takeo Matsumoto[3], Kenji Matsuno[1]. 1) Osaka University, Osaka, Japan; 2) National University of Singapore, Lower Kent Ridge Road ,Singapore; 3) Nagoya Inst. of Tech, Aichi, Japan.

159B
Differential roles of the unconventional Dock family members Myoblast city and Sponge in Drosophila development. **Bridget H. Biersmith**[1], Erika R. Geisbrecht[2]. 1) University of Missouri - Kansas City, Kansas City, Missouri, MO; 2) Kansas State University, Manhattan, KS.

160C
Defining the role of CG1674 in adult muscle development. **Marilyn Cisneros**, Richard Cripps. Biology, University of New Mexico, Albuquerque, NM.

161A
Compound Heterozygosity of Meckel-Gruber Syndrome Proteins. **Nicole M. Clark**, Marcus L. Basiri, Andrew Ha, Avidor-Reiss Tomer. Biological Sciences, University of Toledo, Toledo, OH.

162B
Pavarotti/MKLP1 regulates microtubule sliding and neurite outgrowth in *Drosophila* neurons. **U. del Castillo**, W. Lu, M. Winding, M. Lakonishok, V. Gelfand. Feinberg School of Medicine, Cell and Molecular Biology Dept, Northwestern University, Chicago, IL.

163C
Branched F-actin dynamics regulate contact length during Drosophila eye morphogenesis. **Steven Del Signore**, Victor Hatini. Dev, Mol, & Chem Biology, Tufts Univ Sch Med, Boston, MA.

164A
Dynamic analysis of the function of the actin cable during *Drosophila* dorsal closure. **Antoine Ducuing**[1], Maxime Dureau[1], Charlotte Keeley[2], Bertrand Mollereau[1], Stéphane Vincent[1]. 1) Laboratory of Molecular Biology of the Cell, Ecole Normale Supérieure de Lyon, Lyon, France; 2) Department of Biological Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA.

165B
Integrins regulate apical constriction via microtubule stabilization in the *Drosophila* eye disc epithelium. **Vilaiwan M. Fernandes**[1], Kasandra McCormack[1], Lindsay Lewellyn[2], Esther M. Verheyen[1]. 1) Simon Fraser University, Burnaby, BC, Canada; 2) Butler University, Indianapolis, Indiana, USA.

166C
Clic functions to regulate Moesin phosphorylation during *Drosophila* rhabdomere formation. **Kara J. Finley**[1], Robert Hikida[2], Mark Berryman[2], Soichi Tanda[1]. 1) Department of Biological Sciences, Ohio University, Athens, OH; 2) Department of Biomedical Sciences, Ohio University, Athens, OH.

167A
Biochemical optimization of the purification of the C-terminal domains of *ck*/MyoVIIA. **Thomas Halverson**, Jennifer Sallee. Science, North Central College, Naperville, IL.

168B
F-actin turnover is essential for apical constriction and tissue morphogenesis. **J. N. Jodoin**[1], M. Tworoger[1], L. Perkins[2], N. Perrimon[2,3], A. C. Martin[1]. 1) Biology, MIT, Cambridge, MA; 2) Genetics, Harvard, Boston, MA; 3) HHMI, Harvard, Boston, MA.

169C
Identifying a Kelch-Cullin3 ubiquitin ligase substrate. **Katelynn Mannix**, Andrew Hudson, Lynn Cooley. Department of Genetics, Yale School of Medicine, New Haven, CT.

170A
Rho GAPs are required for proper organization of the apical actomyosin cortex and epithelial invagination. **Frank Mason**, Michael Tworoger, Adam Martin. Department of Biology, Massachusetts Institute of Technology, Cambridge, MA.

171B
Characterization of *twinfilin* mutants in denticle formation. **Jane M. McCullough**, Kayla Antle, Jennifer Sallee. North Central College, Naperville, IL.

172C
A coupled *in vitro-in vivo* approach to dissect APC-Diaphanous mediated actin assembly. **Olivia Molinar**[1], Richa Jaiswal[2], Ezgi Kunttas-Tatli[1], Aneliya Rankova[2], Vince Stepanik[1], Bruce L. Goode[2], Brooke M. McCartney[1]. 1) Biological Sciences, Carnegie Mellon University, Pittsburgh, PA; 2) Biology, Rosenstiel Basic Medical Sciences Research Center, Brandeis University, Waltham, MA.

173A
Actomyosin network dynamics during epithelial cell alignment. **Katy Ong**, Stephen DiNardo. Cell and Developmental Biology Department, University of Pennsylvania, Philadelphia.

174B
A novel concept of local homeostasis for the long-term maintenance of neuronal axons. **Andreas Prokop**[1], Yue Qu[1], Ines Hahn[1], Meredith Lees[1], Jill Parkin[1], Zhen Zang[2], Pakorn Tony Kanchanawong[2]. 1) Faculty of Life Sciences, The University of Manchester, Manchester, United Kingdom; 2) MBI, Singapore.

175C
Key features of the axon initial segment are present in Drosophila neurons. **Melissa M. Rolls**[1], Michelle M. Nguyen[1], Daniel J. Goetschius[1], Timothy J. Jegla[2]. 1) Biochemistry and Molecular Biology, Penn State, University Park, PA; 2) Biology, Penn State, University Park, PA.

176A
Mutations in *Drosophila* crinkled/Myosin VIIA disrupt denticle morphogenesis. **Jennifer Sallee**[1,2], Janice Crawford[2], Vinay Singh[2], Daniel Kiehart[2]. 1) Biology, North Central College, Naperville, IL; 2) Dept of Biology, Duke University, Durham, NC.

177B
Actin regulators are important for regeneration in *Drosophila melanogaster* wing imaginal discs. **Mabel Seto**, Amanda R. Brock, Rachel K. Smith-Bolton. Department of Cell and Developmental Biology, University of Illinois at Urbana-Champaign, Urbana, IL.

178C
An optogenetic approach to assess tissue mechanics in epithelial wound detection. **Erica Shannon**[1], Monica Lacy[2], M. Shane Hutson[2], Andrea Page-McCaw[1]. 1) Cell and Developmental Biology, Vanderbilt University Medical Center, Nashville, TN; 2) Department of Physics, Vanderbilt University Collage of Arts and Sciences, Nashville, TN.

POSTER SESSIONS

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179A
Polarized cytoskeletal organization in the *Drosophila* embryo. **Alison Spencer**[1], Shinya Yamamoto[2], Vafa Bayat[2], Manish Jaiswal[2], Nele Haelterman[2], Hugo J. Bellen[2], Jennifer A. Zallen[3]. 1) Gerstner Sloan Kettering Graduate School of Biomedical Sciences, New York, NY; 2) HHMI and Program in Developmental Biology, Baylor College of Medicine, Houston, TX; 3) HHMI and Developmental Biology Program, Sloan Kettering Institute, New York, NY.

180B
Apico-basal forces exerted by apoptotic cells drive epithelium folding. Bruno Monier[1], Melanie Gettings[1], Guillaume Gay[2], Thomas Mangeat[1], Sonia Schott[1], Ana Guarner[3], **Magali Suzanne**[1]. 1) LBCMCP, Toulouse University /CNRS, Toulouse, France; 2) DamCB company, Marseille, France; 3) Centro de Biología Molecular Severo Ochoa (C.S.I.C.-U.A.M.), Universidad Autónoma de Madrid, , Madrid, Spain.

181C
New cellular sites of prostaglandin regulated Fascin activity: the nucleus and nuclear periphery. Christopher Groen, **Tina Tootle**. Anatomy and Cell Biology, University of Iowa, Iowa City, IA.

182A
A composite scaffold provides structural integrity to myonuclei. **Shuoshuo Wang**, Talila Volk. Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel.

183B
Examining the regulation of Drosophila Rho kinase by phosphorylation. **Y. Zhang**, T. Jiang, T. Harris. University of Toronto, Toronto, Canada.

184C
Continuous ROCK activity sustains apical constriction in a folding epithelium through the maintenance of centripetal tension. **Jonathan Coravos**, Adam Martin. Biology, Massachusetts Institute of Technology, Cambridge, MA.

185A
Tuning of a Par-1-Par-3-centrosome pathway to couple epithelial cell polarity and adhesion. Tao Jiang, Andrew McKinley, **Tony Harris**. Cell & Systems Biology, University of Toronto, Toronto, ON, Canada.

186B
hosphorylation of DE-Cadherin Controls Adherens Junction Dynamics During Apical-Basal Polarization. **Yang Hong**, Yi-Jiun Chen, Juan Huang. Dept Cell Biol & Physiology, Univ Pittsburgh Med Sch, Pittsburgh, PA.

187C
The role of Moesin in specialized membrane domain formation during early *Drosophila* embryogenesis. **Danielle Howell**[1], Michael Ludwig[2], Xiao Sun[3], Richard Fehon[4]. 1) Development, Regenerative and Stem Cells Biology, University of Chicago, Chicago, IL; 2) Department of Ecology and Evolution, University of Chicago, Chicago, IL; 3) Peking University, Beijing, China; 4) Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL.

188A
Intracellular mechanisms involving post-translational modifications of the PIP5K Skittles regulate PI(4,5)P2 associated cell polarity. **Julie Jouette**, Antoine Guichet, Sandra Claret. Institut Jacques Monod, Paris, France.

189B
Dachsous, Fat and actin modulators contribute to planar cell polarity in the Drosophila ventral epidermis. **Gregory Osborn**, Dan Ly, Kynan Lawlor, Stephen DiNardo. Department of Cell and Developmental Biology, University of Pennsylvania, Philadelphia, PA.

190C
Exploring the mechanism of Prickle/Spiny-legs isoforms' control of microtubule polarity and symmetry breaking in planar cell polarity. **Katherine Sharp**[1,2], Jessica Olofsson[1,3], Jeffrey Axelrod[1]. 1) Department of Pathology, Stanford University School of Medicine, Stanford, CA; 2) Department of Genetics, Stanford University School of Medicine, Stanford, CA; 3) Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, Sweden.

191A
Planar polarity and oriented cell division generate an epithelial square grid in the *Drosophila* embryo. **Masako Tamada**[1,2], Jennifer Zallen[1,2]. 1) Howard Hughes Medical Institute; 2) Dev Biol, Sloan Kettering Institution, New York, NY.

192B
Parkinson's disease gene *Vps35* regulates autophagy in *Drosophila* neurons. **Y.-J. Ho**, R. Linhart, D. Kaing, E. Hou, D. Sohal, R. Fedrizzi, A. Tsang, D. Fong, R. Eismati, J. Rosales, A. Dawson, J. Ly, C. Kim, K. Venderova. Physiology and Pharmacology, University of the Pacific, Stockton, CA.

193C
A rapid, membrane-dependent pathway directs furrow formation through RalA in the early *Drosophila* embryo. **R. Holly**, L. Mavor, Z. Zuo, T. Blankenship. University of Denver, Denver, CO.

194A
Rab8 directs tubulation and furrow ingression during epithelial formation in *Drosophila melanogaster*. **L. M. Mavor**, Z. Zuo, J. T. Blankenship. Biological Sciences, University of Denver, Denver, CO.

195B
Dynamin-mediated endocytosis promotes cell intercalation during epithelial tube morphogenesis in the *Drosophila* ovary. **Nathaniel Peters**, Kamsi Odinammadu, Celeste Berg. Department of Genome Sciences, University of Washington, Seattle, WA.

196C
The ArfGAP Asap is required for plasma membrane furrow formation in the syncytial *Drosophila* embryo. **Francisco Rodrigues**, Tony Harris. Cell and Systems Biology, University of Toronto, Toronto, Ontario, Canada.

197A
Sequential trafficking events target White transporter to pigment granules. DS Chen[1], J. Xiong[1,3], YN Rui[1], A. Tito[1,3], Z. Chen[1], Z. Xu[1], L. Ye[1], G. Jiang[4], **S. Zhang**[1,2,3]. 1) Inst Mol Med; 2) Dept Neurobio Anatomy, UTHSC-H; 3) Programs in HMG and Neuroscience, University of Texas Graduate School of Biomedical Sciences, Houston, TX; 4) Shandong Univ, School of Medicine, China.

198B
Polarization of the epithelial layer is required for apical localization of the integrin heterodimer, αPS3βPS, to promote engulfment. **Tracy Meehan**[1], Sarah Kleinsorge[2], Allison Timmons[1], Jeffrey Taylor[1], Kimberly McCall[1]. 1) Department of Biology, Boston University, Boston, MA; 2) Graduate Program of Genetics and Genomics, Boston University Medical Center, Boston, MA.

POSTER SESSIONS

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199C
Polarized transport and selective retention localizes the signaling center for bristle cell elongation. **T. Otani**[1], K. Oshima[1], A. Kimpara[1], M. Takeda[1], U. Abdu[2], S. Hayashi[1]. 1) Lab Morphogenetic Signaling, RIKEN Ctr Dev Biol, Kobe, Japan; 2) Dept of Life Sciences, Ben-Gurion Univ, Beer-Sheva, Israel.

200A
Novel smad protein dysmorphic regulates Drosophila tracheal tube size through luminal matrix maintenance. **Rachana Radhamani Chandran**, Lan Jiang. Department of Biological sciences, Oakland University, Rochester, MI.

201B
Dosage-sensitive interactions between Kinesin-1 and transiently expressed Halo regulate lipid-droplet transport. **Michael Welte**, Gurpreet Arora, Susan Tran, Nicholas Rizzo. Dept Biol, RC Box 270211, Univ Rochester, Rochester, NY.

202C
Content release from salivary-gland secretory vesicles is mediated by a dynamic acto-myosin network. **Eyal Schejter**, Tal Rousso, Ben-Zion Shilo. Dept Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel.

203A
Myosin activity at the periphery of the border cell cluster promotes its compact shape during migration between nurse cells. **George Aranjuez**[1,2], Pralay Majumder[1], Ashley Burtscher[1], Jocelyn McDonald[1,2]. 1) Molecular Genetics, Cleveland Clinic Foundation, Cleveland, OH; 2) Genetics and Genome Sciences, Case Western Reserve University, Cleveland, OH.

204B
Tsp66E, the KAI1 homologue, functions in the border cell migration and maintaining the adhesion of premature border cells in *Drosophila*. **Haemin Jeong**, Seung Yeop Han, Minjung Lee, Soojin Lee, Myeong Cheol Shin, Young Jae Jeon, Kyoung Sang Cho. Department of biological sciences, Konkuk university, Seoul, South Korea.

205C
LAMININS ARE REQUIRED FOR PROPER MIGRATION OF EMBRYONIC HAEMOCYTES IN *DROSOPHILA MELANOGASTER*. **Besaid J. Sánchez-Sánchez**[1], J. M. Urbano[2], K. Comber[3], W. Wood[3], M. D. Martín-Bermudo[1]. 1) CABD, CSIC, Sevilla, Spain; 2) PDN Department, University of Cambridge, UK; 3) Department of Developmental Biology, University of Bristol, UK.

206A
Role of ADP ribosylation factors and their regulators in collective cell migration. **Carlos Zeledon**, Xiaojuan Sun, Gregory Emery. Université de Montréal, Montréal, Canada.

207B
A novel role for secreted hemolymph proteins in *Drosophila* muscle attachment. **Nicole Green**[1], Nadia Odell[2], Clara Bazjek[3], Mitch Dushay[3], Erika Geisbrecht[1]. 1) Bioch. & Mol. Biophysics Dept., Kansas State University, Manhattan, KS; 2) Cell Biol. & Biophysics Dept., University of Missouri-Kansas City, Kansas City, MO; 3) Biology Dept., Illinois Institute of Technology, Chicago, IL.

208C
A fat body-derived apical extracellular matrix enzyme is transported to the tracheal lumen and regulates tube morphogenesis in *Drosophila*. **Shigeo Hayashi**[1,2], Dong Bo[1], Guanxia Miao[1,2]. 1) Lab Morphogenetic Signaling, Riken Center Develop Biology, Kobe Hyogo, Japan; 2) Department of Biology, Kobe University Graduate School of Science, 1-1 Rokkodai-cho, Nada-ku, Kobe, Hyogo, 657-8051, Japan.

209A
The Role of Mechanical Cross-linking in Basement Membrane Repair. **Angela Howard**[1,2], Gautam Bhave[1,3], Andrea Page-McCaw[1,2,4]. 1) Cell and Developmental Biology, Vanderbilt University Medical Center, Nashville, Tennessee; 2) Program of Developmental Biology, Vanderbilt University Medical Center, Nashville, Tennessee; 3) Department of Medicine, Vanderbilt University Medical Center, Nashville, Tennessee; 4) Department of Cancer Biology, Vanderbilt University Medical Center, Nashville, Tennessee.

210B
Identification and Analysis of Ras Pathway Candidate Genes. **Peter Lyon**, Sathiya Manivannan, Ashley Heinaman, Nanki Hura, Molly Josifov, Amanda Simcox. Department of Molecular Genetics, The Ohio State University, Columbus, OH.

211C
Defining the role of Canoe in apical-basal polarity establishment in early Drosophila embryogenesis. **Teresa T. Bonello**[1], Kaelyn Sumigray[2], Mark Peifer[1]. 1) Department of Biology, University of North Carolina, Chapel Hill, NC; 2) Department of Cell Biology, Duke University School of Medicine, NC.

212A
Continuous Talin function is required to maintain apposition of myofibrils between cardiomyocytes. **Duygu Cevik**[1], Simina Bogatan[1], Abdullah Panchbhaya[1], Valentin Demidov[2], Alex Vitkin[2], J. Roger Jacobs[1]. 1) Biology, McMaster University, Hamilton, Ontario, Canada; 2) Medical Physics, University of Toronto, Ontario, Canada.

213B
Phenotypic Analysis of Genes in Retinal Basal Glial cells. **Yen-Ching Chang**[1,2], Y. Henry Sun[1,2]. 1) Institute of Molecular biology, Academia sinica, Taipei, Taipei, Taiwan; 2) Department of Life sciences and Institute of Genome sciences, National Yang-Ming University, Taipei, Taiwan, Republic of China.

214C
Biophysical approach to elucidate molecular links between PCP and adhesion/cytoskeleton dynamics. **Nabila Founounou**[1], Reza Farhadifar[2], Marek Mlodzik[1]. 1) Developmental and regenerative biology, Mt. Sinai School of Medicine , New York, NY; 2) Department of Applied Physics, Center for Systems Biology, Harvard University, Cambridge, MA,.

215A
Uncovering a fundamental requirement for septate junction genes during morphogenesis. **Sonia Hall**, Robert Ward. Molecular Biosciences, University of Kansas, Lawrence, KS.

216B
An E-Cadherin trafficking defect reveals its role in maintenance of intercellular bridges anchoring. **Roland Le Borgne**, Nicolas Loyer, Irina Kolotueva. Institut de Génétique et Développement de Rennes, CNRS UMR 6290, Rennes, France.

217C
The transmembrane protein Crumbs displays complex dynamics during follicular morphogenesis and is regulated by Moesin, aPKC, the cortical cytoskeleton and endocytosis. **Kristin Sherrard**, Richard Fehon. Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL.

POSTER SESSIONS

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218A
Tracking vertices in epithelial tissues for the analysis of coordinated cell shape changes during epithelial morphogenesis. **Rodrigo Cilla**, Steven Del Signore, Victor Hatini. Tufts University, Boston, MA.

219B
Huntingtin (HTT) transports a novel class of synaptic vesicles during axonal transport: Identification of a moving HTT-Rab4 vesicle in Drosophila larval axons. Joseph A. White II[1], Eric Anderson[1], Katherine Zimmerman[1], Kan Hong Zheng[1], Harsh Saxena[2], Ge Yang[2], **Shermali Gunawardena**[1]. 1) Department of Biological Sciences, The State University of New York at Buffalo, Buffalo, NY 14260,; 2) Lane Center for Computational Biology and Department of Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA 15213.

220C
Asymmetric mRNA segregation during neuroblast division. **Jens Januschke**, Anne Ramat. Cell & Developmental Biology, University of Dundee College of Life Sciences, Dundee, United Kingdom.

221A
Transmembrane and secreted MMPs are required for heart morphogenesis in *Drosophila*. **Qanber S. Raza**, Jessica Vanderploeg, Roger Jacobs. McMaster Univeristy, 1280 Main St West, Hamilton, ON,CA L8S4L8.

222B
Expression of the testis-specific paralog of ATP synthase subunit d in *Drosophila* flight muscle. **Dennis Akrobetu**, Brian Johnson, Lindsay Regruto, Eric Sawyer, Karen Hales. Department of Biology, Davidson College, Davidson, NC.

223C
F-box proteins in *Drosophila* muscle. **C. Clark**[1], K. Bauman[2], M. Kelly[2], E. Geisbrecht[1]. 1) Dept. of Biochem. & Mol. Biophysics, Kansas State University, Manhattan, KS; 2) Cell Biology & Biophysics Dept., University of Missouri KC, Kansas City, Mo.

224A
The Role of Ubiquitin Specific Protease 5 in *Drosophila melanogaster*. **Gorica Ristic**, Sokol Todi. Pharmacology, Wayne State University School of Medicine, Detroit, MI.

Cell Biology and Signal Transduction

225B
Characterization of a novel Wnt signaling factor regulating tissue homeostasis and regeneration in the aging *Drosophila* intestine. **Anna-Lisa Boettcher**, Teresa Eichenlaub, Claudia Strein, Michael Boutros. German Cancer Research Center (DKFZ), Division of Signaling and Functional Genomics and Heidelberg University, D-69120 Heidelberg, Germany.

226C
Ras activated Dsor1 promotes Wg signaling in *Drosophila* development. **Eric T. Hall**, Esther M. Verheyen. Simon Fraser University, 8888 University Dr. Burnaby, BC, Canada V5A 1S6.

227A
Testing models of the APC tumor suppressor/β-catenin interaction reshapes our view of the destruction complex in Wnt signaling. **David Roberts**, Robert Yamulla, Eric Kane, Alexandra Moody, Kristin Politi, Nicole Lock, Andrew Foley. Department of Biology, Franklin & Marshall College, Lancaster, PA.

228B
Characterization of a conserved, negative regulator of Wg/Wnt signaling in *Drosophila melanogaster*. **Michael Suchanek**, Varun Chaudhary, Gerrit Erdmann, Michael Boutros. German Cancer Research Center (DKFZ), Div. Signaling and Functional Genomics and University of Heidelberg, Department of Cell and Molecular Biology, Faculty of Medicine Mannheim, D-69120 Heidelberg, Germany.

229C
Sol narae (Sona) is required for cleavage of exosomal Wingless and generation of a soluble Wingless fragment. **Jong-Hoon Won**[1], Go-Woon Kim[2], Ja-young Kim[1], Ok-Kyung Lee[1], Sang-Soo Lee[1], Orkhon Tsogtbaatar[1], Su-Jin Nam[1], Yeon Kim[1], Kyung-Ok Cho[1], Go-Woon Kim. 1) Biological Science, KAIST, Daejeon, South Korea; 2) Center for Theragnosis, Biomedical Research Institute, Korea Institute of Science and Technology, Seoul, Korea.

230A
Latency of a Drosophila BMP-prodomain complex is prevented by proconvertase cleavage within the prodomain. **Edward Anderson**, Eric Tung, Kristi Wharton. MCB, Brown University, Providence, RI.

231B
A DPP-mediated Feed-Forward Loop canalizes morphogenesis during *Drosophila* dorsal closure. **Antoine Ducuing**[1], Charlotte Keeley[2], Bertrand Mollereau[1], Stéphane Vincent[1]. 1) Laboratory of Molecular Biology of the Cell, Ecole Normale Supérieure de Lyon, Lyon, France; 2) Department of Biological Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA.

232C
Dpp signaling antagonism is mediated by the formation of a chondroitin sulfate sink. **Matthew Moulton**, Gregory Humphreys, Anthea Letsou. Human Genetics, University of Utah, Salt Lake City, UT.

233A
Uncovering a role for the TGF-β/Activin factor Myoglianin in regulating wing imaginal disc growth through analysis of dSmad2 protein null mutants. **Ambuj Upadhyay**, Aidan J. Peterson, Michael B. O'Connor. Dept. of Genetics, Cell Biology and Development, University of Minnesota, Minneapolis, MN.

234B
Dissecting the nuclear co-repressor complex(es) of Notch. **Stephen Chan**, Gustavo Cerda-Moya, Bettina Fischer, Robert Stojnic, Sarah Bray. Anatomy Building, Department of Physiology, Development and Neuroscience, Cambridge University, Cambridge, United Kingdom, CB2 3DY.

235C
The Ecdysone and Notch pathways regulate Cut via a shared cut enhancer region for proper dorsal-ventral (D/V) boundary formation in Drosophila wing disc. **Allison Jevitt**, Dongyu Jia, Jamal Bryant, Wu-Min Deng. Florida State University, Tallahassee, FL.

236A
Deciphering the Function of *midline* within Insulin/dAKT and c-Jun N-terminal Kinase Signaling Pathways during Larval CNS and Eye Development. **Sandra Leal**, Q. Brent Chen, Visic Petra, Buford Ken. Dept Biological Sci, Univ Southern Mississippi, Hattiesburg, MS.

POSTER SESSIONS

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237B
The *Drosophila* glucoside xylosyltransferase Shams is a novel ligand-specific regulator of Notch signaling. **Tom Lee**[1], Hamed Jafar-Nejad[1,2]. 1) Molecular & Human Genetics, Baylor College of Medicine, Houston, TX; 2) Program in Developmental Biology, Baylor College of Medicine, Houston. TX.

238C
A screen for tyrosine phosphatases redundant with Eyes absent. **Charlene Hoi**, Trevor Davis, Ilaria Rebay. Ben May Department of Cancer Research, University of Chicago, Chicago, IL.

239A
Exploring the Relationship Between ETS-Family Transcription Factor Polymerization and RTK Signaling Output. **Matthew Hope**[1], John Reinitz[2], Ilaria Rebay[2]. 1) Department of Biochemistry and Molecular Biophysics; 2) Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL.

240B
Cellular and temporal dynamics of the Pointed-Yan network during cell fate specification in the Drosophila eye. **Jean-Francois Boisclair Lachance**[1,3], Nicolás Peláez[2,3], Luís Amaral[2,3], Richard Carthew[2,3], Ilaria Rebay[1,3]. 1) University of Chicago, Chicago, IL; 2) Northwestern University, Evanston, IL; 3) Chicago Center for Systems Biology (CCSB), Chicago, IL.

241C
In vivo screen for a novel small molecule inhibitor of PLCγ in *Drosophila*. **Chitra Naidu**, Claire Rosenwasser, Todd Rosenberg, Michelle Latino, Justin Thackeray. Biology, Clark University, Worcester, MA.

242A
Uncovering a novel interplay between the EGFR and JNK signaling pathways in *Drosophila* dorsal closure. **Ze'ev Paroush**, Tatyana Shestkin, Sharon Mezuman, Shaked Cohen, Ayala Smotrich, Aharon Helman. Department of Developmental Biology and Cancer Research, IMRIC, Faculty of Medicine, The Hebrew University, Jerusalem, Israel.

243B
Characterization of Dis3 in *Drosophila melanogaster*. **Lindsay Petsch**[1], Danielle Bazelak[1], Mark Snee[2], Hemlata Mistry[1], James Skeath[2]. 1) Dept. of Biology, Widener University, Chester, PA; 2) Dept. of Genetics, Washington University School of Medicine, St Louis, MO.

244C
Src42A Modulates Tumor Invasion and Cell Death via Ben/dUev1a-JNK Signaling in Drosophila. Xianjue Ma, **Yingyao Shao**, Hongyu Zheng, M. Li, Wenzhe Li, Lei Xue. Department of Interventional Radiology, Shanghai Key Laboratory of Signaling and Disease Research, Shanghai 10th People's Hospital, School of Life Science and Technology, Tongji University, Shanghai 200092, China.

245A
Investigation of novel epidermal growth factor receptor signaling target genes implicated in *Drosophila* development. **Connor Zale**, Sean Thomas, Jeffrey Perluke, Michael Warkala, Lisa Kadlec. Dept. of Biology, Wilkes University, Wilkes-Barre, PA.

246B
Invadolysin: a novel metalloprotease plays an important role in metabolism. **Kanishk Abhinav**, Margarete M. S. Heck. University of Edinburgh, Queen's Medical Research Institute, 47 Little France Crescent, Edinburgh, EH16 4TJ, UK.

247C
Cdk8 and Sgg control the intensity and range of the BMP-activity gradient in developing *Drosophila* tissues. **Abigail Aleman**, Hugo Urrutia, Edward Eivers. California State University Los Angeles

248A
Epithelia patterning and body plan mapping in the *Drosophila* egg chamber. **Alexis L. Braun**, Bhavna Chanana, Isabel M. Palacios. Zoology, University of Cambridge, Cambridge, United Kingdom.

249B
Spatiotemporal Patterning of Polyamine Metabolism during *Drosophila* Development. **Miranda Burnette**, Gabrielle Dohmen, Galvin Loughran, Steven Penny, Jeremiah Zartman. Chemical Engineering, Univ of Notre Dame, Notre Dame, IN.

250C
Exploring potential downstream targets of Atrophin in Fat/Dachsous PCP signaling using DamID. **C. Kuok**[1,2], A. Soltyk[3], M. Fanto[4], T. Westwood[3], H. McNeill[1,2]. 1) Department of Molecular Genetics, University of Toronto, Toronto, Ontario, Canada; 2) The Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, Ontario, Canada; 3) Department of Cell and Systems Biology, University of Toronto Mississauga, Mississauga, Ontario, Canada; 4) MRC Centre for Developmental Neurobiology, King's College London, London, UK.

251A
Poly: a novel protein with an essential role in metabolism and Type 2 Diabetes. **Ioanna Panagakou**, Margarete M. S. Heck. University of Edinburgh, Queen's Medical Research Institute, 47 Little France Crescent, Edinburgh, EH16 4TJ, UK.

252B
The role of G protein o alpha subunit in the eye development and aging in *Drosophila*. **Silvia Plascencia Oliveros**[1,2], Marlène Cassar[1], Doris Kretzschmar[1]. 1) Oregon Institute of Occupational Health Sciences, OHSU, Portland, OR; 2) Biology, University of Portland, Portland, OR.

253C
The Abelson kinase prevents photoreceptors from adopting pigment cell fate. **Nicelio Sanchez-Luege**[1,2], Ilaria Rebay[3]. 1) Development, Regeneration, and Stem Cell Biology, University of Chicago, Chicago, IL; 2) Medical Scientist Training Program, University of Chicago, Chicago, IL; 3) Ben May Department for Cancer Research, University of Chicago, Chicago, IL.

254A
The phenotypic effects associated with loss of PKN function are manifest upon perturbation of cell death in *Drosophila melanogaster*. **Georgette Sass**, Jessica Schoenherr. Biology, Grand Valley State University, Allendale, MI.

255B
Coordinated regulation of tissue remodeling and insulin signaling during *Drosophila* metamorphosis. **Craig Woodard**, Giulia Notarangelo, Bezawit Woldemeskel, Hanna Cho, Yeonhee You, Efthymia Papalexi. Department of Biological Sciences, Mount Holyoke College, South Hadley, MA.

256C
Targeted mutagenesis and functional analysis of *Drosophila* adipokinetic hormone gene. **M. Zurovec**[1], S. Sajwan[1], R. Sidorov[1], Y. Takasu[2], T. Staskova[1], A. Zaloudikova[1], D. Kodrik[1]. 1) Biology Centre Czech Acad. Sci., Ceske Budejovice, Czech Republic; 2) 2National Institute of Agrobiological Sciences, 1-2 Owashi, Tsukuba, Ibaraki 305-8634, Japan.

POSTER SESSIONS

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257A
Multiple roles for the Netrin receptor, Frazzled, in EMT. **S. Golenkina**[1], R. Manhire-Heath[1], R. Saint[2], M. J. Murray[1]. 1) The University of Melbourne, Australia; 2) The University of Adelaide, South Australia.

258B
Functional understanding of Ral signaling in Drosophila melanogaster. **Helene Knaevelsrud**[1], Marc Therrien[1,2]. 1) IRIC, Universite de Montreal, Montreal, Quebec, Canada; 2) Département de pathologie et de biologie cellulaire, Université de Montréal.

259C
Nanobody-mediated morphogen trapping - Growth and patterning in the absence of a Dpp gradient. **S. Harmansa**, M. Affolter, E. Caussinus. Biozentrum, Universität Basel, Basel, Switzerland.

260A
Dissecting signaling crosstalk in the midgut with dynamic transcriptional reporters. **David P. Doupé**[1], Benjamin E. Housden[1], Li He[1], Richard Binari[1], Norbert Perrimon[1,2]. 1) Dept of Genetics, Harvard Medical School, Boston, MA; 2) Howard Hughes Medical Institute, Boston, MA.

261B
Computational modeling of transient EGFR signaling in the early embryo. **Yogesh Goyal**[1,2], Bomyi Lim[1,2], Andreas Raue[3], Birgit Schoeberl[3], Stanislav Shvartsman[1,2]. 1) Department of Chemical and Biological Engineering, Princeton University, Princeton, NJ; 2) Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ; 3) Merrimack Pharmaceuticals, 1 Kendall Square, Cambridge, MA.

262C
The Hippo Signaling Pathway Interactome. **Young Kwon**[1], Arunachalam Vinayagam[1], Xiaoyun Sun[3], Noah Dephoure[4], Steven Gygi[4], Pengyu Hong[3], Norbert Perrimon[1,2]. 1) Department of Genetics, Harvard Medical School, Boston, MA; 2) Howard Hughes Medical Institute, Harvard Medical School, 77 Avenue Louis Pasteur, Boston, MA; 3) Department of Computer Science, Volen Center for Complex Systems, Brandeis University, Waltham, MA; 4) Department of Cell Biology, Harvard Medical School, Boston, MA 02115.

263A
microRNA-9a canalizes myotendinous junction assembly via targeting of muscle-specific genes. **Andriy Yatsenko**, Halyna Shcherbata. Max Planck Research Group of Gene Expression and Signaling, Max Planck Institute for Biophysical Chemistry, Am Fassberg 11, 37077, Goettingen, Germany.

264B
Proteomic discovery of a novel mechanism linking calcium signaling and p38MAPK pathway activation. **Vladimir Belozerov**, Lisa Shim, April Kong, Reza Amirzadeh, Arthur Hilliker, Spencer Mukai, John McDermott. Department of Biology, York University, Toronto, ON, Canada.

265C
Mitochondria are maintained by local fusion and mitophagy at neuromuscular junction synapses. **Ryan Insolera**[1], Ruohan Wang[1], Pushpanjali Soppina[1], Grace Kim[1], Eric Robertson[1], Yih-Woei Fridell[2], Catherine Collins[1]. 1) MCDB Department, University of Michigan, Ann Arbor, MI; 2) University of Connecticut, Allied Health Sciences, Storrs, CT.

266A
Chromatic Assembly Factor Complex Component p180 is a Potential Component of the Hippo Pathway. **William B. Yee**, Patrick Delaney, Pamela Vanderzalm, Richard Fehon. Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL.

Cell Cycle and Cell Death

267B
In vivo RNAi knockdown of the *Drosophila* N-acetyltransferase NatA causes cell death. **Joseph Ahlander**[1], Kelsey Dozier[2], Ethan Hayman[2], Pamela Martin[1], Amanda Scholes[2]. 1) Department of Natural Sciences, Northeastern State University, Tahlequah, OK; 2) Department of Biological Sciences, Univeristy of Arkansas, Fayetteville, AR.

268C
dCAF1 is required for the cell death sensitivity of *rbf1* mutant cells. **Heather Collins**, Nam-Sung Moon. McGill University, Montreal, QC, Canada.

269A
Engulfment receptor, Draper, and its ligand for the clearance of dead cells in the developing *Drosophila* optic lobe. **Ryosuke Nakano**[1], Masashi Iwamura[1], Akiko Obikawa[1], Ryo Iizuka[1], Hiromi Akagawa[1,2], Hidenobu Tsujimura[1]. 1) Developmental Biology, Tokyo University of Agriculture and Technology, Fuchushi, Tokyo, Japan; 2) Department of Biological Production Science, Tokyo University of Agriculture and Technology, Fuchushi, Tokyo, Japan.

270B
Sensitivity to apoptosis is differentially regulated by cell growth pathways. **Sarah Neuman**, Yunsik Kang, Arash Bashirullah. University of Wisconsin-Madison, Madison, WI.

271C
Non-autonomous protective effect of dying and undead cells. **Tin Tin Su**, Angela Delano, Annika Gustafson. MCD Biology, University of Colorado, Boulder, CO.

272A
Tousled-like kinase mediates a new type of apoptosis in *Drosophila*. **Yu Zhang**[1], Lei Liu[1,2]. 1) College of Life Sciences,PKU, Beijing, Beijing, China; 2) Beijing Institute for Brain Disorder and Beijing Tiantan Hospital, Capital Medical University, Beijing 100069, China.

273B
Non-autonomous control of nurse cell death by follicle cells in the Drosophila ovary. **Albert Mondragon**, Allison Timmons, Claire Schenkel, Jon Iker Etchegaray, Jeffrey Taylor, Kim McCall. Boston University, Boston, MA.

274C
Cell Survival in Muscle Development. **Tatevik Sarkissian**, Richa Arya, Kristin White. MGH/ Harvard Medical School, Boston, MA.

275A
A heat shock protein regulates caspase-mediated autophagy. **Courtney Choutka**[1,2], Lindsay DeVorkin[1,2], Nancy Erro Go[1,2], Claire Hou[1], Annie Moradian[3], Gregg Morin[1,3], Sharon Gorski[1,2]. 1) Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, British Columbia, Canada; 2) The Genome Sciences Centre, BC Cancer Research Centre, Vancouver, British Columbia, Canada; 3) Medical Genetics, University of British Columbia, Vancouver, British Columbia, Canada.

POSTER SESSIONS

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276B
Investingating survival mechanisms in transformed *Drosophila* cells following oncogene withdrawal. **Ashley Heinaman**[1,2], Sathiya Manivannan[1,2], Nanki Hura[1], Molly Josifov[1], Amanda Simcox[1]. 1) Molecular Genetics, The Ohio State University, Columbus, OH; 2) Molecular, Cellular, and Developmental Biology, The Ohio State University, Columbus, OH.

277C
The NF-kB factor Relish Controls Drosophila Salivary Gland Degradation During Metamorphosis. **Anubhab Nandy**, Lin Lin, Eric Baehrecke, Neal Silverman. University of Massachusetts Medical School, Worcester, MA.

278A
Mitochondrial fission plays a key role in neuronal necrosis downstream of the epigenetic alteration in *Drosophila*. **Lianggong Ding**[1], Lei Liu[1,2]. 1) State Key Laboratory of Biomembrane and Membrane Biotechnology, School of Life Sciences, Peking University, Beijing 100871, China; 2) Beijing Institute for Brain Disorder and Beijing Tiantan Hospital, Capital Medical University, Beijing 100069, China.

279B
Genetic screen to identify new mechanisms of spreading apoptosis induced by necrotic neurons in *Drosophila*. **Lin Hou**[1], Rong Cai[1], Lei Liu[1,2]. 1) State Key Laboratory of Biomembrane and Membrane Biotechnology, School of Life Sciences, Peking University, Beijing 100871, China; 2) Beijing Institute for Brain Disorder and Beijing Tiantan Hospital, Capital Medical University, Beijing 100069, China.

280C
The Roles of Cyclins A, B, and B3 in *Drosophila* Female Meiosis. **Mohammed Bourouh**, Rajdeep Dhaliwal, Ketki Rana, Sucheta Sinha, Zhihao Guo, Andrew Swan. Biological Sciences, University of Windsor, Windsor, Ontario, Canada.

281A
The mitotic role of SCF-Skp2 in maintaining genome stability. **Nilanjana Das**, Biju Vasavan, Andrew Swan. Dept. of Biological Sciences, University of Windsor, Windsor, Ontario, Canada.

282B
Characterization of a *Drosophila* ortholog of the Cdc7 kinase: Differential requirement for Dbf4/Chiffon in distinct DNA replication programs within *Drosophila*. **Robert Stephenson**[1], Marcus Hosler[1], Navnath Gavande[2], Arun Ghosh[2,3], Vikki Weake[1,3]. 1) Department of Biochemistry, Purdue University, West Lafayette, IN; 2) Departments of Chemistry and Medicinal Chemistry, Purdue University, West Lafayette, IN; 3) Center for Cancer Research, Purdue University, West Lafayette, IN.

283C
Drosophila RNase Z^L links mitochondrial RNA processing and cell cycle progression. **Xie Xie**, Veronica Dubrovskaya, Edward Dubrovsky. Biological Sciences, Fordham University, Bronx, NY.

284A
Drosophila Mcm10 is required for female reproductive success. **Michael C. Reubens**, Sidney Bedsole, Megan Biller, Lucas Hopkins, Elizabeth T. Ables, Tim W. Christensen. Department of Biology, East Carolina University, Greenville, NC.

285B
Determining the role of FancM, Blm, and HelQ helicases in the repair of double strand breaks. **Julie Cox**, Adam Thomas, Mitch McVey. Tufts University, Medford, MA.

286C
The NuA4 complex coordinates proper cell cycle gene expression with phase, which impacts the transition to a post-mitotic state. **Kerry Flegel**, Olga Grushko, Kelsey Bolin, Ellen Griggs, Nicholas Rachmaninoff, Laura Buttitta. University of Michigan, Ann Arbor, MI.

287A
Using gene expression profiling and quantitative proteomics to study E2F/Dp function in *Drosophila*. **Ana Guarner**, Robert Morris, Michael Korenjak, Myriam Boukhali, Sridhar Ramaswamy, Wilhelm Haas, Nick Dyson. MGH Cancer Center (Massachusetts General Hospital / Harvard Medical School). 149 13th Street, 02129. Charlestown, MA. USA.

288B
The role of E2F in regulating muscle growth is necessary and sufficient for fly viability. **Maria Paula Zappia**, Maxim V. Frolov. Biochemistry and Molecular Genetics, University of Illinois at Chicago, Chicago, IL.

289C
Scalloped and Yorkie are required for cell cycle re-entry of quiescent cells after tissuge damage. **J. H. Meserve**[1], R. J. Duronio[1,2,3,4]. 1) Curriculum in Genetics & Molecular Biology, UNC, Chapel Hill, NC; 2) Integrative Program for Biological and Genome Sciences, UNC, Chapel Hill, NC; 3) Departments of Biology and Genetics, UNC, Chapel Hill, NC; 4) Lineberger Comprehensive Cancer Center, Chapel Hill, NC.

Cell Division and Growth Control

290A
CG10126, a calcium-binding microtubule-associated protein, promotes mitosis during Drosophila development. **Q. Nie**, S. Spencer. Saint Louis University, Saint Louis, MO.

291B
Protein phosphatase 1 antagonizes Aurora B kinase in maintaining chromosome structure and cohesion in Drosophila oocytes. **Arunika Das**, Rachel A. Battaglia, Kim S. McKim. Waksman Institute, Rutgers University, Piscataway, NJ.

292C
Synaptonemal complex assembly is regulated by multiple cohesion complexes in Drosophila meiosis. **Mercedes Gyuricza**, Kathryn Landy, Vandana Apte, Kim McKim. Waskman Institute, Rutgers University, Piscataway, NJ.

293A
Increased Oxidative Stress in Drosophila Oocytes Leads to Loss of Meiotic Cohesion and Chromosome Segregation Errors. **A. T. Perkins**, E. M. Morse, T. M. Das, C. A. Jeffreys, B. A. Toffey, L. A. Oberg, S. E. Bickel. Dartmouth College, Hanover, NH.

294B
Organization of the dynamic centrosome structure in rapidly dividing embryos. **Dorothy A. Lerit**[1], John S. Poulton[2], Holly A. Jordan[1], Carey J. Fagerstrom[1], Brian J. Galletta[1], Karen M. Plevock[1,2], Mark Peifer[2], Nasser M. Rusan[1]. 1) Cell Biology and Physiology Center. NHLBI, NIH. Bethesda, MD; 2) Department of Biology. University of North Carolina. Chapel Hill, NC.

POSTER SESSIONS

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295C
The microcephaly protein Wdr62/CG7337 is required to maintain centrosome asymmetry in *Drosophila* neuroblasts. **Anjana Ramdas Nair**[1], Priyanka Singh[1], David Rodriguez Crespo[2], David Salvador[1], Borris Egger[2], Clemens Cabernard[1]. 1) Biozentrum,University of Basel,Klingelbergstrasse 50-70,4056 Basel,Switzerland; 2) Department of Biology,University of Fribourg,Chemin du Musée 10,CH-1700, Fribourg,Switzerland.

296A
3D-structured illumination microscopy of Centriolar and Centrosomal proteins
in *Drosophila melanogaster* neuroblasts. **Anjana Ramdas Nair**, Priyanka Singh, Alexia Loynton-Ferrand, Clemens Cabernard. Biozentrum, University of Basel, Klingelbergstrasse 50-70, 4056 Basel, , Switzerland.

297B
Relationship between localization and function of the Chromosomal Passenger Complex in *Drosophila melanogaster* oocytes. **Rachel A. Battaglia**, Sarah J. Radford, Kim S. McKim. Waksman Institute of Microbiology, Rutgers University, Piscataway, NJ 08854.

298C
Spindle Matrix Formation is Required for Cell Cycle Progression. **Jorgen Johansen**, Changfu Yao, Chao Wang, Yeran Li, Jack Girton, Kristen Johansen. Biochem, Biophys & Molec Biol, Iowa State Univ, Ames, IA.

299A
Cooperation between the kinesin motors KLP61F, Subito, and NCD promotes spindle and chromosome organization in *Drosophila* oocytes. **Sarah J. Radford**[1], Allysa Marie M. Go[1,2], Kim S. McKim[1,2]. 1) Waksman Institute, Rutgers University, Piscataway, NJ; 2) Department of Genetics, Rutgers University, Piscataway, NJ.

300B
The roles of the Doublefault protein in chromosome segregation and cytokinesis. Stefano Sechi, Anna Frappaolo, Giorgio Belloni, Roberto Piergentili, **Maria Grazia Giansanti**. IBPM, Consiglio Nazionale delle Ricerche, Rome, Italy.

301C
Myosin dynamics during asymmetric stem cell division. **Anna Tsankova**, Clemens Cabernard. Biozentrum, University of Basel, Klingelbergstrasse 50-70, 4056 Basel, Switzerland.

302A
snoRNAs are a novel class of biologically relevant Myc targets. **Peter Gallant**[1,2], Eva Herter[1,2], Maria Stauch[1,2], Maria Gallant[1,2], Elmar Wolf[1,2], Thomas Raabe[3]. 1) Biochemistry & Molecular Biology, University Wuerzburg, Wuerzburg, Germany; 2) Comprehensive Cancer Center Mainfranken, University Wuerzburg, Wuerzburg, Germany; 3) Inst for Medical Radiation and Cell Research, University Wuerzburg, Wuerzburg, Germany.

303B
Mitochondrial Growth & Dynamics During *Drosophila melanogaster* Oogenesis. **Jasmin Imran Alsous**[1], Matheus Viana[2], Susanne Rafelski[2], Stanislav Shvartsman[1]. 1) Princeton University , Princeton , NJ; 2) University of California Irvine, Irvine, CA.

304C
Conditional screen for growth mutants identifies two negative regulators of Hedgehog signaling with distinct overgrowth phenotypes. **Jacob Kagey**, Frank Adamini, Erik Coopes, Shannon Moore, Jordan Stewart. Biology, University of Detroit Mercy, Detroit, MI.

305A
Context dependent regulation of proliferation and cellular growth by Hippo-Yorkie signaling. **Zhiqiang Shu**, Wu-Min Deng. Department of Biological Science, Florida State University, Tallahassee, FL 32306.

306B
Acinus Links Autophagy and Hippo Signaling. **Lauren Tyra**, Nilay Nandi, Helmut Krämer. Neuroscience, UT Southwestern Medical Center, Dallas, TX.

307C
Following dedifferentiation in cells with inactivated Rb and Hippo pathways. **Battuya Bayarmagnai**, Maxim V. Frolov. Department of Biochemistry and Molecular Genetics, University of Illinois at Chicago, 900 S Ashland Avenue, Chicago, IL 60607.

308A
Quantitative analysis of EGFR-regulated size control in the *Drosophila* epidermis. **Pavel A. Brodskiy**[1], Jochen Kursawe[2], Cody Narciso[1], Ruth Baker[2], Alexander Fletcher[2], Jeremiah J. Zartman[1]. 1) Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, IN; 2) Wolfson Centre for Mathematical Biology, Mathematical Institute, University of Oxford, Oxford, United Kingdom.

309B
Motor neuron dependent regulation of myoblast proliferation uses the EGF signaling pathway. **Joyce Fernandes**, Kumar Vishal. Biology Dept, Miami Univ, Oxford, OH.

310C
Insulin signaling acts downstream of ecdysone to mediate intra-organ growth coordination in *Drosophila* larvae. **Rewatee Gokhale**[1], Takashi Hayashi[2], Christopher Mirque[3], Alexander Shingleton[3,4]. 1) Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI 48824; 2) Division of Developmental Genetics, National Institute of Genetics, Mishima, Shizouka 411-8540, Japan; 3) Department of Biology, Lake Forest College, Lake Forest, IL 60045; 4) Department of Zoology, Michigan State University, East Lansing, MI 48824.

311A
Junctional tumor suppressor Dlg interacts with 14-3-3 proteins to control planar alignment of the mitotic spindle in *Drosophila* epithelia. **Yu-ichiro Nakajima**[1], Zachary Lee[1], Matthew C. Gibson[1,2]. 1) Stowers Institute for Medical Research, Kansas City, MO; 2) Department of Anatomy & Cell Biology, University of Kansas Medical Center, Kansas City, KS.

312B
Non-cell autonomous tumor progression by cellular senescence. **Mai Nakamura**[1], Shizue Ohsawa[1], Tatsushi Igaki[1,2]. 1) Kyoto University, Kyoto, Japan; 2) PRESTO, JST, Japan.

313C
Genetic control of tissue specific growth in the larval trachea of *Drosophila*. **Erin Suderman**, Alex Matlock, Collin Clay, Robert Ward. Molecular Biosciences, Univ. Kansas, Lawrence, KS.

314A
The *big bang gene*: a novel interactor of *crumbs*. **Giorgos Tsoumpekos**, Linda Nementscke, Elisabeth Knust. Max Planck Institute (MPI-CBG) , Dresden, Germany.

POSTER SESSIONS

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315B
Functions of Yorkie and the polarity proteins at the cell cortex. **Jiajie Xu**[1], Pamela Vanderzalm[2], Richard Fehon[1]. 1) University of Chicago, Chicago, IL; 2) John Carroll University, University Heights, OH.

316C
The *Drosophila* tumor suppressor Tid glycosylates TNFR to control Hippo signaling. **Geert de Vreede**[1,2], Holly Morrison[1], Ditte Andersen[3], Julien Colombani[3], Pierre Leopold[3], David Bilder[1]. 1) Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA; 2) Developmental Biology, Utrecht University, Utrecht, The Netherlands; 3) University of Nice-Sophia Antipolis, CNRS, INSERM, Institute of Biology Valrose, Parc Valrose, Nice, France.

317A
Time series Profiling identifies co-regulated genes involved in RasV12- immortalization of muscle precursors. **Mary-Lee Dequeant**[1], D. Fagegaltier[2], Y. Hu[1], A. Simcox[3], G. Hannon[2], Norbert Perrimon[1]. 1) Harvard Medical School, Boston, MA; 2) Cold Spring Harbor Laboratory, NY; 3) Ohio State University, OH.

318B
Nucleoporins Nup98-96 are required for normal tissue growth and proper cell cycle regulation. **Kiriaki Kanakousaki**, Olga Grushko, Laura Buttitta. Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor, MI.

319C
Drosophila C-terminal Src kinase regulates growth via Hippo signaling pathway. **Hailey J. Kwon**[1], Indrayani Waghmare[1], Shilpi Verghese[1], Aditi Singh[4], Amit Singh[1,2,3], Madhuri Kango-Singh[1,2,3]. 1) Department of Biology, University of Dayton, Dayton, OH; 2) Center for Tissue Regeneration and Engineering at Dayton, Dayton, OH; 3) Premedical Programs, University of Dayton, Dayton, OH; 4) Centerville High School, Centerville, OH.

320A
Impaired Hippo Signaling Promotes Rho1-JNK Dependent Growth. **Xianjue Ma**[1,2], Yujun Chen[2], Duojia Pan[1], Lei Xue[2]. 1) Molecular Biology & Genetics, Johns Hopkins School of Medicine, Baltimore, MD; 2) School of Life Science and Technology, Tongji University, Shanghai, China.

321B
The DHHC palmitoyltransferase *approximated* regulates Fat signaling and Dachs localization. **Hitoshi Matakatsu**[1,2], Seth Blair[2], Richard Fehon[1]. 1) MGCB, The University of Chicago, Chicago, IL; 2) Dept. Zoology, Univ. Wisconsin-Madison, WI.

322C
Ras-ERK signaling controls growth in imaginal discs and intestinal stem cells via synthesis of rRNA and tRNA. **Shrivani Pirahas**, Savraj S. Grewal. Clark H. Smith Brain Tumour Centre, Southern Alberta Cancer Research Institute, Department of Biochemistry and Molecular Biology, University of Calgary, Calgary, AB, Canada.

323A
Apical delamination of pro-tumor cells in intrinsic tumor hotspots initiates tumorigenesis. **Yoichiro Tamori**[1], Emiko Suzuki[1], Wu-Min Deng[2]. 1) Structural Biology Center, National Institute of Genetics, Mishima, Shizuoka, Japan; 2) Department of Biological Science, Florida State University, Tallahassee, FL.

324B
JNK-Yki mediated signal amplification loop promotes tumorigenesis in epithelial cells. **Indrayani Waghmare**[1], Shilpi Verghese[1], Austin Roebke[1], Hailey Kwon[1], Amit Singh[1,2,3], Madhuri Kango-Singh[1,2,3]. 1) Department of Biology, University of Dayton, Dayton, OH; 2) Premedical Programs, University of Dayton, Dayton OH 45469; 3) Center for Tissue Regeneration and Engineering at Dayton (TREND), Department of Biology SC333, University of Dayton, 300 College.

325C
Regulation of cell competition by the cytokine Spätzle. **Lale Alpar**[1], Laura Johnston[2]. 1) Department of Biological Sciences, Columbia University, New York, NY; 2) Department of Genetics and Development, Columbia University 701 W168th Street, New York, NY.

326A
Analysis of Toll-related receptor function in triggering cell death during cell competition. **C. Bergantinos**, L. Johnston. Department of Genetics & Development, Columbia University Medical Center, 701 West 168th Street, HHSC 704, New York, NY, 10032.

327B
Defining the loser cell identity in cell competition. **Iwo Kucinski**, Eugenia Piddini. GURDON INSTITUTE, UNIVERSITY OF CAMBRIDGE, CAMBRIDGE, United Kingdom.

328C
Delineating the machanism of postmitotic cell competition. **Sarayu Row**, Pang-Kuo Lo, Dongyu Jia, Yoichiro Tamori, Wu-Min Deng. Department of Biological Science, Florida State University, Tallahassee, FL.

329A
Cell shape homeostasis against differential proliferation during epithelial cell competition. **Alice Tsuboi**[1], Shizue Ohsawa[2], Kenji Matsuno[1], Tatsushi Igaki[2], Koichi Fujimoto[1]. 1) Dept. of Biol. Sci., Grad. Sch. of Sci., Univ. of Osaka, Osaka, Japan; 2) Grad. Sch. of Biostudies, Univ. of Kyoto, Kyoto, Japan.

330B
Pumilio regulates regenerative growth in *Drosophila* imaginal discs. **Syeda Nayab Fatima Abidi**, Amanda Brock, Rachel Smith-Bolton. Cell and Developmental Biology Dept, University of Illinois at Urbana-Champaign, Urbana, IL.

331C
A genetic screen in wing imaginal discs for regeneration genes. **Amanda R. Brock**, Mabel Seto, Rachel K. Smith-Bolton. Cell and Developmental Biology, University of Illinois at Urbana-Champaign, Urbana, IL.

332A
Investigating the role of Extracellular Matrix (ECM) remodeling during wing disc regeneration in *Drosophila*. **Amanda Sul**, Sumbul Khan, Rachel Smith-Bolton. University of Illinois at Urbana-Champaign, Urbana, IL.

333B
Abscission is regulated by the ESCRT-III protein Shrub in Drosophila germline stem cells. **Neuza Reis Matias**[1,2], Juliette Mathieu[1,2], Jean-René Huynh[1,2]. 1) Department of Genetics and Developmental Biology, Institut Curie, Paris, France; 2) CNRS UMR3215; Inserm U934 F-75248 Paris, France.

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334C
Deciphering the Functional Collaboration of Mid and Bric-a-Brac 2 as Potential Regulators of Cellular Proliferation within Adult *Drosophila* Ovaries. **Petra Visic**, Sandra Leal. Biological Sciences, University of Southern Mississippi, Hattiesburg, MS.

Physiology, Organismal Growth, and Aging

335A
Intertissue control of the nucleolus via a myokine-dependent longevity pathway. **Fabio Demontis**[1], Vishal K. Patel[2], William R. Swindell[3], Norbert Perrimon[2]. 1) Department of Developmental Neurobiology, St. Jude Children's Research Hospital, Memphis, TN 38105, USA; 2) Department of Genetics, Harvard Medical School/HHMI, Boston, MA 02115, USA; 3) Department of Dermatology, University of Michigan Medical School, Ann Arbor, MI 48109, USA.

336B
Heart function, flight performance, and stress resistance in *Drosophila*. **James N. Kezos**, Larry G. Cabral, Laurence D. Mueller, Michael R. Rose. Ecology and Evolutionary Biology, University of California, Irvine, Irvine, CA.

337C
Drosophila p38 MAP Kinase Regulates Age-dependent Protein Homeostasis. **Sarah M. Ryan**[1], Amelia M. Burch[2], Subhabrata Sanyal[2,3], Alysia D. Vrailas-Mortimer[1,2]. 1) Department of Biological Sciences, University of Denver, Denver, CO; 2) Department of Cell Biology, Emory University, Atlanta, GA; 3) BiogenIdec, Boston, MA.

338A
Fecundity vs. Starvation Resistance: Resource Allocation in Starvation-Selected *Drosophila*. **Timothy J. Saitta**, Allen G. Gibbs. Univesity of Nevada, Las Vegas School of Life Sciences 4505 Maryland Parkway Las Vegas, NV 89154.

339B
Innate immune aging mediated by ecdysone signaling in response to water stress. Wenjing Zheng[2], Florentina Rus[1], Marc Tatar[2], **Neal Silverman**[1]. 1) Med/Div Infectious Dis, Univ Massachusetts Med Sch, Worcester, MA; 2) Dept. Ecology and Evol. Biology Brown University.

340C
Arginine methyltransferases regulate longevity and stress resistance in *Drosophila melanogaster*. **Su Yeun Yu**[1], Gwang-Ic Son[1], Bodokhsuren Tsogbadrakh[2], Yunjeong Kim[1], Joong-Jean Park[3], Yongchul Lim[4], Eunil Lee[1]. 1) Preventive medicine, College of Medicine, Korea University, Seoul, Korea; 2) Department of Internal medicine, Seoul National University Hospital, Seoul, Korea; 3) Department of Physiology, College of Medicine, Korea University, Seoul, Korea; 4) Department of Surgery, Samsung Medical Center, Sungkyunkwan University, School of Medicine, Seoul, Korea.

341A Unprogrammed presentation number

342B
The biological roles of Iron-Sulfer protein in *Drosophila*. **Kai-Ting Huang**[1,2], Jian-Chiuan Li[1], Hsiao-Yen Chan[1], Chu-Ya Cheng[1], Po-Lin Chen[1], Ya-Chen Lin[1,2], Horng-Dar Wang[2], Chun-Hong Chen[1]. 1) National Health Research Institutes, Miaoli, Taiwan; 2) National Tsing Hua University, Hsinchu, Taiwan.

343C
Signaling and starvation: effects of activity reduction of central metabolic pathway genes in AKH and dILP2 producing cells on starvation resistance. **Erik Lavington**[1], Eugene Brud[2], Matthew Talbert[3], Walter Eanes[2]. 1) Graduate Program in Genetics, Stony Brook University, Stony Brook, NY; 2) Department of Ecology and Evolution, Stony Brook University, Stony Brook, NY; 3) Department of Biology, University of Louisiana at Monroe, Monroe, LA.

344A
The *Drosophila Lactate Dehydrogenase* gene promotes production of the oncometabolite 2-hydroxyglutarate during normal juvenile growth. **Hongde Li**, Alexander Hurlburt, Jason Tennessen. Indiana University Bloomington, IN 47405.

345B
Regulation of lipid and energy homeostasis by the nuclear receptor DHR78. **Stefanie Marxreiter**, Carl S. Thummel. Human Genetics, University of Utah, Salt Lake City, UT.

346C
Metabolic studies and the insulin pathway in *Drosophila* species. **María T. Peña-Rangel**, Deyannira Otero-Moreno, Juan Manuel Murillo-Maldonado, Juan R. Riesgo-Escovar. Neurobiologia del Desarrollo y Neurofisiología, Universidad Nacional Autónoma de México, Querétaro, Querétaro, Mexico.

347A
dFatp Regulates Nutrient Distribution and Long-term Physiology in *Drosophila*. **Chelsea R. Richardson**, Alyson L. Sujkowski, Robert J. Wessells. Physiology, Wayne State University, Detroit, MI.

348B
Age and Gender Effects on Anoxia Tolerance in *Drosophila melanogaster* Mirror Patterns in Mammals. **James C. Sargent**, Jacob B. Campbell, Jon F. Harrison. School of Life Sciences, Arizona State University, Tempe, AZ 85287.

349C
Drosophila metabolic and transcriptomic responses to its gut symbiont *Lactobacillus plantarum* point enhancement of host dietary protein digestion and fatty acids beta-oxidation as key features of bacterial growth-promoting effect. **Gilles Storelli**, François Leulier. IGFL/ENS Lyon, Lyon Cedex 07, Lyon, France.

350A
Drosophila Mitochondrial Pyruvate Carrier mutants display defects in carbohydrate metabolism and hallmarks of diabetes. **Dona Wisidagama**, Daniel K. Bricker, Carl S. Thummel. Human Genetics, University of Utah, Salt Lake city, UT.

351B
Hsc70 regulates fat metabolism during *Drosophila* aging. **Yan Yan**[1], Hao Wang[2], Renjie Jiao[1,3]. 1) State Key Laboratory of Brain and Cognitive Scienc, Institute of Biophysics, the Chinese Academy of Sc, Beijing, China; 2) Department of Chemistry and Biology, National University of Defense Technology, Changsha 410072, China; 3) Guangzhou Hoffmann Institute of Immunology, School of Basic Sciences, Guangzhou Medical University, Dongfengxi Road 195, Guangzhou 510182, China.

352C
Absence of a peritrophic matrix in *drop-dead* mutant flies. **Sean Conway**[1], Christine L. Sansone[1], Johan Billen[2], Jozef Vanden Broeck[2], Edward M. Blumenthal[1,2]. 1) Biological Sciences, Marquette University, Milwaukee, WI; 2) Zoological Institute, University of Leuven, Leuven, Belgium.

POSTER SESSIONS

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353A
Stunted is a fat body-derived factor that remotely couples insulin secretion with nutrient availability through its receptor Methuselah. **Renald Delanoue**, Neha Agrawal, Meschi Eleonore, Leopold Pierre. iBV, CNRS UMR 7277/INSERM UMR 1091/UNS, Nice, France.

354B
FLIC: High-throughput, continuous analysis of Drosophila feeding behaviors. Jennifer Ro[1], Zachary Harvanek[3], **Scott Pletcher**[2]. 1) Cellular and Molecular Biology Program, University of Michigan, Ann Arbor, Michigan; 2) Department of Molecular and Integrative Physiology and Geriatrics Center, University of Michigan, Ann Arbor, Michigan; 3) Medical Scientist Training Program, University of Michigan, Ann Arbor, Michigan.

355C
The importance of a balanced diet: The effect of protein-to-carbohydrate ratio on body and organ size in *Drosophila*. **Yuqing Zhu**[1], Josephine R. Masandika[1], Lily S. Thorsen[1], Diego R. Rojas-Toledo[1], Christen K. Mirth[2], Alexander W. Shingleton[1,3]. 1) Department of Biology, Lake Forest College, Lake Forest, IL; 2) Instituto Gulbenkian de Ciencia, Oeiras, Portugal; 3) Department of Zoology, Michigan State University, East Lansing, MI 48824, USA.

356A
Reverse genetic screen for identification of non-autonomous growth signal(s) originating in the larval fat body. **O. Carreño**, M. Gallant, P. Gallant. Lehrstuhl für Biochemie and Molekularbiologie, University Würzburg, Germany.

357B
Functional significance of the enzymatic and transcriptional co-regulator activities of dLipin. **Michael Lehmann**, Sandra Schmitt, Qiuyu Chen. Dept Biological Sci, Univ Arkansas, Fayetteville, AR.

358C
A role for tyrosine in mediating progression through oogenesis in *Drosophila*. **Danielle Scheunemann**, Tyler J. Halicek, Edward M. Blumenthal. Biological Sciences, Marquette University, Milwaukee, WI.

359A
The *Drosophila* Estrogen-Related Receptor acts as a nutrient sensor to coordinate larval growth with nutrient availability. **Maria C. Sterrett**, Samantha L. St. Clair, Jason M. Tennessen. Indiana University, Bloomington, IN.

360B
Juvenile Hormone regulates body proportion in *Drosophila*. **Christopher D. Mirque**[1], James J. Haney[1], Lauren M. Lyon[1], Thomas Flatt[2], Christen K. Mirth[3], Alexander W. Shingleton[1,4]. 1) Department of Biology, Lake Forest College, Lake Forest, IL 60045, USA; 2) Department of Ecology and Evolution, University of Lausanne, UNIL Sorge, Biophore, CH-1015, Switzerland; 3) Instituto Gulbenkian de Ciencia, Oeiras, Portugal; 4) Department of Zoology, Michigan State University, East Lansing, MI 48824, USA.

361C
A novel function of the hippo-pathway member, *warts*, in modulating organism size of *drosophila*. **Morten E. Møller**[1], E. Thomas Danielsen[1], Michael B. O'Connor[2], Kim F. Rewitz[1]. 1) Department of Biology, University of Copenhagen, Copenhagen, Denmark; 2) Department of Genetics, Cell Biology and Development, University of Minnesota, Minneapolis, Minnesota, USA.

362A
Autophagy in prothoracic gland controls developmental timing in Drosophila melanogaster. **Xueyang Pan**[1,2], Michael O'Connor[1]. 1) Department of Genetics, Cell Biology and Development, University of Minnesota, Minneapolis, MN; 2) Molecular, Cellular, Developmental Biology and Genetics Program, University of Minnesota, Minneapolis, MN.

363B
A genome-wide *in vivo* RNAi screen in *Drosophila* identifies regulators of cholesterol-dependent steroid production. Morten Moeller[1], E. Thomas Danielsen[1], Naoki Yamanaka[2], Kirst King-Jones[3], Michael O'Connor[4], **Kim Rewitz**[1]. 1) Biology, University of Copenhagen, Copenhagen, Copenhagen, Denmark; 2) Entomology, University of California, Riverside, USA; 3) Biological Sciences, University of Alberta, Alberta, Canada; 4) Genetics, Cell biology and Development, University of Minnesota, Minneapolis, USA.

364C
A novel ecdysteroidogenic gene *noppera-bo* encoding glutathione *S*-transferase regulates cholesterol behavior. **Enya Sora**[1], Yuko Shimada-Niwa[1], Fumihiko Igarashi[2], Masatoshi Iga[3], Hiroshi Kataoka[3], Tetsuro Shinoda[4], Ryusuke Niwa[1,5]. 1) Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba, ibaraki, Japan; 2) Biotechnology Research Center, Toyama Prefectural University, Toyama, Japan; 3) Graduate School of Frontier Sciences, University of Tokyo, Japan; 4) Division of Insect Science, National Institute of Agrobiological Sciences, Japan; 5) PRESTO, JST, Japan.

365A
Regulation of enterocyte cell death by dMyc modulates intestinal barrier function and lifespan in *D. melanogaster*. **Kazutaka Akagi**, Subhash Katewa, Kenneth Wilson, Subir Kapuria, Amit Sharma, Arshad Ayyaz, Heinrich Jasper, Pankaj Kapahi. Buck Inst Research Aging, Novato, CA.

366B
Lifespan extension by ginseng berry extract and its active component syringaresinol. **Kyung-Jin Min**[1], Shin-Hae Lee[1], Hye-Yeon Lee[1], Si-Young Cho[2], Ju-Won Kim[2], Sang Joon Lee[2]. 1) Department of Biological Sciences, Inha University, Incheon, South Korea; 2) R&D Center, Amorepacific Corporation, Gyeonggi-do, South Korea.

367C
Mitonuclear AxGxE: Genetic and dietary interactions are as important as single factors in explaining Drosophila lifespan and healthspan. **David Rand**, C.-T. Zhu, J. Mossman, J. Santiago, A. Spierer, L. Biancani, T. Devlin, J. Dewey, B. Frankin, M. McAteer, Z. Pataki, C. HalE-Phillips, D. Yoon. Ecology & Evolutionary Biol, Brown Univ, Providence, RI.

368A
Analysis of the cSOD-Null Mutant Phenotypes of *Drosophila melanogaster* Across a Suite of Genetic Backgrounds. **Courtney E. Lessel**[1], Thomas J. S. Merritt[1], Tony L. Parkes[2]. 1) Biology Dept, Laurentian University, Sudbury ON; 2) Biology and Chemistry Dept, Nipissing University, North Bay ON.

369B
The Role of miR-310s in ovarian soma in response to dietary conditions. **Ibrahim Omer Cicek**, Halyna R. Shcherbata. Gene Expression and Signaling, Max Planck Institute, Goettingen, Germany.

POSTER SESSIONS

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370C
How does diet regulate lifespan? Organ-specific, Tor-dependent transcriptomic responses to essential amino acids. **Adam Dobson**[1], Mingyao Yang[1,2], Xiaoli He[1], Eric Blanc[3], Matthew Piper[1]. 1) Institute of Healthy Ageing, Department of Genetics, Evolution and Environment, University College London, London, UK; 2) Institute of Animal Genetics and Breeding, Sichuan Agricultural University, Chengdu, Sichuan, China; 3) Medical Research Council (MRC) Centre for Developmental Neurobiology, King's College London, London, UK.

371A
Absence of mitochondrial SOD2 in *Drosophila* induces a novel peroxidase, which plays an essential role during adult wing maturation. Dondra Bailey, Sanjay Nag, Mohammed Basar, **Atanu Duttaroy**. Dept Biol, Howard Univ, Washington, DC.

372B
The FIT in fat: Mating behavior and metabolism are influenced by fat body FIT expression and secretion into hemolymph. **Hina Iftikhar**, Ginger Carney. Biology, Texas A&M University, College Station, TX.

373C
Mitochondrial knockdown using tissue specific expression of mitochondrially-targeted restriction enzymes against mtDNA as a model for the decline in organismal performance. **Adam N. Spierer**, A. Pascal, R. Mabeza, David M. Rand. Ecology and Evolutionary Biology, Brown University, Providence, RI.

374A
Endurance exercise and selective breeding for longevity extend *Drosophila* healthspan by overlapping mechanisms. **Alyson Sujkowski**[1], Brian Bazzell[3], Kylie Carpenter[3], Robert Arking[2], Robert Wessells[1]. 1) Wayne State School of Medicine, Detroit, MI; 2) Wayne State University, Detroit, MI; 3) Univ of Michigan, Ann Arbor, MI.

375B
The nuclear receptor dHNF4 coordinates a transition towards oxidative phosphorylation and glucose-stimulated insulin secretion at the onset of adulthood. **William E. Barry**, Carl S. Thummel. Department of Human Genetics, University of Utah School of Medicine, Salt Lake City, UT.

376C
Elucidating the role of CyclinB3 in mediating lifespan extending effects of reduced insulin signaling in *Drosophila*. **Ekin Bolukbasi**[1], Jennifer Regan[1], Linda Partridge[1,2]. 1) Insitute of Healthy Ageing, UCL, London, United Kingdom; 2) Max Planck Institute for Biology of Ageing, Cologne Germany.

377A
Tissue-specific effects of insulin signaling on female attractiveness. **Tatyana Fedina**, Scott Pletcher. Molecular & Integrative Physiology, University of Michigan, Ann Arbor, MI.

378B
The sex determination gene *transformer* controls male-female differences in growth. **Elizabeth Rideout**[1,2], Savraj Grewal[1]. 1) Clark H. Smith Brain Tumour Center, Dept. Biochemistry and Molecular Biology, University of Calgary, Calgary, AB, Canada; 2) Dept. Cellular and Physiological Sciences, University of British Columbia, Vancouver, BC, Canada.

379C
Connections between the effects of various chemicals on the development of *Drosophila melanogaster* and *Homo sapiens*. **Amy Brenner**. Biology Department, Olivet Nazarene University, Bourbonnais, IL.

380A
Metabolic and genetic implications of survival in anoxia. **Jacob Campbell**, Jon Harrison. Arizona State University, Tempe, AZ.

381B
Activation of Transposable Elements Across Multiple Tissues in Aging *Drosophila*. **Brian C. Jones**, Jason G. Wood, Cheng-yi Chan, Stephen L. Helfand. Molecular Biology, Cell Biology, Biochemistry, Brown University, Providence, RI.

382C
The Effects of Aging on DNA Double-Strand Break Repair. Faraz Sohail, Elisa Bienenstock, **Jeannine LaRocque**. Human Science, Georgetown University, Washington, DC.

383A
Control of pupation timing by transcription factors Blimp-1 and FTZ-F1 in fat body during prepupal period. **Haruka Nishida**, Abdel-Rahman Sultan, Kazutaka Akagi, Moustafa Sarhan, Azusa Koie, Takumi Nakayama, Hitoshi Ueda. Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan.

384B
Evaluating toxicity of silver nanoparticles in *Drosophila melanogaster*. **Ananya Sharma**, Ajay Srivastava. Biology and Biotechnology Center, WKU and the Gatton Academy of Math and Science ,Western Kentucky University, Bowling Green, KY 42101.

385C
Identifying Novel UNC-45 Interacting Partners in *Drosophila melanogaster*. **Daniel Smith**[1], Carmen Carland[1], Majid Mekany[1,2], Sanford Bernstein[1]. 1) Biology Department, San Diego State University, San Diego, CA; 2) Cell and Molecular Biology Joint Doctoral Program, San Diego State University and UC San Diego, San Diego, CA.

386A
The *speck* gene, discovered in 1910, is a mutation in a transcript of the *Dopamine acetyltransferase* (*Dat*) gene. **Eric P. Spana**, Amanda B. Abrams. Department of Biology, Duke University, Durham, NC.

387B
Microarray analysis of *Drosophila* Cdk5/p35 kinase mutants. **J. Spurrier**[1,2], K. McLinden[1], E. Giniger[1]. 1) NINDS, National Institutes of Health, Bethesda, MD; 2) CMDB, Johns Hopkins University, Baltimore, MD.

388C
Activation of innate immune response induces age-related caspase activation in Or42b neuron. **Ken-ichi Takeuchi**[1], Takahiro Chihara[1,2], Masayuki Miura[1,2]. 1) Department of Genetics, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Hongo, Bunkyo-ku, Tokyo, Japan; 2) CREST, Japan Science and Technology Agency (JST), Gobancho, Chiyoda-ku, Tokyo, Japan.

Gametogenesis and Organogenesis

389A
Nuclear Spermatid Transition Proteins involved in chromatin condensation in *Drosophila*. **Zain Alvi**, Angela Klaus, Tin-Chun Chu. Department of Biological Sciences, Seton Hall University, South Orange, NJ 07079.

POSTER SESSIONS

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390B
A function for Syncrip in the *Drosophila* male germline. **Catherine Baker**, Emily Taing, Margaret Fuller. Dept Developmental Biol, Stanford Univ Sch Medicine, Stanford, CA.

391C
Characterization of the function of AAA ATPase Nmd in *Drosophila* spermatogenesis and *in vitro*. **Tucker Bates**, James Winkle, Karen Hales. Department of Biology, Davidson College, Davidson, NC.

392A
The Role of *Ribbon* in the Drosophila Testis. **Andrew P. Droste**, Diane Silva, Jennifer Jemc. Biology, Loyola Univ Chicago, IL.

393B
Dynamic expression of Suppressor of Hairy-wing [Su(Hw)] in spermatogenesis underlies a role in male fertility. **Tingting Duan**, Pamela Geyer. Dept of Biochemistry, Univ of Iowa, Iowa City,IA.

394C
Phospholipid-derived signaling molecules in *Drosophila* spermatogenesis. **Yosef Frenkel**, Eli Miller, Josefa Steinhauer. Department of Biology, Yeshiva University, New York, NY.

395A
Characterization of age related effects on spermatogenesis in the DGRP. **Michelle Giedt**, Douglas Harrison. Biology, University of Kentucky, Lexington, KY.

396B
Characterization of AAA ATPase proteins Nmd and CG4701 through an analysis of mitochondrial dynamics, cytokinesis, and microtubule organizing centers during *Drosophila melanogaster*spermatogenesis. **Devon Harris**, Bethany Wagner, Sarah Pyfrom, Jessica Gerard, Melissa Lorenzo, James Winkle, Lindsay Regruto, Karen Hales. Davidson College Department of Biology, Davidson College, Davidson, NC.

397C
Snail is required for maintenance of male germline stem cells. **Gary Hime**[1], Aviv Gafni[1], Arjun Chahal[1], Agnes Gany[1], Franca Casagranda[1], Nicole Siddall[1], Kate Loveland[2], Helen Abud[2]. 1) Anatomy and Neuroscience, University of Melbourne, Parkville, Victoria, Australia; 2) Anatomy and Developmental Biology, Monash University, Clayton, Victoria, Australia.

398A
A Visual Screen for Centriolar Mutants. **S. Hynek**, T. Janowicz, S. Baghdy, K. Arum, A. Marcano, M. S. Choi, N. Scheanwald, T. Avidor-Reiss. Biological Sciences, University of Toledo, Toledo, OH.

399B
Overexpression of *erpL22* leads to increased proliferation, decreased fertility, and a shortened lifespan. **Catherine Mageeney**, Alex Chen, Jennifer Colquhoun, Michael Kearse, Vassie Ware. Biological Sciences, Lehigh University, Bethlehem, PA.

400C
Notch Signaling is Active in Stem Cell Lineages of Testes. **C. Ng**, C. Schulz. Department of Cellular Biology, University of Georgia, Athens, Athens, GA.

401A
Differential gene expression associated with X-linked sex-ratio meiotic drive in *Drosophila affinis*. **Robert Unckless**, Andrew Clark. Molecular Biology and Genetics, Cornell University, Ithaca, NY.

402B
Three RNA Binding Proteins Form a Complex to Promote Differentiation of Germline Stem Cell Lineage in *Drosophila*. Di Chen[1,2], **Chan Wu**[1,2], Shaowei Zhao[1,2], Qing Geng[1,2], Yu Gao[1,2], Xin Li[1,2], Yang Zhang[1,2], Zhaohui Wang[1,2]. 1) State Key Laboratory of Molecular Developmental Biology, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences; 2) The University of Chinese Academy of Sciences.

403C
Disrupting Laminin function reveals an unexpected role for an ovarian muscle tissue in shaping the *Drosophila* egg. **Darcy Andersen**, Sally Horne-Badovinac. Department of Molecular Genetics and Cell Biology, The University of Chicago, Chicago

404A
Evidence that the planar polarized localization of Fat2 in *Drosophila* follicle cells depends on microtubule-based transport. **F. Aurich**, C. Dahmann. Technische Universität Dresden, Dresden, Germany.

405B
Evidence the dot chromosomes help organize chromosome movements during female meiotic prometaphase I in *Drosophila melanogaster*.. **William Gilliland**, Eileen Colwell, David Osiecki. Department of Biological Sciences, DePaul University, Chicago

406C
Blm and mei-MCM Complex Coordinately Regulate Crossover Control in *Drosophila*. **Talia Hatkevich**, Kathryn Kohl, Susan McMahan, Jeff Sekelsky. University of North Carolina Chapel Hill, Chapel Hill, NC.

407A
A tunable, secretion-based mechanism for basement membrane remodeling during egg chamber elongation. **Adam Isabella**[1,2], Sally Horne-Badovinac[1,2]. 1) Department of Molecular Genetics & Cell Biology, University of Chicago, Chicago, IL; 2) Committee on Development, Regeneration, and Stem Cell Biology, University of Chicago, Chicago, IL.

408B
The Ecdysone and JAK/STAT pathways synergize to suppress Notch-induced Broad for proper morphogenetic movement in the follicular epithelium. **Dongyu Jia**, Jamal Bryant, Wu-Min Deng. Department of Biological Science, Florida State University, Tallahassee, FL.

409C
Characterizing a Role for the Misshapen Kinase in Growth of the Germline Ring Canals in the Developing Egg Chamber. **Ashley Kline**, Lindsay Lewellyn. Department of Biological Sciences, Butler University, Indianapolis, IN.

410A
Diversification and redundancy of Drosophila septins *Sep2* and *Sep5*. **Ryan O'Neill**, Denise Clark. Department of Biology, University of New Brunswick, Fredericton, New Brunswick, Canada.

411B
Diversity of epithelial morphogenesis among drosophilid eggshells. **Miriam Osterfield**[1], Trudi Schüpbach[1], Eric Wieschaus[1,2], Stanislav Shvartsman[1]. 1) Lewis-Sigler Inst, Princeton Univ, Princeton, NJ; 2) Howard Hughes Medical Institute (HHMI), USA.

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412C
small ovaries (*sov*) is required for establishment and maintenance of the *Drosophila melanogaster* ovary. **Cale Whitworth**[1], Kevin Cook[2], Brian Oliver[1]. 1) National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, USA; 2) Bloomington Drosophila Stock Center, Dept. of Biology, Indiana University, Bloomington, IN, USA.

413A
Imaginal disc growth factors regulate dorsal-appendage tube morphogenesis. **Sandra Zimmerman**, Celeste Berg. Department of Genome Sciences, University of Washington, Seattle, WA.

414B
Studying the *cis*- and *trans*- regulation of *Sex lethal* in the germline. **Raghav Goyal**, Pradeep Bhaskar, Mark Van Doren. Biology Department, Johns Hopkins University, Baltimore, MD.

415C
Sexual differentiation of the *Drosophila* germline stem cell niche regulated by *doublesex* and *fruitless*. **Hong Zhou**, Cale Whitworth, Mark Van Doren. Department of Biology, Johns Hopkins University, Baltimore, MD.

416A
Transfer and processing of the seminal fluid protein Antares during and after mating in *Drosophila melanogaster*. **Kaitlyn Baranowski**[1], Mariana Wolfner[2], Geoffrey Findlay[1,2]. 1) Department of Biology, College of the Holy Cross, Worcester, MA; 2) Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY.

417B
Interactions between *akirin* and *pannier* during embryonic myogenesis. **Dyana C. Brooks**, Emily R. Champion, Scott J. Nowak. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA.

418C
Examination of the Roles of RhoGEF2 and Ribbon in Gonad Morphogenesis. **Fatma B. Ciftci**, Jennifer Jemc. Loyola University Chicago, Chicago, IL.

419A
The smooth muscles cells of the *Drosophila* testes arise by myoblast fusion. **Katharina Fritzen**, Jessica Kuckwa, Renate Renkawitz-Pohl. Philipps-University, Marburg, Hessen, Germany.

420B
Noncanonical roles for Tropomyosin during myogenesis. Jessica Williams, Nathan Boin, Juliana Valera, **Aaron Johnson**. Dept Integrative Biology, Univ Colorado, Denver, Denver, CO.

421C
The Role of the BTB Family Proteins Lola and Rib in Gonad Morphogenesis. **Diane Silva**, Christopher P. Lenkeit, Edwin Chaharbakhshi, Andrew Droste, Jennifer Jemc. Loyola University, Chicago, IL.

422A
Transcriptome analysis of embryonic tendon and muscle cells during myotube elongation. **Juliana Valera**, Aaron Johnson. Department of Integrative Biology, University of Colorado Denver, Denver, CO.

423B
Genetic Analysis of Conserved Eya Protein Domains in *Drosophila*. **M. Jin**, G. Mardon. Pathology Dept, Baylor College of Medicine, One Baylor Plaza, Houston, TX, 77030.

424C
Signaling through Rickets, a G-protein-coupled receptor, is crucial for polarity and migration of the border cells in *Drosophila*. **Lauren Anllo**, Trudi Schupbach. Dept. of Molecular Biology, PRINCETON UNIVERSITY, PRINCETON, NJ.

425A
Exploring the Role of Raw in the Embryonic Nervous System. **Emily R. Temple-Wood**, Diane Silva, Jennifer Jemc. Department of Biology, Loyola University Chicago, Chicago, IL, IL.

426B
Dynamic protein modification: Variable tissue-specific modification and localization of eRpL22-like during fly eye development. **Brett Gershman**, Michael Kearse, Vassie Ware. Biological Sciences, Lehigh University, Bethlehem, PA.

427C
Kette and WASP act antagonistically during F-actin formation in fusion competent myoblasts. **A. Loewer**[1], G. Schaefer[2], J. Hamp[3], S. Oenel[1]. 1) Entwicklungsbiologie, Philipps-Universitaet Marburg, Marburg, Germany; 2) Institute for Genetics, Marburg, Germany; 3) Fresenius Kabi GmbH, Bad Hersfeld, Germany.

428A
Loh: a matricellular protein required for cardiac function. **Bárbara Rotstein**[1], Maik Drechsler[2], Ariane Wilmes[1], Achim Paululat[1]. 1) Osnabrueck University, Department of Developmental Biology, Osnabrueck, Germany; 2) University of Cambridge, Department of Zoology, Cambridge, England.

429B
Dynamic Notch signaling sequentially specifies cell fate in the secretory lineage of *Drosophila* spermathecae. **Wei Shen**[1], Fabio Carvalho[1], Jianjun Sun[1,2]. 1) Physiology and Neurobiology, University of Connecticut, Storrs, CT; 2) Institute for Systems Genomics, University of Connecticut, Storrs.

430C
Genes expressed in the secondary cells of the male accessory gland are essential for the female post mating response. **Jessica Sitnik**[1], Dragan Gligorov[2], Robert Maeda[2], Fancois Karch[2], Mariana Wolfner[1]. 1) Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY; 2) Department of Genetics and Evolution and NCCR Frontiers in Genetics, University of Geneva, Geneva, Switzerland.

431A
Investigatingon of the Roles of Mrityu in Egg Activation in *Drosophila melanogaster*. **Zijing Zhang**[1], Amber Krauchunas[2], Mariana Wolfner[1]. 1) Molecular Biology and Genetics, Cornell University, Ithaca, NY; 2) Waksman Institute of Microbiology, Rutgers University, New Brunswick, NJ.

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Stem Cells

432B
Investigating the role of *Hrb27C* in the regulation of female germline stem cell activity. Danielle Finger, **Elizabeth Ables**. Dept. of Biology, East Carolina University, Greenville, NC.

433C
Identification of Germline sex defining signals in *Drosophila melanogaster*. **Pradeep K. Bhaskar**, Raghav Goyal, Kelly Baxter, Mark Van Doren. Department of Biology, Johns Hopkins University, Baltimore, MD.

434A
Niche signaling promotes stem cell survival in the *Drosophila* testis via the Jak-STAT target DIAP1. **Salman Hasan**[1], Phylis Hetie[1,2], Dr Erika Matunis[1]. 1) Johns Hopkins Medical Institute, Baltimore, MD; 2) Harvard University, Cambridge, MA.

435B
Aging delays the S phase progression of normal and tumorous germline stem cell division cycles distinct from the effect of diet. **Shih-Han Kao**[1], Chen-Yuan Tseng[1,2], Chih-Lin Wan[1], Yu-Han Su[1], Hwei-Jan Hsu[1]. 1) Insitute of Cellular and Organismic Biology, Academia Sinica 128 Academia Road, Section 2, Nankang, Taipei 11529, Taiwan, R.O.C; 2) Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan.

436C
Heparan sulfate proteoglycans regulate germline stem cell behavior and niche organization in the *Drosophila* testis. **Daniel C. Levings**[1], Hiroshi Nakato[2]. 1) Molecular, Cellular, Developmental Biology and Genetics Program, University of Minnesota-Twin Cities, Minneapolis, MN; 2) Department of Genetics, Cell Biology and Development, University of Minnesota-Twin Cities

437A
Loss of the Nuclear Lamina protein Otefin reveals a novelgermline stem cell checkpoint . **Kaylee E. Lovander**, Lacy Barton, James Bullard, Pamela Geyer. Department of Biochemistry, University of Iowa, Iowa City, IA.

438B
Wnt signaling regulates escort cell-expressed Thickveins to constrain Dpp activity within the Drosophila ovarian stem cell niche. **Lichao Luo**[1,2], Huashan Wang[1], Chao Fan[1]. 1) Temasek Life Science Laboratory, Singapore, Singapore, 117604; 2) Department of Biological Sciences, Natl University of Singapore

439C
Up-regulation of germline stem cell division frequency in response to mating. **Manashree Malpe**, Karl Kudyba, Chun Ng, Cordula Schulz. Cellular Biology, University of Georgia, Athens, GA.

440A
Gap junction-mediated signalling regulates the proliferation and differentiation of somatic cyst cells in the *Drosophila* testis. **Christopher M. Smendziuk**, Fayeza Islam, Anat Messenberg, Guy Tanentzapf. Department of Cellular and Physiological Sciences, University of British Columbia, Vancouver, British Columbia, Canada.

441B
Insulin Signaling-Mediated Control of the 'Failed Axon Connections' Protein in the Niche Maintains Germline Stem Cells in Response to Diet. **Yu-Han Su**, Hwei-Jan Hsu. Institute of Cellular and Organismic Biology, Academia Sinica 128 Academia R.d., Sec 2, ICOB R337, Nankang, Taipei 115, Taiwan, R.O.C.

442C
Uncovering the role of adipocyte-derived collagen type IV in regulating *Drosophila* oogenesis. **Lesley Weaver**, Daniela Drummond-Barbosa. Department of Biochemistry and Molecular Biology, Johns Hopkins University, Baltimore, MD.

443A
Rapid Evolution of a Germline Stem Cell Maintenance Factor. **Daniel Zinshteyn**, Michael McGurk, Aaron Chen, Daniel Barbash. Molecular Biology and Genetics, Cornell University, Ithaca, NY.

444B
Regeneration in the adult *Drosophila* brain. **Kassi L. Crocker**[1,2], Stacey Rimkus[2], Grace Boekhoff-Falk[1,2]. 1) Genetics Training Program, University of Wisconsin-Madison, Madison, WI; 2) Cell and Regenerative Biology, University of Wisconsin-Madison, Madison, WI.

445C
Induction of malignant neural stem cells through early evasion of temporal patterning in *Drosophila*. **Cedric Maurange**, Karine Narbonne-Reveau, Caroline Eple, Elodie Lanet, Sophie Foppolo. IBDM (Aix-Marseille University/CNRS), Marseille, France.

446A
Regulators of mushroom body neuroblast apoptosis. **Matthew Pahl**, Sarah Siegrist. Biology, University of Virginia, Charlottesville, VA.

447B
The Drosophila Sp8 Transcription Factor Buttonhead Prevents Premature Differentiation of Intermediate Neural Progenitors. Yonggang Xie[1], Xiaosu Li[1], Xian Zhang[1], Shaolin Mei[1], Hongyu Li[1], Andreacarola Urso[2], **Sijun Zhu**[1]. 1) Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY; 2) Department of Biology, Syracuse University, Syracuse, NY.

448C
dSox9 is required for intestinal stem cell proliferation and differentiation in the adult *Drosophila* midgut. **Qing Lan**, Min Cao, Huaqi Jiang. Department of Developmental Biology, University of Texas Southwestern Medical Center, Dallas, TX.

449A
Cell fate determination in intestinal stem cell progeny. **Jérémy Sallé**, Allison Bardin. Institut Curie, Paris, France.

450B
Defining tissue injury responses at the midgut/hindgut boundary with single-cell resolution. **Jessica Sawyer**, Emily Bowie, Ruth Montague, Donald Fox. Pharmacology & Cancer Biology, Duke University, Durham, NC.

451C
Epithelial-derived BMPs are the niche signals for *Drosophila* intestine stem cell self-renewal. **Ai-Guo Tian**, Jin Jiang. Department of Developmental Biology, UT Southwestern Medical Center, Dallas, TX.

452A
"Receptome-wide" RNAi screen in vivo identifies novel regulators of ISC activity in *Drosophila* midgut. **Charles Xu**[1], Claire Hu[1], Junjie Luo[2], Norbert Perrimon[1]. 1) Genetics Department, Harvard Medical School, Boston, MA; 2) Neurosciences Research Institute, University of California, Santa Barbara, CA.

POSTER SESSIONS

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453B
Sensory regulation of calcium signalling in hematopoiesis. **Katrina Gold**[1], Kalpana Makhijani[2], Brandy Alexander[1], Jenny Kim[1], Katja Brückner[1,3,4]. 1) Dept of Cell and Tissue Biology, UCSF, San Francisco, CA; 2) Dept of Pharmaceutical Chemistry, UCSF, San Francisco, CA; 3) Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research, UCSF, San Francisco, CA; 4) Cardiovascular Research Institute, UCSF, San Francisco, CA.

454C
Gal4 screening for introducing new insights into *Drosophila* hematopoiesis. **T. Tokusumi**, Y. Tokusumi, M. Brahier, V. Lam, J. Stoller-Conrad, P. Kroeger, R. Schulz. Biological Sci, Univ Notre Dame, Notre Dame, IN.

455A
Differential levels of PI3K/TOR signalling determine the outcome of competition between stem cells for differentiation. **Marc Amoyel**[1,2], Kenzo-Hugo Hillion[1], Shally Margolis[1], Erika Bach[1,2]. 1) Biochemistry and Molecular Pharmacology, New York University School of Medicine, New York, NY, USA; 2) The Helen L. and Martin S. Kimmel Center for Stem Cell Biology, New York University School of Medicine, New York, NY, USA.

456B
Quiescent cells in the adult Drosophila testis niche are not replenished after damage. P. Hétié, **M. de Cuevas**, E. Matunis. Department of Cell Biology, Johns Hopkins School of Medicine, Baltimore, MD 21205.

457C
Investigating a Role for JAK/STAT Cytokine Signaling in Mushroom Body Neuroblast Apoptosis. **Xin Yuan**, Sarah Siegrist. Biology, University of Virginia, Charlottesville, VA.

458A
Ecdysteroids and miRNA cooperate in regulating differentiation of germline stem cell progeny. **Annekatrin König**, Andriy S. Yatsenko, Halyna R. Shcherbata. Research Group of Gene Expression and Signaling, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany.

Immunity and Pathogenesis

459B
Drosophila crystal cells undergo pyroptosis to release pro-phenoloxidase at wound sites. **Robert Krautz**[1], Zhi Wang[1], Robert Markus[2], Ulrich Theopold[1]. 1) Department of Molecular Biosciences, The Wenner-Gren Institute, Stockholm University, Stockholm, Stockholm, Sweden; 2) University of Nottingham School of Life Sciences E100, E Floor, Medical School, Queen's Medical Centre, Clifton Boulevard, Nottingham NG7 2UH.

460C
Belle is functionally required for the expression of transgenes and subsets of transposable elements. **Pang-Kuo Lo**, Yi-Chun Huang, William Palmer, Wu-Min Deng. Department of Biological Science, Florida State University, Tallahassee, FL.

461A
Role of a lysosomal chloride transporter in the phagocytic degradation of bacteria. **Ching-On Wong**, Hongxiang Hu, Yufang Chao, Meera Namireddy, Kartik Venkatachalam. Integrative Biology and Pharmacology, University of Texas Health Science Center at Houston, Houston, TX.

462B
Dual role of *Beadex* in Drosophila immunity. **Arunita Chatterjee**, Kumar Aavula, Esha Patnaik, Upendra Nongthomba. Dept of Molecular Reproduction, Development and Genetics, Indian Institute of Science, Bangalore, India.

463C
The microbiota induces Pvf2 to activate the antiviral ERK pathway in the Drosophila gut. **Jonathan Cohen**, Christine Sansone, Ari Yasunaga, Jie Xu, Beth Gordesky-Gold, Sara Cherry. Department of Microbiology, University of Pennsylvania School of Medicine, Philadelphia, PA.

464A
zfh2 is an *in vivo* mediator of hypercapnic immune suppression. **Ryan Haake**, James Kwon, Greg Beitel. Dept. of Molecular Biosciences, Northwestern University, Evanston, IL.

465B
A chromatin remodeling factor contributes to innate immune homeostasis in intestine. **Xiaomeng He**, Lei Pan. Institute of Biophysics,CAS, Beijing, China.

466C
Molecular mechanisms of neuroinflammatory response in a *Drosophila* Parkinson's model. **Anna Moyer**, Janis O'Donnell. Biological Sciences, University of Alabama, Tuscaloosa, AL.

467A
Investigating host-microbe interactions in Drosophila. **Meera Namireddy**[1], Ching-On Wong[2], Yufang Chao[2], Hongxiang Hu[2], Kartik Venkatachalam[2]. 1) Rice University, Houston, TX; 2) The University of Texas Health Sciences Center-Houston

468B
Post-mating reduction of immune defense in *Drosophila melanogaster* females: testing the hormonal pleiotropy hypothesis. **Robin Schwenke**, Brian Lazzaro. Cornell University, Ithaca, NY.

469C
Regulatory Roles of Bromodomain Containing Proteins (BCPs) and Jumonji Domain Containing Proteins (JDCPs) in Immunity and Inflammation. **J. Sharrock**, M. S. Dionne. Centre of Molecular and Cellular Biology of Inflammation (CMCBI), Kings College London.

470A
The physiological genetic basis of immune-energetic interactions in *Drosophila*. **Justin Buchanan**, Colin Meiklejohn, Kristi Montooth. Biological Science, University of NE - Lincoln,

471B
Determinants of paralytic behavior after viral infection. **Jonathan Chow**, Jonathan Kagan. Harvard University and Boston Children's Hospital, Boston, MA.

472C
Production of Nora virus ORF1 monospecific antisera. **Tad Fuchs**, Kirsten Lipps, Brad Ericson, Darby Carlson, Kimberly Carlson. Biology, University of Nebraska at Kearney, Kearney, NE.

473A
Dissecting the mechanisms by which cAMP-producing toxins disrupt junctional trafficking. **Annabel Guichard**[1], Stephen Chin[1], Beatriz Cruz Moreno[1], Janet Liu[2], Lin Zhu[1], Berenice Aguilar[2], Victor Nizet[2,3], Ethan Bier[1]. 1) Dept of Biology, Univ. California, San Diego, La Jolla, CA; 2) Dept of Pediatrics, Univ. California, San Diego, La Jolla, CA; 3) Skaggs School of Pharmacy , Univ. California, San Diego, La Jolla, CA.

POSTER SESSIONS

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474B
The genetic architecture of defense as tolerance and resistance. **Virginia Howick**, Brian Lazzaro. Entomology, Cornell University, Ithaca, NY.

475C
Production of Nora virus ORF2 monospecific antisera. **Alexis Page**, Brad Ericson, Darby Carlson, Kimberly Carlson. Biology, University of Nebraska at Kearney, Kearney, NE.

476A
Drosophila melanogaster Nora virus virus-like particles: *in vitro* assembly. **Ryan Sowle**, Kellie Licking-Murray, Brad Ericson, Darby Carlson, Kimberly Carlson. Biology, University of Nebraska at Kearney, Kearney, NE.

477B
The POU/Oct transcription factor *nubbin (nub)* is necessary for a beneficial gut microbiota and for normal adult life-span of *Drosophila*. **Ylva Engström**[1], Widad Dantoft[1], Daniel Lundin[2]. 1) Dept. of Molecular Biosciences, The Wenner-Gren Institute, Stockholm University, SE-10691 Stockholm, Sweden; 2) Bioinformatics Infrastructure for Life Sciences, Science for Life Laboratory, Box 1031, SE-171 21 Solna, Sweden.

Neural Development

478C
Study of the Brain Tumor protein role in the midline axon guidance during *Drosophila* neural development. **Elise Arbeille**, Melissa Hernandez, Jonathan Levin, Greg Bashaw. Department of Neuroscience, University of Pennsylvania, Philadelphia, PA.

479A
Functional requirements of Abelson tyrosine kinase in the nervous system. **Han S. J. Cheong**, Jessica C. Love, Mark F. A. VanBerkum. Biological Sciences, Wayne State University, Detroit, MI.

480B
A characterization of growth cone morphodynamics in a live-pathfinding axon. **Akanni Clarke**[1,2], Ramakrishnan Kannan[1], Irina Kuzina[1], Edward Giniger[1]. 1) NINDS/NIH, Bethesda, MD; 2) The George Washington University.

481C
Axon targeting of Gr32a-expressing neurons is dependent on octopamine expression. **David Hess-Homeier**[1], Gilia Patterson[1], Jessica Bailey[1], Sarah Certel[1,2]. 1) Department of Biological Sciences, University of Montana, Missoula, MT; 2) Neuroscience Graduate Program, University of Montana, Missoula, MT.

482A
The transmembrane protein Off-track 2 is implicated in the guidance of embryonic motor neurons. **David J. Robinson**, Samantha Alsbury. University of Greenwich, Medway Campus, Central Avenue, Chatham Maritime, Kent. ME4 4TB. UK.

483B
Dissecting the roles of Homeodomain and Hox transcription factors in mediating dendritic development. **Sarah G. Clark**, Lacey Graybeal, Srividya C. Iyer, Myurajan Rubaharan, Eswar Prasad R. Iyer, Daniel N. Cox. Neuroscience Institute, Georgia State University, Atlanta, GA.

484C
HSPG-dependent Regulation of Dendrite Development. **Amy R. Poe**, Chun Han. Graduate Field of Genetics, Genomics, and Development, Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY.

485A
FOXO Regulates Dendrite Branching. **J. Sears**, H. Broihier. Neurosciences, Case Western Reserve University, Cleveland, OH.

486B
Short stop exerts differential effects on class-specific dendritic homeostasis. **Sarah Trunnell**, Shatabdi Bhattacharjee, Daniel N. Cox. Neuroscience Institute, Georgia State University, Atlanta, GA.

487C
Endocytic Pathways Downregulate the L1-type Cell Adhesion Molecule Neuroglian to Promote Dendrite Pruning in *Drosophila*. **Heng Zhang**[1], Yan Wang[1,2], Jack Jing Lin Wong[1,2], Kah-Leong Lim[3,4,5], Yih-Cherng Liou[1], Hongyan Wang[2,3,5], Fengwei Yu[1,2,3]. 1) 1Temasek Life Sciences Laboratory and Department of Biological Sciences, National University of Singapore, 1 Research Link, Singapore 117604, Singapore; 2) NUS Graduate School for Integrative Sciences and Engineering, Centre for Life Sciences, Singapore 117456, Singapore; 3) Neuroscience and Behavioural Disorders Program, Duke-NUS Graduate Medical School, Singapore 169857, Singapore; 4) National Neuroscience Institute, Singapore 308433, Singapore; 5) Department of Physiology, National University of Singapore

488A
Examining the Effects of Oxidative Stress on the Development of a Defined Neural Circuit in *Drosophila melanogaster*. **Ryan Doan**, Parag Bhatt, Wendi Neckameyer. Pharmacological & Physiological Science, Saint Louis University School of Medicine, Saint Louis, MO.

489B
Autophagy affects glutamate receptor localization at the *Drosophila* neuromuscular junction. **Elizabeth Isbell**, Faith Libel. Biological Sciences, Southern Illinois University-Edwardsville, Edwardsville, IL.

490C
TDRD3 works with an RNA topoisomerase and Fragile X mental retardation protein to promote synapse formation. **S. Lee**[1], W. Shen[1], Y. Xue[1], D. Xu[1,3], S. Zou[2], W. Wang[3]. 1) Lab of Genetics, National Institute on Aging, National Institute of Health, Baltimore, MD 21224; 2) Translational Gerontology Branch, National Institute on Aging, National Institute of Health, Baltimore, MD 21224; 3) College of Life Sciences, Peking University, Beijing, China.

491A
Kismet affects synaptic transmission and endocytosis at the *Drosophila* Neuromuscular Junction. Carley Gridley, Taylor Delaney, **Faith Liebl**. Biological Sciences, Southern Illinois University Edwardsville, Edwardsville, IL.

492B
MicroRNA-8 promotes robust motor axon targeting by coordinate regulation of cell adhesion molecules during synapse development. **Cecilia Lu**[1,2], Bo Zhai[2], Alex Mauss[3,4], Matthias Landgraf[3], Steve Gygi[2], David Van Vactor[1,2]. 1) Okinawa Institute of Science and Technology, Onna-son, Okinawa, Japan; 2) Department of Cell Biology, Harvard Medical School, Boston, Massachusetts, USA; 3) Department of Zoology, University of Cambridge, Cambridge, UK; 4) Max Planck Institute of Neurobiology, Martinsried, Germany.

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493C
Neto-mediated intracellular interactions shape postsynaptic structures at the *Drosophila* neuromuscular junction. **Cathy Ramos**, Oghomwen Igiesuorobo, Qi Wang, Mihaela Serpe. NICHD, NIH, Bethesda, MD.

494A
The Ig Transmembrane Protein Borderless Is Required for Synaptic Development and Function in the Drosophila Visual System. **Hunter S. Shaw**, Scott Cameron, Wen-Tzu Chang, Yong Rao. Centre for Research in Neuroscience, Department of Biology, Department of Neurology and Neurosurgery, McGill University, 1650 Cedar Avenue, Montreal, Quebec H3G 1A4, Canada.

495B
Conserved interactions between Sorting nexins and Nervous wreck reveal a role for SH3PX1 at synapses. **Fiona P. Ukken**, Joseph J. Bruckner, Kate O'Connor-Giles. UW-Madison, Madison, WI.

496C
Separable intrinsic and extrinsic timers regulate terminal differentiation of a target-dependent gene in *Drosophila* neurons. Anthony Berndt[1], Jonathan Tang[2], Tianshun Lian[1], Ridyard Marc[1],**Douglas Allan**[1]. 1) Cellular and Physiological Sciences, University of British Columbia, Vancouver, British Columbia, Canada; 2) Department of Genetics, Harvard Medical Schol, 77 Avenue Louis Pasteur, Boston, MA 02115.

497A
Antp controls the differential survival and morphology of adult-specific neurons in the thoracic vs. subesophageal ganglia. **Kathleen Bell**, Christine Murphy, Amy Patterson, Ginna Freehling, Alexandra Panzarino, Erin Schuler, Elizabeth Marin. Biology Department, Bucknell University, Lewisburg, PA.

498B
Genetic regulation of cell fate determination in the *Drosophila* ocelli. **A. K. Mishra**, S. G. Sprecher. Department of Biology, University of Fribourg, Fribourg, Switzerland.

499C
A temporal series of transcription factors in mushroom body precursors. **Anthony M. Rossi**, Claude Desplan. Biology, New York University, New York, NY.

500A
Investigating the Transcriptional Programs that specify Axon Targeting of Adult Leg MNs. **Lalanti Venkatasubramanian**, Jonathan Enriquez, Richard Mann. Columbia University Medical Center, New York, NY.

501B
RNA stability regulates balance between neuroblasts division and differentiation. **Lu Yang**[1], Richard Parton[1], Tomasz Dobrzycki[1], Yoav Arava[2], David Ish-Horowicz[3], Ilan Davis[1]. 1) Biochemistry Dept., University of Oxford, Oxford, United Kingdom; 2) Department of Biology, Technion, Israel Institute of Technology, Haifa, Israel; 3) MRC for Molecular Cell Biology, University College London, London, United Kingdom.

502C
How does the misexpression of CHMP2B affect the wing development of *Drosophila melanogaster*? **Pralaksha Gurung**, Andrew Rhoads, S. Tariq Ahmad. Colby College, Waterville, ME.

503A
Drosophila miR-34 overexpression results in neural remodeling defect of mushroom body γ neurons. **Yen-Wei Lai**[1,2], Hung-Hsiang Yu[3], Chun-Hong Chen[2]. 1) Molecular and Cellular Biology, Taipei, Taiwan; 2) Molecular and Genomic Medicine, National Health Research Institutes, Zhunan, Taiwan; 3) 3.Institute of Cellular and Organismic Biology, Academia Sinica, Taipei, Taiwan.

504B
Kinesin-1-powered microtubule sliding drives axonal regeneration in *Drosophila* cultured neurons. **Wen Lu**, Margot Lakonishok, Vladimir Gelfand. Department of Cell and Molecular Biology, Northwestern University, Feinberg School of Medicine, Chicago, IL.

505C
Gap junctions are required for glia-glia communication and survival in *Drosophila* PNS. **M. Das**, V. Auld, C. Rankin. University of British Columbia, Vancouver.

506A
An evolutionarily conserved gene function underlying the Glial Regenerative Response in the living injured larval CNS. **Maria Losada-Perez**, Neale Harrison, Alicia Hidalgo. Biosciences, University of Birmingham, Biermingham, Birmingham, United Kingdom.

507B
Role of integrins in glial phagocytosis of apoptotic cells during *Drosophila* embryogenesis. **Boris Shklyar**, Flonia Levy-Adam, Estee Kurant. Department of Genetics and Developmental Biology, The Rappaport Family Institute for Research in the Medical Sciences, Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel.

508C
Ecdysone Receptor and Ultraspiracle Mediate Activation and Repression in Mushroom Body γ Neuron Pruning. **Kathryn Lee**, Rachael Wachter, Adam Windham, Alper Dincer, Christopher Dunne, Devin Gordon-Hamm, Elizabeth Marin. Biology Department, Bucknell University, Lewisburg, PA.

509A
Investigating the molecular mechanisms of Crimpy-Gbb signaling at the NMJ. **Kendall Hoover**, Rebecca James, Heather Broihier. Department of Neurosciences, Case Western Reserve University School of Medicine, Cleveland, OH 44106.

510B
Pak (*p21-activated kinase*) mutations cause defects in brain structure and neurite-arbor morphogenesis through regulation of non-muscle myosin. **Sara A. Lewis**[1,2,3], Linda L. Restifo[1,2,3]. 1) Neuroscience Graduate Program, University of Arizona, Tucson, AZ; 2) UA Neuroscience; 3) UA Neurology.

511C
The role of sialic acid in *Drosophila* nervous system. **H. Scott**[1], R. Islam[1], C. Caster[1], M. Zoran[2], V. Panin[1]. 1) Department of Biochemistry and Biophysics, Texas A&M University, College Station, TX; 2) Department of Biology, Texas A&M University, College Station, TX.

512A
Expression of Sox Neuro in development of adult nervous system. **Shweta Singh**, John Nambu. Florida Atlantic University, Biological Sciences, 5353 Parkside Drive, Jupiter FL-33458.

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513B
Identification of a New Regulator of Neuron Glia Interaction during Development. **Diana Luong**, Roni Milgrom, Jennifer Jemc. Biology, Loyola University Chicago, Chicago, IL.

514C
Self-renewal capacity of sensory organ precursor cells. Joseph Ayeni[1], Agnès Audibert[2], Pierre Fichelson[3], Martin Srayko[1], Michel Gho[2], **Shelagh Campbell**[1]. 1) Dept Biological Sci, University of Alberta, Edmonton, AB, Canada; 2) Laboratoire de Biologie du Développement (LBD-IBPS) Université Pierre et Marie Curie [UPMC] - Paris VI UPMC UMR 7622, Université Paris 06. 9, Quai St. Bernard 75005 Paris; 3) Health Interactions Admiral House, London, EC1V 9AZ.

515A
Autophagy serves as a backup cell-death mechanism to ensure the removal of unwanted cells in chordotonal organ development. **Adel Dunayevskyy**, Adi Salzberg. Department of Genetics, Rappaport Faculty of Medicine and Research Institute, Technion-Israel Institute of Technology, Haifa, Israel.

Neurophysiology and Behavior

516B
Alcohol addiction affects stress tolerance, movement behavior and female reproductive ability in *Drosophila melanogaster:* A possible link to dopamine synthesis pathway. **Anathbandhu Chaudhuri**[1], Karlson Udebuani[1], Elizabeth Caver[1], Mary , J. Krotzer[1], Janis O'Donnel[2]. 1) Department of Natural Sciences, Stillman College, Tuscaloosa, AL; 2) Biological Sciences, University of Alabama, Tuscaloosa, 35487, AL.

517C
Ecdysone Receptor Modulates Nociception in *Drosophila melanogaster*. **A. McParland**, T. Follansbee, GK. Ganter. University of New England, Biddeford, ME.

518A
Ecdysis triggering hormone is necessary for fertilization of oocytes in *Drosophila melanogaster*. **Matthew Meiselman**, Michael Adams. University of California-Riverside, Riverside, CA.

519B
Differential Effects of Global Depletion of Ecdysteroid or its Receptor on Nociception. **Gwendolyn Vesenka**, Geoffrey Ganter. Biology Department, University of New England, Biddeford, ME.

520C
Suppression of *GADD45* and stress-activated protein kinase pathways reduces severity of neurological phenotypes displayed by a voltage-gated sodium channel *Drosophila* mutant, *Shudderer*.**H. Chen**[1], P. Landson[1], J. Kasuya[2], T. Kitamoto[1,2]. 1) Interdisciplinary Genetics Ph. D. Program, University of Iowa, Iowa City, IA; 2) Department of Anesthesia, University of Iowa, Iowa City, IA.

521A
Effects of diet on neurological phenotypes of a voltage-gated sodium channel mutant, *Shudderrer*. **J. Kasuya**[1], P. Lansdon[2], H.-L. Chen[2], T. Kitamoto[1,2]. 1) Dept Anesthesia,; 2) Interdisciplinary Graduate Program in Genetics, University of Iowa, Iowa City, IA.

522B
Effects of diet on sleep of *Shudderer*, a *Drosophila* voltage-gated sodium channel mutant that displays seizure-like behaviors. **Patrick Lansdon**[1], Emily Petruccelli[1], Toshi Kitamoto[1,2]. 1) Interdisciplinary Ph.D. Program in Genetics, University of Iowa, Iowa City, IA; 2) Department of Anesthesia, University of Iowa, Iowa City, IA.

523C
Molecular characterization of noxious cold detection in *Drosophila* larvae. **Benjamin Williamson**[1], Harold Burke[1], Kevin Armengol[2], Daniel Cox[2], Susan Halsell[1]. 1) Biology, James Madison University, Harrisonburg, VA; 2) Neuroscience Institute, Georgia State University, Atlanta, GA.

524A
Neuronal insulin signaling negatively regulates SV release in response to high protein diet. **Rebekah Mahoney**, Jorge Azpurua, Benjamin Eaton. Physiology, UTHSCSA, San Antonio, TX.

525B
GLUTAMATE CLEARANCE BY ASTROCYTE-LIKE GLIA REGULATES NEURONAL EXCITABILITY AND SYNAPSE GROWTH IN *DROSOPHILA* LARVAL MOTONEURONS.**Jhan-Jie Peng**[1,2], Shu-Hui Lin[1], Tzu-Li Yen[1], Chi-Kuang Yao[1,2]. 1) NPAS and Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; 2) Institute of Biochemical Sciences, National Taiwan University, Taipei, Taiwan.

526C
The role of ER morphology in the control of synaptic transmission and locomotor behavior. **James Summerville**, Joseph Faust, Miguel Betancourt, Joseph Formella, James McNew, Michael Stern. BioSciences, Rice University, Houston, TX.

527A
Ca^{2+} influxes via Flower facilitate Clathrin-mediated and bulk endocytosis at the *Drosophila* neuromuscular junction. **Chi-Kuang Yao**[1,2,3], Shu-Hui Lin[1], Jing-Ming Chen[1], Tzu-Li Yen[1], Yu-Tzu Liu[1]. 1) Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; 2) NPAS, Academia Sinica, Taipei, Taiwan; 3) Institute of Biochemical Sciences, National Taiwan University, Taipei, Taiwan.

528B
Unable to forget in mutants of homologs of autism susceptibility genes in *Drosophila*. **Tao Dong**[1], Jing He[1], Shiqing Wang[1], Lianzhang Wang[1], Yi Zhong[1,2]. 1) School of Life Sciences, Tsinghua University, Beijing 100084, P.R. China; 2) Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 11724, USA.

529C
Importin limits long-term memory consolidation in Drosophila. **Qian Li**[1], Xuchen Zhang[1], Xitong Liang[1], Wantong Hu[1], Fang Zhang[1], Lianzhang Wang[1], Yi Zhong[1,2]. 1) School of Life Sciences, Tsinghua University, Beijing 100084, PR China; 2) Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 11724, USA.

530A
A dopamine-modulated neural circuit regulating taste memory in *Drosophila*. **P. Masek**[1], K. Worden[1], Y. Aso[2], G. Rubin[2], A. Keene[1]. 1) Biology Department, University of Nevada Reno, Reno, NV; 2) 2. Janelia Farms Research Campus, 19700 Helix Drive, Ashburn, VA 20147.

531B
Effect of hsp83 on *Drosophila melanogaster* courtship behavior. **Ekaterina Nikitina**[1,2], Marianna Shabanova[2], Elena Savvateeva-Popova[1]. 1) neurogenetics, Pavlov Institute of Physiology RAS, St-Petersburg, Russian Federation; 2) Herzen State Pedagogical University, St-Petersburg, Russian Federation.

532C
The Genetic Basis of Learning and Thermotolerance in *Drosophila Melanogaster*. **Anna M. Perinchery**, James Mrkvicka, Elizabeth King, Troy Zars. University of Missouri, Columbia, MO.

POSTER SESSIONS

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533A
Neural pathways routing early memory decay in *Drosophila*. **Yichun Shuai**[1], Areekul Hirokawa[1], Yulian Ai[1], Wanhe Li[2], Yi Zhong[1]. 1) Cold Spring Harbor Laboratory, NY; 2) Laboratory of Genetics, Rockefeller University, New York, NY.

534B
A new method for reliable scoring of olfactory preferences and learning in *Drosophila melanogaster*. **Elisabetta Versace**[1,2], Julia Reisenberger[1], Christian Schlötterer[1]. 1) Institut für Populationsgenetik, Vetmeduni Vienna, Wien, Austria; 2) Center for Mind/Brain Sciences, University of Trento, Rovereto, Italy.

535C
Evidence for PKA Dependent Regulation of Tomosyn, a Syntaxin Binding Protein. **Sarah J. Zinn**[1], Szi-Chieh Yu[1], Martin Schwärzel[2], Carolin Wichmann[3], David E. Featherstone[1], Janet E. Richmond[1]. 1) Biological Sciences, University of Illinois, Chicago, 2) Institute for Biology/Genetics, Free University Berlin D-14195 Berlin, Germany; 3) Dept of Otolaryngology, University of Göttingen, 37075 Göttingen,Germany.

536A
Study of the courtship behavior in some sibling species of the *Drosophila virilis* group. **Elena G. Belkina**[1], Oleg E. Lazebny[1], Varvara Yu. Vedenina[2]. 1) Russian Academy of Sciences, Koltzov INSTITUTE of DEVELOPMENTAL BIOLOGY, Moscow, Russian Federation; 2) Russian Academy of Sciences, Kharkevich Institute for Information Transmission Problems, Moscow, Russian Federation.

537B
Effect of Central Brain Histamine Deficiency on Courtship Behavior in *Drosophila melanogaster*. **Tina Daniels**[1], Laura Schroeder[1], Martin Burg[1,2]. 1) Biomedical Sciences, Grand Valley State University, Allendale, MI; 2) Cell & Molecular Biology, Grand Valley State University, Allendale, MI.

538C
Mating Success is Influenced by Multiple Signal Modalities in *Drosophila saltans*. **Jennifer M. Gleason**, Kaila Colyott, Cynthia Odu. Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS.

539A
Expression of the Female Specific Transformer Protein using the *Trapped in endoderm-1* Promoter Decreases Wing Song Latency. **P. Luu**, D. Tran, R. French. Biological Sciences, San Jose State University, San Jose, CA.

540B
The transcription factor *dati* is required for female courtship acceptance. **Joseph Schinaman**[1], Rachel Giesey[1], Claudia Mizutani[1], Tamas Lukacsovich[2], Rui Sousa-Neves[1]. 1) Case Western Reserve University, Cleveland, OH; 2) University of California, Irvine

541C
Increased dietary macronutrients affect *Drosophila melanogaster* reproductive behavior. **Janna Schultzhaus**, Ginger Carney. Biology, Texas A&M, College Station, TX.

542A
Complex social behavior in Drosophila: ethanol and natural genetic variation in courtship and aggression. **Sarah Signor**[1], Mohammad Abbasi[1], Brad Foley[1], Paul Marjoram[1], Sergey Nuzhdin[1], Lauren McIntyre[2]. 1) Dept of Molecular and Computational Biology, University of Southern California, Los Angeles; 2) Dept of Molecular Genetics and Microbiology, University of Florida, Gainesville, FL.

543B
Expression of a mutant form of human CHMP2B in the *Drosophila* CNS is capable of disrupting circadian rhythms. **Christopher Krasniak**, Joshua Kavaler, Tariq Ahmad. Department of Biology, Colby College, Waterville, ME.

544C
RNA-Seq Reveals Age-Induced Changes in Rhythmicity in the *Drosophila* Transcriptome. **Rachael Kuintzle**[1], Eileen Chow[2], Jadwiga Giebultowicz[2], David Hendrix[1,3]. 1) Biochemistry & Biophysics, Oregon State University, Corvallis, OR; 2) Integrative Biology, Oregon State University, Corvallis, OR; 3) School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR.

545A
Analyses of alcohol induced behavior in *Drosophila period* mutants. **Jennifer Liao**, Tariq Ahmad. Colby College, Waterville, ME.

546B
Investigating the roles of glial cells in supporting circadian function and healthy aging. **Dani Long**, Jadwiga Giebultowicz. Integrative Biology, Oregon State University, Corvallis, OR.

547C
Sleep abnormalities in a *Drosophila* knock-in model of human generalized epilepsy with febrile seizures-plus (GEFS+). **Emily Petruccelli**, Patrick Lansdon, Toshihiro Kitamoto. University of Iowa, Iowa City, IA.

548A
Neurexin regulates sleep by modulating the Na^+/K^+ ATPase activity. **Huawei Tong**, Qian Li, Wei Xie, Junhai Han. Institute of Life Sciences, Southeast University, Nanjing, Jiangsu, China.

549B
Circadian Translational Profiling Of The Drosophila Head Fat Body. **Amy Marie Yu**, Yanmei Huang, F. Rob Jackson. Neurobiology, Tufts University Medical School, Boston, MA.

550C
Genetic dissection of aggressive behavior in *Drosophila melanogaster*. **Mahmoudreza Ramin**, Claudiu Domocos, David Slawaska-Eng, Yong Rao. Centre for Research in Neuroscience, Department of Neurology and Neurosurgery, McGill University Health Centre, Montreal, Quebec, Canada.

551A
Molecular and behavioral analysis of gustatory receptor neurons in pharyngeal organs as modulators of feeding in *Drosophila* larvae. **Jaekyun Choi**, Min Sung Choi, Jae Young Kwon. Department of Biological Sciences, Sungkyunkwan University, Suwon 440-746, South Korea.

552B
The regulation of feeding and metabolism by activating insulin signaling in DSK neurons in *Drosophila*. **Justin Palermo**, Justin R. DiAngelo. Department of Biology, Hofstra University, Hempstead, NY.

553C
The regulation of feeding and metabolism by the DSK receptor CCKLR-17D1 in *Drosophila*. **Christopher Tenorio**, Justin DiAngelo. Department of Biology, Hofstra University, Hempstead, NY.

POSTER SESSIONS

See Page 10 for presentation schedule. Poster board number and presenter are in **bold**. Full abstracts can be found online.

554A
Impaired climbing and flight behavior in *D. melanogaster* following carbon dioxide anesthesia. **Nathan R. Bartholmew**[1], Jacob Burdett[1], John M. VandenBrooks[2], Michael Quinlan[2], Gerald B. Call[3]. 1) Arizona College of Osteopathic Medicine (AZCOM), Midwestern University, Glendale, AZ; 2) Dept of Physiology, AZCOM, Midwestern University, Glendale, AZ; 3) Dept of Pharmacology, AZCOM, Midwestern University, Glendale, AZ.

555B
Anxiolytic-like effects of an organic extract from the seaweed *Sargassum platycarpum* in anxiety-related behavior in *Drosophila melanogaster*. **Zulmari Martínez**, Jesica Vicente, Angeliz Rivas, Keysh Mejías, Jeslie Ramos, Grisel Robles, Valeria Pedraza, Claudia Ospina, Ricardo Chiesa. University of Puerto Rico at Cayey, NEC Building Cayey, PR 00736.

556C
Ethanol-Induced locomotion in *Drosophila melanogaster* is decreased by the administration of an organic extract of the seaweed *Sargassum platycarpum.* **Adbiel Rodríguez**, Noelia Acevedo, Karelis Pagán, Claudia Ospina, Ricardo Chiesa. University of Puerto Rico at Cayey Antonio R. Barcelo Avenue NEC Building Cayey, PR 00736.

557A
New genes required for mechanical nociception identified by a novel assay for mechanical pain sensitization. **PJ Huang**[1,2], HT Turner[2], SH Im[2], MJ Galko[2]. 1) Department of Biochemistry & Cell Biology, Rice University, Houston, TX; 2) Department of Genetics, University of Texas MD Anderson Cancer Center, Houston, TX.

558B
Sensory control of larval epithelial cell layer redox status through ROS-mediated avoidance of atmospheric oxygen to maintain foraging stage food immersion. **Wayne Johnson**, Carder Justin. Dept Molec Physiol/Biophysics, Univ Iowa, Iowa City, IA.

559C
Factors affecting the release of and response to the Stress Odourant (dSO) by *Drosophila melanogaster*. Ian S. McDonald, Selwyn Chui, Andrew F. Greco, Shirley Q. Long, Jeremy N. McNeil, **Anne F. Simon**. Department of Biology, Faculty of Science, Western Ontario University, Ontario, London, Canada.

560A
Reduced odor evoked neural responses during sleep and impaired response after prolonged waking in the Drosophila mushroom body (MB). **Daniel B. Bushey**, Giulio Tononi, Chiara Cirelli. Psychiatry, University of Wisconsin, Madison, WI.

561B
The Effect of Bacteria on Oviosition Preference of *Drosophila melanogaster*. **Geon Ho Kim**[1], Peter Newell[2], Angela Douglas[1]. 1) Entomology, Cornell University, Ithaca, NY; 2) Microbiology, State University of New York, Oswego, NY.

562C
Complex and non-redundant signals from individual odor receptors that underlie chemotaxis behavior in *Drosophila melanogaster* larvae. Jeewanjot Grewal, Christina Cho, Karolina Kir, Nicole Fledderman, Kathryn Swain, **Scott A. Kreher**. Department of Biological Sciences, Dominican University, River Forest, IL.

563A
Presynaptic gain control drives sweet and bitter taste integration. Bonnie Chu, Vincent Chui, Kevin Mann, **Michael Gordon**. Zoology, University of British Columbia, Vancouver, British Columbia, Canada.

564B
Identification and characterization of gustatory second-order interneurons. **K. Shimizu**[1], T. Miyazaki[1], T. Y. Lin[1], K. Ito[2], C. H. Lee[1], M. Stopfer[1]. 1) NICHD/NIH, Bethesda, MD 20892, USA; 2) IMCB, Univ. of Tokyo, Yayoi 1-1-1, Bunkyo-ku, Tokyo, 113-0032, Japan.

565C
Ecdysis Triggering Hormone Receptor Splice Isoforms Govern Distinct Aspects of *Drosophila* Ecdysis Sequences. **Feici Diao**[1], Fengqiu Diao[1], Wilson Mena[2], Brandon Mark[2], Jonathan Shi[3], Dongkook Park[3], Paul Taghert[3], John Ewer[2], Benjamin White[1]. 1) national institute of mental health, Bethesda, MD; 2) CINV, Universidad Valparaiso, Valparaiso, Chile; 3) Washington University, St Louis.

566A
Virtual Fly Brain - A Data Integration Hub for *Drosophila*Neurobiology. **David J. Osumi-Sutherland**[1], Marta Costa[2], Robert Court[3], Gregory S. X. E. Jefferis[4], Helen Parkinson[1], J. Douglas Armstrong[3], Cahir J. O'Kane[2]. 1) EMBL-EBI, Cambridge, UK; 2) Dept of Genetics, University of Cambridge, Cambridge, UK; 3) School of Informatics, University of Edinburgh, Edinburgh, UK; 4) MRC Laboratory for Molecular Biology, Cambridge, UK.

567B
Failure to burrow while wandering: an indication of tracheal damage in mutants of the *jim lovell* (*lov*) gene. **K. Beckingham**, F. Zhou, K. Qiang, Y. Yuan, P. Yun, R. Dibbs, T. Ghanayem, R. Mohan, P. Frasse, N. Sankoorikkal. BioSciences, Rice University, Houston, TX.

568C
Differential regulation of *Drosophila* Glutamate receptor subunit production by *optimus-prime*, a novel mRNA associated gene. **Dina M. Beeler**[1], Julie E. Karr (Minibiole)[2], Subhashree Ganesan[1], David E. Featherstone[1]. 1) Department of Biological Sciences, University of Illinois at Chicago, Chicago, IL; 2) Department of Science and Mathematics Columbia College Chicago, Chicago, IL.

569A
Early life stress affects higher order procesisng in brain structures in *Drosophila*. **Davinelle Daniels**[1], Andres Nieto[2], Wendi Neckameyer[2]. 1) Academic Affairs, Harris-Stowe State University, St. Louis, MO; 2) Dept of Pharmacological & Physiological Science, Saint Louis University School of Medicine.

570B
The Role of the BMP signaling family in the Induction of Allodynia. **Taylor Follansbee**[1], Kayla Gjelsvik[1], Michael Galko[2], Geoffrey Ganter[1]. 1) University of New England, Biddeford ME; 2) UT Southwestern MD Anderson, Houston TX.

571C
Sex peptide receptor and myoinhibitory peptide modulate mating state-dependent choice behavior of *Drosophila* females. **Ilona C. Grunwald Kadow**[1], Ashiq Hussain[1], Mo Zhang[1], Habibe Ucpunar[1], Thomas Svenson[2], Elsa Quillery[2], Rickard Ignell[2]. 1) Sensory Neurogenetics Research group, Max-Planck Institute of Neurobiology, Martinsried, Germany; 2) Swedish University of Agricultural Sciences, Department of Plant Protection Biology, Division of Chemical Ecology.

POSTER SESSIONS

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572A
Beadex function in the motor neurons is essential for female reproduction in *Drosophila melanogaster*. **Subhash Kairamkonda**, Upendra Nongthomba. Molecular Reproduction, Development and Genetics, Indian Institute of Science, Bangalore, India.

573B
Response to stress in *Drosophila* is mediated by the hormonal milieu of the brain. **Wendi Neckameyer**, Andres Nieto. Dept Pharmac & Physiol Sci, St Louis Univ School Med, St Louis, MO.

574C
princess glia, a novel gene required for neuronal and cellular homeostasis. **Wendi Neckameyer**[1], Davinelle Daniels[2], Andres Nieto[1], Amer Avdagic[1], Sarah Chan[1], Anisha Chava[1], Ryan Doan[1]. 1) Dept Pharmac & Physiol Sci, St Louis Univ School Med, St Louis, MO; 2) Academic Affairs, Harris-Stowe State University, St Louis MO.

575A
Transposable element misexpression and neuronal decline. **L. Prazak**[1,2], W. Li[2,3], N. Chatterjee[2], S. Grüninger[4,5], L. Krug[5], D. Theodorou[6], J. Dubnau[2,5]. 1) Farmingdale State College, Farmingdale, NY; 2) Cold Spring Harbor Laboratory, Cold Spring Harbor, NY; 3) Graduate Program in Molecular and Cellular Biology, Stony Brook University, Stony Brook, NY; 4) Institute of Neuroinformatics, University of Zurich, 8057 Zurich, Switzerland; 5) Watson School of Biological Sciences, Cold Spring Harbor Laboratory; 6) Magistère de Génétique Graduate Program at Université Paris Diderot, Sorbonne Paris Cité.

576B
Determination of environmental factors affecting social space in *Drosophila melanogaster*. Alison R. McNeil[1], Nicholas Choi[1], Adesanya A. Akinleye[2], Sam N. Jolley[1], Zulekha Rouzyi[2],**Anne F. Simon**[1]. 1) Department of Biology, Faculty of Science, Western Ontario University, Ontario, London, Canada; 2) Department of Biology, York College of the City University of New York, Jamaica, NY, USA.

577C
Characterization of a novel bang-sensitive gene in *Drosophila melanogaster*. **Ghazal Stity**, Christopher J. Jones. Biological Sciences, Moravian College, Bethlehem, PA.

Drosophila Models of Human Diseases

578A
The JAK-STAT signaling pathway functions in GABAergic neurons to mediate the effects of ethanol on developmental and adult behavior. **Kimberly McClure**, Gabriella Ceresa, Amanda Menzie, Axel Munoz, Gina Trotto. Biology, Elmhurst College, Elmhurst, IL.

579B
Effects of Ethanol Exposure on Development Time and Survival in Drosophila. **Yasmeen N. Hussain**[1,2], Victoria A. Pray[1], Eugenea V. Zhirnov[2], Morgan Davis[1], Rachel A. Lyman[1], Lenovia J. McCoy[1], Tatiana V. Morozova[1,2], Robert R. H. Anholt[1,2], Trudy F. C. Mackay[1,2]. 1) Department of Biological Sciences, North Carolina State University, NC; 2) W.M. Keck Center for Behavioral Biology, North Carolina State University.

580C
Analysis of the Pruritic (Itch) Response in *Drosophila melanogaster*. **Ciny John**, John Nambu. Department of Biological Sciences, Charles E. Schmidt College of Science, Florida Atlantic University, Jupiter, FL.

581A
Effects of Lead Exposure on Development Time and Survival in Drosophila. **Sarah E. McAdams**[1], Lenovia J. McCoy[1], Yasmeen N. Hussain[1,2], Shanshan Zhou[1,2], Tatiana V. Morozova[1,2], Trudy F. C. Mackay[1,2], Robert R. H. Anholt[1,2]. 1) Department of Biological Sciences, North Carolina State University, Raleigh, NC; 2) W.M. Keck Center for Behavioral Biology, North Carolina State University, Raleigh, NC.

582B
Drosophila as a low complexity model for myeloproliferative neoplasms. **Abigail M. Anderson**, Elizabeth Rodkin, Erika Bach. Biochemistry and Molecular Pharmacology, NYU School of Medicine, New York, NY.

583C
Identifying new modulators of blood cell development using *Drosophila* as a low complexity model of human myeloproliferative neoplams. **Alessandro A. Bailetti**, Abigail Anderson, Erika Bach. Biochemistry and Molecular Pharmacology, New York University School of Medicine , New York, NY.

584A
The role of RecQ proteins, BLM and WRNexo, in DNA repair, aging, and tumorigenesis. **Elyse Bolterstein**[1], Molly Ahern[2], Rob Salomon[3], Mitch McVey[2]. 1) Dept of Biology, Northeastern Illinois University, Chicago, IL; 2) Dept of Biology, Tufts University, Medford, MA; 3) Tufts University, School of Medicine, Boston, MA.

585B
Comparative genomics of Drosophila melanogaster and a butterfly, Cercyonis pegala, to model metastatic melanoma. **Thomas Brown**. Thomas M. Brown, Ph.D., President, Genectar Com LLC, 539 Kalispell Ave. Whitefish, MT 59937.

586C
Oncogene-specific effects of abnormal systemic metabolism on tumor growth and metastasis. **Kiu Ming April Kong**, Lisa Shim, Cemre Cetin, Arthur Hilliker, Spencer Mukai, Kyle Belozerov. Department of Biology, York University, Toronto, Canada.

587A
TRIM3, a human ortholog of *Drosophila brat*, maintains asymmetric cell division of glioma stem cells by regulating NOTCH1 transport. **Subhas Mukherjee**[1], Jun Kong[2], Gang Chen[1], Daniel Brat[1,2]. 1) Pathology and Laboratory Medicine, Winship Cancer Institute of Emory University, Atlanta, GA; 2) Department of Bioinformatics, Emory University, Atlanta, GA.

588B
Role for SETDB1 in maintaining blood cell homeostasis in the *Drosophila* larvae. **Indira Paddibhatla**. Biol Dept, Center for Cellular and Molecular Biology, Hyderabad, India.

589C
JAK/STAT pathway control of cell competition during development. **Poojitha Sitaram**, Erika Bach. Department of Biochemistry and Molecular Pharmacology, New York University School of Medicine, New York, NY.

POSTER SESSIONS

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590A
Systemic Effects of Tissue Overgrowth on Hematopoiesis. **Carrie Spratford**, Banerjee Utpal. Molecular, Cell, and Developmental Biology, University of California, Los Angeles, CA.

591B
Studying a model of Autism Spectrum Disorder in *Drosophila*. **Marlene Cassar**, Doris Kretzschmar. Oregon Institute of Occupational Health Sciences, OHSU, Portland, OR.

592C
Developmental ethanol exposure disrupts lipid metabolism and causes oxidative stress in *Drosophila* larvae. **Payam Khodabakhshi**, Theresa Logan-Garbisch, Tony Bortolazzo, Peter Luu, David Do, Rachael French. San Jose State University, San Jose, CA.

593A
The ANKLE2 and VRK1 pathway: microcephaly in flies and humans. **Nichole Link**, Wu-Lin Charng, Jim Lupski, Hugo Bellen. Baylor College of Medicine, Houston, TX.

594B
Using *Drosophila* to characterise the human disease gene *MEGF8*. **Deborah Lloyd**, Andrew Wilkie, Tudor Fulga. Weatherall Institute of Molecular Medicine, University of Oxford, United Kingdom.

595C
Diminished MTORC1-Dependent JNK-Activation Underlies the Neurodevelopmental Defects Associated with Lysosomal Dysfunction. Ching-On Wong[1], Michela Palmieri[2], Dmitry Akhmedov[1], Jiaxing Li[3], Yufang Chao[1], Geoffrey Broadhead[1], Catherine Collins[3], Rebecca Berdeaux[1], Marco Sardiello[2], **Kartik Venkatachalam**[1,4,5]. 1) Integrative Biology and Pharmacology, University of Texas, School of Medicine, Houston; 2) Department of Molecular and Human Genetics, Baylor College of Medicine, Jan and Dan Duncan Neurological Research Institute, Texas Children's Hospital; 3) Department of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor,; 4) Program in Cell and Regulatory Biology (CRB), Graduate School of Biomedical Sciences, University of Texas School of Medicine, Houston; 5) Program in Neuroscience, Graduate School of Biomedical Sciences, University of Texas School of Medicine, Houston.

596A
Characterization of the *Drosophila* insulin-signaling pathway. **Laura Musselman**[1], Thomas Baranski[2]. 1) Biological Sciences, Binghamton University, State University of New York, Binghamton, NY; 2) Washington University School of Medicine, St. Louis, MO.

597B
QTL candidate gene expression correlation with diet-specific glucose levels. **Jaron N. Nix**, Laura K. Reed. The University of Alabama, Tuscaloosa, AL.

598C
Metabolic impact of maternal obesity on offspring. **Rita Brookheart**, Christina Collins, Laura Cline, Jennifer Duncan. Pediatrics, Washington University in St. Louis, St. Louis, MO.

599A
Lipid droplet flux in the larval midgut of Drosophila. **Ron Dubreuil**, Bianca Diaconeasa, Jamie Moy, Sneha Gummuluri. Dept Biological Sci, Univ Illinois, Chicago, IL.

600B
An investigation of the effects of HFD in the head of *Drosophila melanogaster*. **Osvaldo Rivera**, Jamon Harris, Silvienne Sint Jago, Siddhartha Dhakal, Matthew Talbert. Biology, University of Louisiana at Monroe, Monroe, LA.

601C
Metabolic Analysis of IDH Mutant Gliomas in *Drosophila* . **M. Brown**, J. Buccetti, J. Mills, M. Tipping. Biology, Providence College, Providence, RI.

602A
Effects of dim light at night through disruption of circadian rhythm on metabolism in *Drosophila melanogester*. **Mary Kim**[1], Su-yeon Yu[1], Yunjeong Kim[1], Hyo Sun Lee[1], Eunil Lee[1], Joong-Jean Park[2]. 1) Department of Preventive Medicine,College of Medicine, Korea University, Seoul, Korea; 2) Department of Preventive Phyology, College of Medicine,Korea University, Seoul, Korea.

603B
Metabolomics approach to understand the effect of genotype and diet on metabolic profile of Drosophila. **Vishal Oza**, Laura Reed. Department of Biological Sciences, University of Alabama, Tuscaloosa, AL.

604C
Dietary effects on the association between metabolite and gene expression using eigenvector metabolite analysis. **Clare Scott**[1], Ronglin Che[2], David Reif[3], Allison Montsinger-Reif[4], Laura Reed[1]. 1) Biological Sciences, Univ of Alabama, Tuscaloosa, AL; 2) SAS, Raleigh-Durham, NC; 3) Genetics, NC State University, Raleigh; 4) Bioinformatics Research Center, NC State University, Raleigh

605A
Altered *dSERF* gene expression impacts protein homeostasis during aging and in neurodegenerative disease models. **Swagata Ghosh**, Sarah Milian, Alice Bevins, Douglas Harrison, Brian Rymond. Biology Dept, University of Kentucky, Lexington, KY.

606B
The effect of long-term selection on *Drosophila melanogaster* in a high-fat environment. **Tanner L. Hallman**, Laura K. Reed. Univ of Alabama, Dept. of Biological Sciences, Tuscaloosa, AL.

607C
Population variation in phenotypic robustness to dietary perturbation. **John C. Henderson**, Laura Reed. University of Alabama, Dept. of Biological Sciences, Box 870344, Tuscaloosa AL 35487.

608A
The influence of mutant gene *Cam* on life span, moving activity and Ca^{2+} concentration in dystrophy mutants of *Drosophila melanogaster*. **Nataliia Holub**, Vasylyna Borutska, Khrystyna Dronska, Yaroslava Chernyk. Genetics & Biotechnology, National University, Lviv, Ukraine, Hrushevskogo Str., 4.

609B
Myopathic lamin mutations cause reductive stress and activate the CncC (Nrf2)/Keap-1 pathway. **Grant H. Young**[1], George Dialynas[2], Om K. Shrestha[3], Jessica M. Ponce[4], Dylan A. Thiemann[1], Steven Moore[5], Liping Yu[1,6], Lori L. Wallrath[1]. 1) Department of Biochemistry, University of Iowa, Iowa City; 2) Stowers Institute for Medical Research, Kansas City, MO; 3) Dept of Biochemistry, University of Wisconsin, Madison, WI 53706; 4) Interdisciplinary Graduate Program in Genetics, University of Iowa, Iowa City, IA 52241; 5) Department of Pathology, University of Iowa, Iowa City, IA 52241; 6) NMR Facility, Carver College of Medicine, University of Iowa,.

POSTER SESSIONS

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610C
Insulin-like Signaling Genes *Chico* and *PGI* Significantly Modify Neurotoxicity in Parkinson's Disease. **Rami Ajjuri**, Janis O'Donnell. The University of Alabama, Tuscaloosa, AL.

611A
Creb Binding Protein and histone acetylation levels in a *Drosophila* model of MJD. **Colin Beals-Reid**, John Warrick. Biology, University of Richmond, Richmond, VA.

612B
The role of the glutamine-glutamate cycle in neuronal. **Paola Bellosta**, Maria Enrica Pasini. Biosciences, University of Milan,

613C
The role of the glutamine-glutamate cycle in neuronal degeneration induced by the mutant human Huntington PolyQ protein. M. E. Pasini[1,3], M. Raneli[1], L. Vernizzi[1], N. Trong Tue[2], **P. Bellosta**[1,3]. 1) Dept of Biosciences, University of Milan, Milan, Italy; 2) Center for Gene-Protein Research Hanoi Medical University, Hanoi, Vietnam; 3) Ministero degli Affari Esteri e Cooperazione Internazionale Piazzale della Farnesina, 1 00135 Roma.

614A
Effects of nicotine on mitochondrial morphology and turnover in a *Drosophila park*[25] mutant model of Parkinson's disease. **Juliana M. Cackovic**, Gerald Call, Krista Pearman, Justin Smith, Lori Buhlman. Biomedical Sciences, Midwestern Univ, Glendale, AZ.

615B
Study of APP protective pathway in *Drosophila*. **Marlene Cassar**, Jill Wentzell, Bonnie Bolkan, Katia Carmine-Simmen, Doris Kretzschmar. Oregon Institute of Occupational Health Sciences, OHSU, Portland, OR.

616C
The role of intracellular dopamine handling in selective degeneration of dopaminergic neurons in *Drosophila* Parkinson's disease models. Antonio Tito[1,3], **Shebna Cheema**[4], Zhen Xu[1], Yanning Rui[1], Zhihua Chen[1], Wen-Ting Li[5], Mian Jiang[4], Hugo Bellen[6,7], Sheng Zhang[1,2,3]. 1) The Brown Foundation Inst. of Molecular Med; 2) Dept of Neurobiology and Anatomy; 3) Human & Molecular Genetics and Neuroscience, University of Texas Graduate School of Biomedical Sciences The University of Texas Medical School, UTHEALTH; 4) University of Houston-Downtown Houston, TX, 77030; 5) Rice University; 6) Program in Developmental Biology; 7) Dept. of Molecular & Human Genetics and Neuroscience Baylor College of Med. Jan and Dan Duncan Neurological Research Inst.

617A
Natural genetic modifiers of autosomal dominant retinitis pigmentosa. **Clement Chow**, Keegan Kelsey, Mariana Wolfner, Andrew Clark. Molecular Biology and Genetics, Cornell University, Ithaca, NY.

618B
Enhanced protein degradation protects against neurodegeneration in a *Drosophila* model of *c9orf72*-ALS. **Kathleen M. Cunningham**[1], Ke Zhang[1], James Machamer[1], Thomas Lloyd[1,2]. 1) Department of Neurology, Johns Hopkins University, Baltimore , MD; 2) The Solomon H. Snyder Department of Neuroscience, Johns Hopkins University, Baltimore, MD.

619C
Engineered Hsp70 suppresses amyloid-β neurotoxicity in Drosophila by binding extracellular amyloid-β aggregates. **Pedro Fernandez-Funez**, Jonatan Sanchez-Garcia, Lorena de Mena, Yan Zhang, Diego E. Rincon-Limas. Dept Neurology, Univ Florida, Gainesville, FL.

620A
Role of a soy protein Lunasin in Aβ42 mediated neurodegeneration in Alzheimer's Disease. **Angela Giaquinto**[1], Michael Moran[1], Ankita Sarkar[1], Gillian Jones[2], Ajay Srivastava[2], Maduri Kango-Singh[1,3,4], Amit Singh[1,3,4]. 1) Department of Biology, University of Dayton, 300 College Park Drive, Dayton, OH; 2) Department of Biology and Biotechnology Center, Western Kentucky University, 1906 College Heights Blvd, Bowling Green, KY; 3) Premedical Program, University of Dayton,300 College Park Drive, Dayton,OH; 4) Center for Tissue Regeneration and Engineering at Dayton (TREND), University of Dayton, Dayton, OH.

621B
Evaluating the potential therapeutic role of ACE inhibitors for Alzheimer's Disease in Drosophila. **Sarah M. Gomes**[1,2], Gabrielle L. Boulianne[1,2]. 1) The Hospital for Sick Children, Toronto, Canada; 2) University of Toronto, Toronto, Canada.

622C
Neuroinflammation and Hypoxia in a Neurodegenerative Disease Model. **Marleshia Hall**[1], J. Gavin Daigle[1,2], Rami Ajjuri[1], O'Donnell Janis[1]. 1) Biological Sciences, University of Alabama, Tuscaloosa, AL; 2) Department of Human Genetics, LSU School of Medicine, New Orleans, LA.

623A
Direct regulation of a conserved axon regeneration pathway by Protein Kinase A. **Yan Hao**, Catherine Collins. MCDB, University of Michigan, Ann Arbor, MI.

624B
A high throughput screen for chemical modifiers of a *Drosophila* model for Niemann-Pick type C. **Tom Hartl**, Ethan Perlstein. Perlstein Lab PBC, San Francisco, CA.

625C
Tau-spliceosome interactions in *Drosophila* models of Alzheimer's disease. **Yi-Chen Hsieh**[1], Martin P. Powers[1], Janson White[1], Joshua M. Shulman[1,2]. 1) Baylor College of Medicine, Houston, TX; 2) Jan and Dan Duncan Neurological Research Institute, Houston, TX.

626A
Drosophila eye model to understand role of signaling pathways in Aβ42 mediated neurodegeneration. **Madison Irwin**[1], Meghana Tare[1,4], Michael Moran[1], Madhuri Kango-Singh[1,2,3], Amit Singh[1,2,3]. 1) Department of Biology, University of Dayton, Dayton, OH; 2) Premedical Program, University of Dayton, 300 College Park Drive, Dayton, OH; 3) Center for Tissue Regeneration and Engineering at Dayton (TREND), University of Dayton, Dayton, OH; 4) Department of Cancer Biology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA.

627B
Aberrant immune activation in the *Drosophila Adar* mutant neurodegeneration. **Liam Keegan**[1], Simona Paro[2], Leeanne McGurk[2], Xianghua Li[2], Niamh Mannion[2], Marion Hogg[2], Robert Young[2], Ian Adams[2], Rui Zhang[3], Jin-Billy Li[3], Giusy Pemmetta[4], Mary O,Connell[1]. 1) Central European Institute of Technology (CEITEC), Masaryk University, Kamenice 5, 625 000 Brno, Czech Republic; 2) MRC Human Genetics Unit, Institute of Genetics and Molecular Medicine at the University of Edinburgh, Crewe Road, Edinburgh EH4 2XU, UK; 3) Department of Genetics, Stanford University, 300 Pasteur Dr., Stanford, CA 94305, USA; 4) 3Centre for Integrative Physiology, Euan MacDonald Centre for Motor Neurone Disease Research, Hugh Robson Building, University of Edinburgh, George Square, Edinburgh, EH8 9XD.

POSTER SESSIONS

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628C
Role of Dpp signaling pathway in promoting survival of retinal neurons in Aβ42 mediated neurodegeneration. **James Kirwan**[1,2], Ankita Sarkar[2], Madhuri Kango-Singh[2,3,4], Amit Singh[2,3,4]. 1) Drexel University, School of Biomedical Engineering, Science, and Health Systems, 3141 Chestnut Street, Philadelphia, PA; 2) Department of Biology, University of Dayton, 300 College Park Drive, Dayton, OH; 3) Premedical Program, University of Dayton,300 College Park Drive, Dayton, OH; 4) Center for TissueRegeneration and Engineering at Dayton (TREND), University of Dayton, Dayton, OH.

629A
Characterization of the molecular mechanisms underlying *TARDBP* mutation toxicity in *drosophila*. **Magalie Lecourtois**, Laetitia Miguel, Tracey Avequin, Thierry Frebourg, Dominique Campion. Inserm U1079, Normandie University, IRIB, Rouen, France.

630B
The calcineurin inhibitor, sarah, exasperates Aβ42 phenotypes in a *Drosophila* model of Alzheimer's Disease. **Soojin Lee**, Se Min Bang, Yoon Ki Hong, Jang Ho Lee, Haemin Jeong, Seung Hwan Park, Kyoung Sang Cho. Biological sciences, Konkuk university, Seoul, Seoul, South Korea.

631C
Bcl-2 homologues, *Buffy* and *debcl*, influence Drosophila models of Parkinson Disease. **P. Githure M'Angale**, Brian E. Staveley. Biology Department, Memorial University Of NFLD, St. John's, NL, Canada.

632A
Quantitative analysis of climbing deficits and nicotine effects in homozygous *parkin* mutant flies. **Brady Mannett**[1], John M. Grose[2], Krista Pearman[3], Lori M. Buhlman[1], Gerald B. Call[3]. 1) Biomedical Sciences, College of Health Sciences, Midwestern University, Glendale, AZ; 2) Arizona College of Osteopathic Medicine, Midwestern University, Glendale, AZ; 3) Dept of Pharmacology, AZCOM, Midwestern University, Glendale, AZ.

633B
Examining *spargel*, the homologue of *PGC-1α*, in *Drosophila* models of Parkinson Disease. **Eric Merzetti**, Brian Staveley. Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada.

634C
Targeting the interaction of Ataxin-3 and Rad23 for therapeutic purposes in the neurodegenerative disease Spinocerebellar Ataxia Type 3. **Joanna R. Miller**, Jessica Blount, Wei-Ling Tsou, Sokol Todi. PHARMACOLOGY, WAYNE STATE UNIVERSITY, DETROIT, MI.

635A
Understanding the Molecular Pathology of Spinal and Bulbar Muscular Atrophy by Identifying Genetic Interactors of an AR-Humanized Fly. **Shaza Mokhtar**[1,2], Mark Trifiro[1,2,3], Miltiadis Paliouras[1,2,3]. 1) Human Genetics, McGill University, MONTREAL, QC, Canada; 2) Lady Davis Institute for Medical Research, Jewish General Hospital, Montreal, QC, Canada; 3) Department of Medicine, McGill University, Montreal, QC, Canada.

636B
Roles of reticulons and REEPs in organisation of axonal endoplasmic reticlum in *Drosophila*. Belgin Yalcin, Niamh C. O'Sullivan, Martin Stofanko, Zi Han Kang, Annika Hartwich, Matthew Thomas, **Cahir J. O'Kane**. Department of Genetics, University of Cambridge, Cambridge, United Kingdom.

637C
Activation of the wallenda/DLK pathway triggers adult photoreceptor degeneration. Kirk Mecklenburg[2], Stephanie Freed[1], Forrest Weghorst[1], **Joseph O'Tousa**[1]. 1) Biology Dept., Indiana University at South Bend, South Bend, IN; 2) Dept. of Biological Sciences University of Notre Dame, Notre Dame, IN.

638A
Co-Expression of human APP and BACE impairs short term memory as measured by the Aversive Phototaxis Suppression Assay in a *Drosophila* model of Alzheimer's Disease. **Ashka Patel**, Paddock Brie. Biology Dept, Arcadia University, Glenside,PA.

639B
The role of Synaptotagmin1 (SYT1) in a *Drosophila* model of MJD. **Rachel Pearcy**, John Warrick. University of Richmond

640C
Cisplatin Induces Behavioral and Mitochondrial Changes in the Absence of Apoptosis in *Drosophila* Larvae Motor Neurons. **Jewel Podratz**, Han Lee, Patrizia Knorr, Stephanie Koehler, Steven Forsythe, Kelsey Lambreckt, Kiley Schmidt, Gabrielle Steinhoft, Goshya Yudinsev, Amy Yang, Eugenia Trushina, Anthony Windebank. Dept of Neurology, Mayo Clinic, Rochester, MN.

641A
Alternative Splicing of *Drosophila Nmnat* Acts As A Switch Between NAD Synthetic and Neuroprotective Functions. **K. Ruan**, C. Li, RG. Zhai. Department of Molecular and Cellular Pharmacology, University of Miami Miller School of Medicine, Miami, FL.

642B
Role of Signaling Pathways in Aβ42 mediated neurodegeneration. **A. Sarkar**[1], A. Singh[1,2,3]. 1) Department of Biology, University of Dayton, Dayton, OH; 2) 2)Premedical Program, University of Dayton,300 College Park Drive, Dayton,OH; 3) 3)Center for Tissue Regeneration and Engineering at Dayton (TREND), University of Dayton, Dayton, OH.

643C
The Effects of Copper on Larval Motility and Larval Learning and Memory in a Drosophila Model of Alzheimer's Disease. **Courtney Schoff**, Brie Paddock. Arcadia University, Biology Department, Glenside, PA, 19038.

644A
Probing integrin signaling in neuronal maintenance in flies. **Mumine Senturk**[1], Shinya Yamamoto[2], Manish Jaiswal[3], Hugo Bellen[1,2,3,4]. 1) Developmental Biology, Baylor College of Medicine, Houston, TX; 2) Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX; 3) HHMI; 4) Department of Neuroscience; Neurological Research Institute at Baylor College of Medicine, Houston, TX.

645B
The *atrogin-nutcracker* F-box protein family of genes in Drosophila models of degenerative disease. **Brian Staveley**, Eric Merzetti, Colleen Furlong, Poly Talukdar, Lindsay Dolomount, Maggie Hickey. Biology, Memorial Univ. of Newfoundland, St. John's, NL, Canada.

646C
A *Drosophila* Model of Radiation-Induced Neurological Damage. **Lisa Sudmeier**[1], Steven Howard[2], Barry Ganetzky[1]. 1) Dept. of Genetics, University of Wisconsin, Madison, WI; 2) Dept. of Human Oncology, University of Wisconsin SMPH, Madison, WI.

POSTER SESSIONS

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647A
Investigating the cell type specific roles of Neuropathy Target Esterase using *Drosophila*. **Elizabeth Sunderhaus**, Sudeshna Dutta, Doris Kretzschmar. Molecular and Medical Genetics, Oregon Health and Science University, Portland, OR.

648B
Dysregulation of Dopamine Handling in Dopaminergic Neurons of *Drosophila* Parkinson's disease models. **Antonio Tito**[1,2,6], Shebna Cheema[3], Zhen Xu[2], Yanning Rui[2], Sonal Jaiswal[4], Zhihua Chen[2], Wen-Ting Li[5], Mian Jiang[3], Hugo Bellen[4,7], Sheng Zhang[1,2,6]. 1) Graduate Programs of Human Molecular Genetics & Neuroscience; 2) Institute of Molecular Medicine; 3) Dept of Natural Sciences, UHD; 4) Program in Developmental Biology. BCM; 5) Department of Natural Sciences, Rice; 6) UT-GSBS. UT-Medical School. UTHEALTH; 7) Howard Hughes Medical Institute.

649C
Insights Into Ataxin-3's Neuroprotective Function. **Wei-Ling Tsou**, Sokol Todi. PHARMACOLOGY & NEUROLOGY, WAYNE STATE UNIVERSITY, DETROIT, MI.

650A
Loss of *isocitrate dehydrogenase 3α* causes synaptic transmission defects in the fly visual system via reduced alpha-ketoglutarate levels. **Berrak Ugur**[1], Hector Sandoval[2], Nele Haelterman[1], Manish Jaiswal[2,4], Shinya Yamamoto[1,2], Hugo Bellen[1,2,3,4]. 1) Developmental Biology, Baylor College of Medicine, Houston, TX; 2) Department of Molecular and Human Genetics,Baylor College of Medicine, Houston, TX; 3) Department of Neuroscience, Baylor College of Medicine, Houston, TX; 4) Howard Hughes Medical Institute.

651B
Imaging of sub-synaptic LRRK translocation using a tagged genomic knock in, created by MiMIC replacement. **Sven Vilain**[1,2], Roeland Vanhauwaert[1,2], Sandra Fausia Soukup[1,2], Raquel da Cunha[1,2], Patrik Verstreken[1,2]. 1) VIB Center for the Biology of Disease, 3000 Leuven, Belgium; 2) KU Leuven, Department of Human Genetics and Leuven Research Institute for Neuroscience and Disease (LIND), 3000 Leuven, Belgium.

652C
Modeling TRPV4-mediated Hereditary Axonal Neuropathies in *Drosophila*. **Brian M. Woolums**, Morgan Yang, Catherine Mamah, Jeremy Sullivan, Amanda Le, Charlotte Sumner, Thomas Lloyd. Johns Hopkins School of Medicine, Baltimore, MD.

653A
α-Synuclein interacts with *VPS35* in an improved *Drosophila* model of Parkinson's Disease. **Hui Ye**[1,2], Amit Chouhan[1,2], Puja Yogi[1,2], Elizabeth Kowalis[1,2], Shreyasi Chatterjee[3], George Jackson[3], Joshua Shulman[1,2]. 1) Baylor College of Medicine, Houston, TX; 2) Jan and Dan Duncan Neurological Research Institute, Texas Children's Hospital, Houston, TX; 3) University of Texas Medical Branch, Galveston,

654B
Loss of *Nardilysin*, a mitochondrial peptidase, causes a slow progressive neurodegeneration and affects the Krebs cycle by modulating oxoglutarate dehydrogenase activity. **W. H. Yoon**[1,5], H. Sandoval[1], M. Jaiswal[1,5], S. Jaiswal[1], S. Yamamoto[1,2,6], N. Putluri[4], V. Putluri[4], A. Sreekumar[4], T. Donti[1], B. Graham[1], H. J. Bellen[1,2,3,4,5,6]. 1) Molecular and Human Genetics; 2) Program in Developmental Biology; 3) Department of Neuroscience; 4) Department of Molecular and Cellular Biology, Baylor College of Medicine; 5) Howard Hughes Medical Institute; 6) Jan and Dan Duncan Neurological Research Institute, Texas Children's Hospital, Houston, TX.

655C
Expansion of polyglutamine repeats in huntingtin perturbs the motility of Rab4 and Rab11 containing vesicles in Drosophila larval axons. **Katherine Zimmerman**, Joseph White, Dr. Shermali Gunawardena. University at Buffalo, Buffalo, NY.

656A
Compensatory signaling mechanisms related to Parkinson's disease in a fly model of dopamine loss. **Karol Cichewicz**[1], Emma Garren[1], Martin Darvas[2], Jay Hirsh[1]. 1) Biology Department, University of Virginia, Charlottesville, VA; 2) Pathology, University of Washington, Seattle, WA.

657B
Functional Studies of Spermine Synthase and Establishing a *Drosophila* Model for Snyder-Robinson Syndrome. **C. Li**, C. Bello, R. Zhai. Department of Molecular and Cellular Pharmacology, University of Miami Miller School of Medicine

658C
KCNT1 in Epilepsy with ID and Psychiatric Features: Modeling Human Disease in *Drosophila*. **Chiao Xin Lim**[1,2], Sarah E. Heron[1,2], Michael G. Ricos[1,2], Leanne M. Dibbens[1,2]. 1) School of Pharmacy & Medical Sciences, University of South Australia, Adelaide, SA, Australia; 2) Sansom Institute for Health Research, University of South Australia, Adelaide, South Australia, Australia.

659A
Adenosine suppresses seizure-like activity (SLA) and shortens recovery time in the Bang-sensitive (BS) paralytic mutants following mechanical shock. **Chris Radlicz**, Daniel Kuebler. Department of Biology, Franciscan University of Steubenville, Steubenville, OH.

660B
A Drosophila model of human DYT dystonia. **Noriko Wakabayashi-Ito**[1], Rami Ajjuri[2], Benjamin Henderson[2], Olugbenga Doherty[2], Xandra Breakefield[1], Janis O'Donnell[2], Naoto Ito[1]. 1) Neurology, Massachusetts General Hosp, Boston, MA; 2) Biological Science, University of Alabama, Tuscaloosa

661C
Dg-Dys-Syn1 signaling via microRNAs acts in a feedback loop to control the precision of Dystroglycan expression that is required for proper brain formation. **Mariya M. Kucherenko**, Andriy S. Yatsenko, April K. Marrone, Halyna R. Shcherbata. MPRG Gene expression and signaling, Max Planck Institute for biophysical chemistry, Goettingen, Lower Saxony, Germany.

662A
Fluorescent Imaging of the Drosophila Melanogaster Model of Human Nephrolithiasis. **Sohrab Naushad Ali**, Dajung Kim, Thomas Tailly, Hassan Razvi, Hon Leong. Division of Urology, University of Western Ontario, London, Ontario, Canada.

663B
Role of sodium-phosphate co-transporter *MFS13* in *Drosophila* phosphate homeostasis. **Clemens Bergwitz**[1,2], Jonathan Cohen[2], Mark Wee[2], Dana Drost[1]. 1) Medicine/Section Endocrinology, Yale School of Medicine, New Haven, CT; 2) Endocrine Unit, Massachusetts General Hospital

664C
Role of cellular phosphate uptake for *Drosophila* life span. **Clemens Bergwitz**[1,2], Jonathan Cohen[2], Mark Wee[2], Dana Drost[1]. 1) Section Endocrinology/Dept. Medicine, Yale School of Medicine, New Haven, CT; 2) Endocrine Unit, Massachusetts General Hospital, Boston, MA.

POSTER SESSIONS

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665A
Drosophila Models of Genetic Renal Diseases. Margaret Nettleton, Fujian Zhang, **Zhe Han**. Center for Cancer and Immunology Research, Children's National Medical Center, Washington, DC.

666B
A fly model to identify new treatments for hyperuricemia, uric acid stones and gout. **S. Lang**[1], H. Lu[1], T. Chi[2], A. Kahn[1], D. Killilea[3], M. Stoller[2], P. Kapahi[1]. 1) Kapahi Laboratory, Buck Institute, Novato, CA; 2) Department of Urology, University of California San Francisco (UCSF), San Francisco, California; 3) Nutrition and Metabolism Center, Children's Hospital Oakland Research Institute, Oakland, California.

667C
Toxicological and development effects of polymer-coated iron oxide nanoparticles in Drosophila. **Evan A. Chavers**[1], Hunter B. Dean[1,2], Ben W. Henderson[1], Rami R. Ajjuri[1], Yuping Bao[2], Janis M. O'Donnell[1]. 1) Department of Biological Sciences, University of Alabama, Tuscaloosa, AL; 2) Department of Chemical Engineering, University of Alabama, Tuscaloosa, AL.

668A
Analysis of the mechanism of action of the anti-migration/anti-metastatic compound Dihydromotuporamine C, using a leg imaginal disc eversion assay. **Corey Seavey**[1], Minpei Wang[1], Aaron Muth[2], Otto Phanstiel IV[3], Laurence von Kalm[1]. 1) Department of Biology, University of Central Florida, Orlando, FL; 2) Department of Chemistry, University of Central Florida, Orlando, FL; 3) Department of Medical Education, College of Medicine, University of Central Florida, Orlando FL.

669B
A *Drosophila* model to address genetic mechanisms preventing age-related muscle fiber loss. **Lizzet Castillo**, Richard Cripps, Anton Bryantsev. Department of Biology, University of New Mexico, Albuquerque, NM.

670C
Representing Drosophila Models of Human Disease in FlyBase. **P. McQuilton**[1], S. Tweedie[1], G. Millburn[1], A. Schroder[2], J. Goodman[3], H. Attrill[1], S. Marygold[1], L. Ponting[1], R. Stefancsik[1], N. Brown[1], FlyBase Consortium. 1) FlyBase-Cambridge, Department of Genetics, University of Cambridge, Cambridge, CB2 3EH. United Kingdom; 2) FlyBase-Harvard, Biological Laboratories, Harvard University, 16 Divinity Avenue, Cambridge, MA 02138. USA; 3) FlyBase-Indiana, Department of Biology, Indiana University, 1001 East 3rd Street, Bloomington, Indiana.

671A
Investigating the mechanism of basement membrane repair and its implications in wound healing. **William Ramos-Lewis**[1], Erica Shannon[1], Andrea Page-McCaw[1,2]. 1) Cell and Developmental Biology, Vanderbilt University, Nashville, TN; 2) Cancer Biology, Vanderbilt University, Nashville, TN.

672B
The role of *Drosophila clueless* in regulating mitochondrial morphology. **Zong-Heng Wang**[1], Erika Geisbrecht[1,2]. 1) School of Biological Sciences, University of Missouri-Kansas City, Kansas City, MO; 2) Department of Biochemistry and Biophysics, Kansas State University, Manhattan, KS.

Evolution and Quantitative Genetics

673C
In silico analysis of recombination rate variation across the *Drosophila melanogaster* genome based on multiple DNA motifs. **Andrew Adrian**, Josep Comeron. Biology, University of Iowa, Iowa City, IA.

674A
The effect of spatially varying selection on transposable element insertions in Drosophila. **Jeffrey Adrion**[1], David Begun[2], Matthew Hahn[1]. 1) Department of Biology, Indiana University, IN; 2) Department of Evolution and Ecology, UC Davis, CA.

675B
Annotation of *Drosophila biarmipes* contigs from euchromatic chromosome 3 as a control for the heterochromatic dot chromosome. **Rachel Boody**, Alexander Kneubehl, Lauren Guerriero, Jamie Sanford. Biological & Allied Health Sciences, Ohio Northern University, Ada, OH.

676C
Genome evolution in three species of cactophilic Drosophila. Fernando Peñaloza[1], **Javier Carpinteyro Ponce**[2], Nestor Nazario Yepiz[2], Mariana Ramirez Loustalot-Laclette[2], Luciano Matzkin[3], Cei Abreu Goodger[2], Alejandro Sanchez Flores[1], Therese Markow[1,4]. 1) Unidad Universitaria de Apoyo Bioinformatico, Instituto de Biotecnologia, UNAM, Cuernavaca Morelos, Mexico; 2) LANGEBIO, CINVESTAV Irapuato, Irapuato, Guanajuato, Mexico; 3) Department of Biological Sciences, The University of Alabama Huntsville, Huntsville, AL; 4) Division of Biological Sciences, UCSD, La Jolla, CA.

677A
Population genomic analysis of the infectious and integrated *Wolbachia pipientis* genomes in *Drosophila ananassae*. **Jae Young Choi**, Jaclyn Bubnell, Charles Aquadro. Cornell University, Ithaca, NY.

678B
Evolutionary Analysis of the *Drosophila* Sex Peptide Network. Meaghan McGeary, **Geoffrey Findlay**. Department of Biology, College of the Holy Cross, Worcester, MA.

679C
Evolutionary and functional characterization of saturn, a newly evolved testis-expressed protein required for fertility in *Drosophila melanogaster*. **Anna Gubala**[1], Tery Vinh[1], Mariana Wolfner[2], Geoffrey Findlay[1,2]. 1) Department of Biology, College of the Holy Cross, Worcester, MA; 2) Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY.

680A
P-element invasion and the evolution of host repression. Yichen Zheng, Ricardo Azevedo, **Erin Kelleher**. Biology and Biochemistry, University of Houston, Houston, TX.

681B
The *Responder* satellite as a model for satellite DNA evolution in *Drosophila*. **Daniel E. Khost**, Amanda M. Larracuente. University of Rochester, Rochester, NY.

682C
The role of *piRNA*-mediated epigenetic silencing in the population dynamics of transposable elements in *Drosophila melanogaster*. **Grace Yuh Chwen Lee**. Ecology and Evolution, University of Chicago, Chicago, IL.

POSTER SESSIONS

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683A
Diversity of short sequences among genomes of inversion strains in *Drosophila pseudoobscura*. **Megan Lee**[1], Sandra Duggan[2], Dianhui Zhu[2,3], Stephen Richards[2], Stephen Schaeffer[1]. 1) The Pennsylvania State University, University Park, PA; 2) Human Genome Sequencing Center, Baylor College of Medicine, One Baylor Plaza, Houston TX 77030; 3) Chevron, 1500 Louisiana St, Houston, Texas, 77002.

684B
Recurrent gene duplication of a rapidly evolving suppressor of transposable elements. **Mia Levine**[1], Emily Hsieh[1], Helen Vander Wende[1], Harmit Malik[1,2]. 1) Division of Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA; 2) Howard Hughes Medical Institute.

685C
D. pseudoobscura Inversion Breakpoint Sequence Evolution. **Haley Randolph**[1], Megan Lee[1], Geovanny Montoya[1], Atousa Jahanshahi[1], Sandra Duggan[2], Dianhui Zhu[2,3], Stephen Richards[2], Stephen Schaeffer[1]. 1) The Pennsylvania State University, University Park, PA 16801; 2) Human Genome Sequencing Center, Baylor College of Medicine, One Baylor Plaza, Houston TX 77030; 3) Chevron, 1500 Louisiana St, Houston, Texas, 77002.

686A
Effect of sex biased expression or regulation of transposable elements on the *Drosophila melanogaster* genome. **Christopher Savell**, Brian Counterman. Biological Sciences, Mississippi State University, Starkville, MS.

687B
Evolutionary aspects of gene expression during *Drosophila melanogaster* spermatogenesis. Júlia Raíces, **Maria Vibranovski**. Genetics and Evolutionary Biology, University of Sao Paulo, Sao Paulo, SP, Brazil.

688C
Genetic architecture of parallel evolution of dark pigmentation in high-altitude populations of *Drosophila melanogaster*. **Héloïse Bastide**, Amir Yassin, John Pool. Laboratory of Genetics, University of Wisconsin-Madison, Madison, WI.

689A
Genetic Variation in Local Populations of *Drosophila suzukii*. Matthew DiMeglio[1], Philip Freda[1,2], **John Braverman**[1]. 1) Saint Joseph's University, Philadelphia, PA; 2) Kansas State University, Manhattan, KS.

690B
Hybridization and the spread of *Wolbachia* through space and time in the *yakuba* complex of the *Drosophila melanogaster* subgroup. **Brandon S. Cooper**, Paul Ginsberg, Chenling Antelope, Michael Turelli. Evolution & Ecology, University of California, Davis, Davis, CA.

691C
Recombination rate variation among *Drosophila melanogaster* populations based on population genomic data. **J. Cruz Corchado**[1], J. Comeron[1,2]. 1) Interdisciplinary Graduate Program in Genetics, University of Iowa, Iowa City, IA; 2) Department of Biology, University of Iowa, IA.

692A
Rates of crossing over gradually increase over time in *Drosophila melanogaster* females. **Chad Hunter**, Matthew Robinson, Nadia Singh. Program in Genetics, Department of Biological Sciences, North Carolina State University, Raleigh, NC 27695.

693B
ConTExt: A Strategy for Studying the Structure and Population Dynamics of Transposable Element and Repeat Content. **Michael P. McGurk**, Daniel Barbash. Molecular Biology and Genetics, Cornell University, Ithaca, NY.

694C
Sex determination and gene expression in the house fly, *Musca domestica*. **Richard Meisel**[1], Jeffrey Scott[2], Andrew Clark[2]. 1) University of Houston; 2) Cornell University.

695A
Population genetics of *Drosophila eremophila* in Mexico. **Alejandra J. Vieyra-Ramirez**, Therese A. Markow. LANGEBIO - CINVESTAV, Irapuato, Guanajuato, Mexico.

696B
Mating system of an invasive species, Z*aprionus tuberculatus* malloch, 1932, (diptera:Drosophilidae). **Ergi D. özsoy**[1], Bahar Patlar[1,2]. 1) Hacettepe University, Department of Biology, 06800 beytepe campus, Ankara, Turkey; 2) Bielefeld University, Department of Evolutionary Biology, 33615, Bielefeld, Germany.

697C
Differential Gene Expression Patterns Of Chromosomal Inversion Karyotypes Provide Insight Into The Evolutionary Mechanisms Maintaining Third Chromosome Gene Arrangements of*Drosophila pseudoobscura*. **Zach Fuller**[1], Gwilym Haynes[1], Shannon Duggan[2], Dianhuiz Zhu[2], Stephen Richards[2], Stephen Schaeffer[1]. 1) Biology, Penn State, University Park, PA; 2) Human Genome Sequencing Center, Baylor College of Medicine, Houston, TX.

698A
Genomic evidence for non-neutral evolution of *In(3R)Payne*, a major clinal chromosomal inversion in *Drosophila melanogaster*. **Martin Kapun**[1], Jérome Goudet[1], Paul Schmidt[2], Thomas Flatt[1]. 1) Department of Ecology and Evolution, University of Lausanne, Switzerland; 2) Department of Biology, University of Pennsylvania, Philadelphia, USA.

699B
Widespread transposon landscape diversity amongst *Drosophila* cell cultures and fly strains. Reazur Rahman, Yuliya Sytnikova, **Nelson Lau**. Biology, Brandeis University, Waltham, MA.

700C
The Molecular Basis of Segregation Distortion in *Drosophila pseudoobscura*. **Randee E. Young**[1], Zachary L. Fuller[2], Stephen W. Schaeffer[2], Nitin Phadnis[1]. 1) Department of Biology, University of Utah, Salt Lake City, UT; 2) Department of Biology, Pennsylvania State University, University Park, PA.

701A
Dorsocross provides key to morphological divergence of extraembryonic development. **F. Caroti**, S. Lemke. Dept. of Molecular Developmental Biology and Physiology, Centre for Organismal Studies (COS), Heidelberg, Baden Württemberg, Germany.

702B
Exploring the origin of insect wings through functional analysis of *vestigial* in various insect species. **C. M. Clark-Hachtel**[1], D. M. Linz[1], X. Bellés[2], E. Buschbeck[3], Y. Tomoyasu[1]. 1) Department of Biology, Miami University, Oxford, OH; 2) Institut de Biologia Evolutiva, Barcelona, Spain; 3) Department of Biological Sciences, University of Cincinnati, Cincinnati, Ohio.

POSTER SESSIONS

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703C
Dissecting the genetic basis and evolution of form using haploid wasps. **Lorna Cohen**, Jeremy A. Lynch. University of Illinois at Chicago, Chicago, IL.

704A
Giant causes hybrid inviability in *Drosophila*. **Jackie Gavin-Smyth**[1], Marty Kreitman[1], John Reinitz[1], Daniel Matute[2]. 1) Dept Ecology and Evolution, University of Chicago, Chicago, IL; 2) Biology Department, University of North Carolina, Chapel Hill, North Carolina.

705B
Conserved gene expression in the absence of sequence conservation: Uncovering a molecular mechanism by theoretical and experimental analysis of *even-skipped* expression from highly diverged sequences. **Ah-Ram Kim**[1,2], Pengyao Jiang[2], John Reinitz[2]. 1) Computer Science & Artificial Intelligence Laboratory, MIT, Cambridge, MA; 2) Department of Ecology and Evolution, Chicago Center for Systems Biology, University of Chicago.

706C
A re-evaluation of *bicoid* in Diptera. **Jeff Klomp**, Urs Schmidt-Ott. Organismal Biology and Anatomy, University of Chicago, Chicago, IL.

707A
Genetic basis of pigmentation divergence between closely related *Drosophila* species: interactions between *tan* and *yellow*. **Abigail M. Lamb**[1], Alisha V. John[1], Arielle M. Cooley[2], Lisa L. Sramkoski[1], Patricia J. Wittkopp[1,2]. 1) Department of Molecular, Cellular, & Developmental Biology, University of Michigan, Ann Arbor, MI; 2) Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor

708B
Recapitulating the evolutionary origin of ventral furrow formation. Silvia Urbansky, Paula Gonzalez, **Steffen Lemke**. Centre for Organismal Studies, Universitaet Heidelberg, Heidelberg, Germany.

709C
Exploring the molecular basis of insect wing evolution: a transcriptomic approach. **David Linz**, Yoshinori Tomoyasu. Zoology Department, Miami University, Oxford, OH.

710A
The shared genetic architecture of sleep and reproductive fitness in *Drosophila melanogaster*. **A. Lobell**, R. Kaspari, S. Harbison. Laboratory of Systems Genetics, National Heart, Lung & Blood Institute, Bethesda, MD.

711B
The natural symbiosis of Drosophila and yeasts in a vineyard. **Allison Quan**[1], Kelly Schiabor[1], Michael Eisen[1,2]. 1) Department of Molecular and Cell Biology, UC Berkeley, Berkeley, CA; 2) Howard Hughes Medical Institute, Berkeley, CA.

712C
Next-generation approaches to understanding the evolution of insect germline. **Honghu Quan**, Jeremy Lynch. University of Illinois at Chicago, Chicago, IL.

713A
Convergent evolution of female-limited color dimorphism in *Drosophila*. **Amir Yassin**[1], Héloïse Bastide[1], Justin Lack[1], Jean David[2], John Pool[1]. 1) Laboratory of Genetics, University of Wisconsin-Madison, Madison, WI; 2) Laboratoire Evolution, Génomes et Spéciation, CNRS, Gif-sur-Yvette, France.

714B
Scanning Electron Microscopy of immature stages of *Drosophila willistoni* group. **Rebeca Zanini**[1,2], Maríndia Deprá[1,2], Vera Valente[1,2]. 1) Programa de Pós-Graduação em Biologia Animal - UFRGS, Porto Alegre, Brazil; 2) Laboratório de Drosophila, Departamento de Genética - UFRGS, Porto Alegre, Brazil.

715C
Effects of space missions on stability of Drosophila estimated by fluctuating asymmetry. **Denis V. Anisiforov**, Alex M. Kulikov, Oleg E. Lazebny. Russian Academy of Sciences, Koltzov INSTITUTE of DEVELOPMENTAL BIOLOGY, Moscow, Russian Federation.

716A
Sexual traits as a measure of evolutionary divergence in *Drosophila nasuta* subgroup members. **Shruthi Balachandra**[1], Kristipati Ravi Ram[2], Saraf R. Ramesh[1]. 1) Department of Studies in Zoology, University of Mysore, Mysore, Karnataka, India; 2) Embryotoxicology, CSIR-Indian Institute of Toxicology Research, Lucknow, Uttar Pradesh, India.

717B
Mapping the genetic basis of wing rowing evolution in *Drosophila yakuba* and *Drosophila santomea* male courtship. **Jessica Cande**[1], Gordon Berman[2], Ugne Klibaite[2], Benjamin Prud'homme[3], Nicolas Gompel[4], Joshua Shaevitz[2], David Stern[1]. 1) Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA; 2) Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ; 3) Institut de Biologie du Développement de Marseille-Luminy (IBDML), Marseille, France; 4) Ludwig Maximilian University, Munich, Germany.

718C
A genetic understanding of courtship song variation between Drososophila simulans and Drosophila mauritiana. **Yun Ding**, Augusto Berrocal, David Stern. Janelia Research Campus, HHMI, Ashburn, VA.

719A
Genetic determinants of RNA-editing levels of ADAR targets in Drosophila melanogaster. **Yerbol Kurmangaliyev**, Sammi Ali, Sergey Nuzhdin. Molecular and Computational Biology, University of Southern California, Los Angeles, CA.

720B
Complex genetic interactions characterize the rapid evolution of genital morphology in *Drosophila*. Stephen R. Frazee, Jessica Pagan, Brittany N. Smith, **John P. Masly**. Department of Biology, University of Oklahoma, Norman, OK.

721C
Genetic basis of genital evolution between *Drosophila* species. **Maria D. S. Nunes**[1], Kentaro Tanaka[1], Corinna Hopfen[3], Matthew Herbert[1], Christian Schloetterer[2], John P. Masly[4], Alistair P. McGregor[1]. 1) Biological and Medical Sciences, Oxford Brookes University, Oxford, United Kingdom; 2) Institute of Population Genetics, Department of Biomedical Sciences, University of Veterinary Medicine Vienna, Vienna, Austria; 3) Max Planck Institute for Biology of Ageing, Cologne, Germany; 4) Department of Biology, University of Oklahoma, OK, US.

722A
Sexually dimorphic pigmentation in *Drosophila*: lineage sorting and independent comparisons in multiple phenotypic transitions. **Sarah Signor**[1], Artyom Kopp[2]. 1) Molecular and Computational Biology, University of Southern California, Davis, CA; 2) Evolution and Ecology, University of California, Davis.

POSTER SESSIONS

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723B
Partial behavioral isolation between two divergent populations of *Drosophila melanogaster* and their mating potential with other wild type populations. **Phillip Barnes**, Phoebe Winn, Lucy Drayson, Melanie Argueta. Dept Biol, Connecticut Col, New London, CT.

724C
Identifying hybrid incompatibility genes in *D. Pseudoobscura* subspecies. **Alyssa Black**, Nitin Phadnis. Biology, University of Utah, Salt Lake City, UT.

725A
Presence of transposable elements is associated with the expression of hybrid incompatibility in *Drosophila virilis-D. lummei* hybrids with and without *Penelope* elements. **Dean Castillo**, Leonie Moyle. Biology Dept, Indiana University, Bloomington, IN.

726B
Two loci contribute to a male pheromonal polymorphism associated with ecological adaption in African *D. melanogaster* populations. **Henry Chung**[1], John E. Pool[2], David W. Loehlin[1], Jocelyn G. Millar[3], Sean B. Carroll[1]. 1) Laboratory of Molecular Biology, University of Wisconsin, Madison, WI; 2) Department of Genetics, University of Wisconsin, Madison, WI; 3) Department of Entomology, University of California, Riverside

727C
Revealing the Secrets of the X: Genomewide Expression Profiles in *Drosophila*. **Danielle Herrig**[1], Ana Llopart[1,2]. 1) Interdisciplinary Program in Genetics, University of Iowa, Iowa City, IA; 2) Biology Department, University of Iowa, Iowa City

728A
Characterizing postzygotic isolation in the *Drosophila nasuta* species complex. **Wynn Meyer**, Doris Bachtrog. Integrative Biology, University of California, Berkeley.

729B
Gene Expression Patterns Associated with Sex-Specific Pheromone Production in *Drosophila simulans* and *D. sechellia*. **D. R. Swartzlander**[1], Jennifer M. Gleason[2]. 1) Molecular Biosciences, Univ of KS, Lawrence, KS; 2) Ecology and Evolutionary Biology, Univ of KS, Lawrence, KS.

730C
Phylogenetic Analysis of Abdominal Pigmentation Evolution in the *Drosophila montium S*ubgroup. **Mubasher Ahmed**, Paul Ginsberg, Chenling Antelope, Emily Delaney, Michael Turelli, Artyom Kopp. Department of Evolution and Ecology, University of California, Davis.

731A
Ectoparasitic mites and their *Drosophila* hosts. **Alejandra Pérez-Leaños**[1], Mariana Ramirez-Loustalot-Laclette[1], Therese Markow[1,2]. 1) LANGEBIO, CINVESTAV , Irapuato, Guanajuato, México; 2) University of California, San Diego.

732B
Genes caught in the crossfire: Understanding the tension between genome defense and genomic "autoimmunity" by piRNAs. **Alexandra Erwin**, Michelle Wickersheim, Justin Blumenstiel. University of Kansas, Lawrence, KS.

733C
Molecular evolutionary analyses reveals positive selection in the rapidly-evolving synaptonemal complex in the *Drosophila* genus. **Lucas Hemmer**, Justin Blumenstiel. Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS.

734A
Soft shoulders ahead: spurious signatures of soft and partial selective sweeps result from linked hard sweeps. **Daniel Schrider**[1], Fábio Mendes[2], Matthew Hahn[2], Andrew Kern[1]. 1) Department of Genetics, Rutgers University, Piscataway, NJ; 2) Department of Biology, Indiana University, Bloomington, IN.

735B
Ecological adaptations for pigmentation in two colonizing *Drosophila* species: evidence for genotype-environment interaction. **Veer Bhan**. Department of Biotechnology, UIET, M D University, Rohtak, Haryana, India.

736C
The hydrogen isotopes $^{2}H/^{1}H$ involvement across different generations of *Drosophila*: patterns of molecular variation on w^{1118} strain. **Gallia Butnaru**, Sorina Popescu, Ioan Sarac. Banat Univ Agricultural Sci. "Regele Mihai I al Romaniei" Timisoara, Romania, Box 136, PO1.

737A
Longitudinal ethanol withdrawal and ethanol intake in outbred *Drosophila melanogaster* raised with and without ethanol-containing food. **Kairsten A. Fay**[1], Alexander Gearhart[1], Megan Garlapow[1], Trudy Mackay[1,2]. 1) Biological Sciences, program in genetics, North Carolina State University, Raleigh, NC; 2) W. M. keck Center for Behavioral Biology, North Carolina State University, Raleigh, 27695.

738B
The genetic basis of phenotypic plasticity in the *Drosophila* energy budget. **Elizabeth G. King**, Vince S. Farinella, Anna Perinchery, Patrick D. Stanley. Division of Biological Sciences, University of Missouri, Columbia, MO.

739C
Mitochondrial - nuclear interactions mediate genotype-specific transcriptional responses to hypoxia in *Drosophila*. **Jim Mossman**, Yawei Ge, Nan Li, Zhijin Wu, David Rand. Ecology and Evolutionary Biology, Brown University, Providence, RI.

740A
Enhanced sleep is an evolutionarily adaptive response to starvation stress in *Drosophila*. **Melissa E. Slocumb**[1], Josue M. Regalado[1], Masato Yoshizawa[3], Greg G. Neely[4], Pavel Masek[1], Allen G. Gibbs[2], Alex C. Keene[1]. 1) Biology, University of Nevada, Reno, Reno, NV; 2) School of Science, University of Nevada, Las Vegas, Las Vegas, NV; 3) Biology, University of Hawai'i, Manoa; 4) Neuroscience Division, Garvan Institution, Sydney Austraulia.

741B
Ontogeny of metabolic rate and mitochondrial physiology in *Drosophila*. Cole Julick, Omera Matoo, **Kristi Montooth**. School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE.

742C
The investigation of biological effects of Methotrexate and Aminopterin on example of Drosophila melanogaster. **O. Antosyuk**, A. Marvin, N. Marvin, S. Shihova. Biological sciences, Ural State University, Yekaterinburg, Russian Federation.

743A
Genome-wide test of a life-history model underlying seasonal adaptation in Drosophila. **Alan Bergland**[1], Subhash Rajpurohit[2], Dmitri Petrov[1], Paul Schmidt[2]. 1) Dept. of Biology, Stanford University, Stanford, CA; 2) Dept. of Biology, University of Pennsylvania, Philadelphia, PA.

POSTER SESSIONS

See Page 10 for presentation schedule. Poster board number and presenter are in **bold**. Full abstracts can be found online.

744B
Sperm transfer and the enigma of copulation duration in *Drosophila melanogaster*. **Cynthia Castro**. LANGEBIO, CINVESTAV Irapuato, Irapuato, Guanajuato, Mexico.

745C
Wing size evolution in high-altitude Ethiopian *Drosophila melanogaster*: developmental decanalization and the genetics of a complex adaptive trait. **Justin Lack**, Amir Yassin, John Pool. Genetics, University of Wisconsin-Madison, Madison, WI.

746A
Mutational paths to repeated evolution of Alcohol Dehydrogenase gene function. **David Loehlin**, Sean Carroll. Howard Hughes Medical Institute, University of Wisconsin-Madison, Madison, WI.

747B
Functional evolution of alcohol dehydrogeanse in *Drosophila*. **Mohammad Siddiq**, Joe Thornton. Ecology and Evolution, University of Chicago, Chicago, IL.

748C
The genomics of parthenogenesis: Insight from the facultative parthenogenetic fly *Drosophila mercatorum*. **Craig Stanley**[1,6], Danny Miller[2,3], Therese Markow[4,5], R. Scott Hawley[2,3], Rob Kulathinal[1,6]. 1) Department of Biology, Temple University, Philadelphia, PA, USA; 2) Stowers Institute for Medical Research, Kansas City, MO, USA; 3) Department of Molecular and Integrative Physiology, University of Kansas Medical Center, Kansas City, KS, USA; 4) Laboratorio Nacional de Genomica de la Biodiversidad, CINVESTAV, Irapuato, Guanajuato CP, Mexico; 5) Univserity of California San Diego, San Diego California, La Jolla, CA, USA; 6) Center for Computational Genetics and Genomics, Temple University, Philadelphia, PA, USA.

749A
The genetic basis of a female-limited pigmentation polymorphism in the *Drosophila montium* subgroup. **Emily K. Delaney**[1], Thaddeus Seher[1], Nicholas Appleton[2], Steve Chenoweth[2], Artyom Kopp[1]. 1) Evolution and Ecology, University of California-Davis, Davis, CA; 2) University of Queensland, Australia.

750B
Quantitative genetics of food intake in *Drosophila melanogaster*. **Megan Garlapow**, Trudy Mackay. Department of Biological Sciences, Program in Genetics and W. M Keck Center for Behavioral Biology, NC State University, Raleigh, NC 27695-7614.

751C
Using artificial selection to validate single nucleotide polymorphisms affecting sleep duration in *D. melanogaster*. **Susan Harbison**[1], Yazmin Serrano Negron[1], Nancy Hansen[2], Amanda Lobell[1]. 1) Laboratory of Systems Genetics, NHLBI, Bethesda, MD; 2) The NISC Consortium, NHGRI, Bethesda, MD.

752A
A Hidden Markov Model for testing GWAS association by the aggregate signal of multiple linked SNPs. **Ziyad Knio**, Keegan Kelsey, Andrew Clark. Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY.

753B
Investigating the female's role in sperm competition in *Drosophila melanogaster*. **Simone White**, Jessica Sitnik, Clement Chow, Andrew Clark, Mariana Wolfner. Molecular Biology & Genetics, Cornell University, Ithaca, NY.

754C
Drosophila visual receptor diversity through the lens of the i5K project. **Markus Friedrich**[1], Jeffery Jones[2], Megan Porter[3], Daniel Hughes[4], Shwetha Murali[4], Kim Worley[4], Richard Gibbs[4], Stephen Richards[4]. 1) Dept Biological Sciences, Wayne State University, Detroit, MI; 2) UC Department of Pediatrics, Cincinnati Children's Hospital Medical Center, OH; 3) Department of Biology, University of South Dakota, Vermillion, SD; 4) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, TX.

755A
Investigating sexual conflict in the facultative parthenogenetic species, *Drosophila mercatorum*. **Nichole Rigby**, Rob Kulathinal. Department of Biology, Temple University, Philadelphia, PA.

756B
The importance of forest patches to the maintenance of genetic diversity of *Drosophila* in the Brazilian pampas. **Vera Valente**, Jean Lucas Poppe, Hermes José Schmitz. GENETICA, UFRGS, Porto Alegre, Porto Alegre RS, Brazil.

757C
Detecting meiotic drive by whole-genome sequencing of pooled embryos. **Kevin Wei**, Shuqing Ji, Jimin Lee, Deanna Lin, Chandramouli Rathnam, Andrew Clark, Daniel Barbash. Molecular Biology and Genetics, Cornell, Ithaca, NY.

Pattern Formation

758A
Localised control of Torso receptor tyrosine kinase activation in *Drosophila* terminal patterning. **Travis Johnson**[1,2], Michelle Henstridge[1,2], James Whisstock[1,3], Coral Warr[2]. 1) Biochemistry and Molecular Biology, Monash University, Clayton, Victoria, Australia; 2) School of Biological Sciences, Monash University, Clayton, Victoria, Australia; 3) Australian Research Council Centre of Excellence in Advanced Molecular Imaging, Monash University, Clayton, Victoria, Australia.

759B
Maternal *lolal* regulates Dpp and Screw transcription in dorsal/ventral patterning. **Janine C. Quijano**[1], Osamu Shimmi[2], Theodor Haerry[3], Stuart Newfeld[1]. 1) Arizona State University, Tempe, AZ; 2) Institute of Biotechnology, University of Helsinki, Helsinki Finland; 3) Center for Molecular Biology & Biotechnology, Florida Atlantic University, Boca Raton, FL.

760C
A gene expression approach to identify novel posterior signaling genes. **Julia Wittes**, Trudi Schüpbach. Department of Molecular Biology, Princeton University, Princeton, NJ.

761A
Dpp Signaling Directs Nuclear Migration to its Source in the Blastoderm Embryo. **Yongqiang Xue**, Juan Chahda, Claudia Mizutani. Biology Department, Case western Reserve University, Cleveland, OH.

762B
A dual-function motif explains dynamic positional specification in *Drosophila melanogaster*. **Berta Verd**[1], Anton Crombach[1], Nick Monk[2], Johannes Jaeger[1]. 1) Centre for Genomic Regulation (CRG). C/ Dr. Aiguader 88, PRBB Building, 08003 Barcelona, Spain; 2) School of Mathematics and Statistics and Centre for Membrane Interactions and Dynamics. University of Sheffield. Hicks Building, Sheffield, S3 7RH, UK.

POSTER SESSIONS

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763C
Pax6 and the Polycomb Repressive Complex Promote Eye Formation by Repressing Alternate Non-Ocular Fates. **Jinjin Zhu**, Justin Kumar. Department of Biology, Indiana University Bloomington, Bloomington, IN.

764A
Eyeless Participates in the Establishment and Maintenance of Dorsal-Ventral Patterning Within the Developing Eye. **Luke R. Baker**, Bonnie M. Weasner, Justin P. Kumar. Dept Biol, Indiana University, Bloomington, IN.

765B
Putting the Teashirt Family of Genes into context: Their role in Eye Development and Tissue Fate Segregation. Sneha Palliyil and Justin P. Kumar, Department of Biology, Indiana University.**Sneha Palliyil**, Justin Kumar. Bio Dept, IU, Bloomington.

766C
A screen for Notch-target enhancers that integrate homeotic factors and other signaling pathways. **Elizabeth Stroebele**, Timothy Fuqua, Ana Castro, Christian Noblett, Albert Erives. Department of Biology, University of Iowa, Iowa City, IA.

767A
Combgap and Eyes absent balance regional identities during retinal development. **Trevor Davis**, Ilaria Rebay. Committee on Development, Regeneration, and Stem Cell Biology, University of Chicago, Chicago, IL.

768B
Role of *dve* in patterning and growth during eye development. **N. Gogia**[1], A. Singh[1,2,3]. 1) DEPARTMENT OF BIOLOGY, UNIVERSITY OF DAYTON, DAYTON, OH; 2) Premedical Program, University of Dayton, 300 College Park Drive, Dayton, OH; 3) Centre for Tissue Regeneration & Engineering at Dayton (TREND), University of Dayton, Dayton, OH.

769C
Defining the role of Glass, a zinc finger transcription factor, in photoreceptor differentiation. **Carolyn A. Morrison**, Jessica E. Treisman. Skirball Institute of Biomolecular Medicine, New York University School of Medicine, New York, NY.

770A
A screen for negative regulators of damage-induced notum-to-wing transdetermination. **Melanie I. Worley**, Larissa Alexander, Iswar K. Hariharan. Molec & Cell Biol, Univ California, Berkeley, Berkeley, CA.

771B
A self-regulatory BMP signaling circuit drives sequential serosa and amnion specification in the scuttle fly *Megaselia abdita*. **Chun Wai Kwan**, Urs Schmidt-Ott. Organismal Biology and Anatomy, University of Chicago, Chicago, IL.

772C
DV polarity establishment in the beetle Tribolium as revealed by RNAseq. **Jeremy Lynch**[1], Siegfried Roth[2]. 1) Biological Sciences, University of Illinois at Chicago, Chicago, IL; 2) Institute for Developmental Biology University of Cologne Cologne, Germany.

773A
Genome-wide measurement of Bicoid binding states at single positions along the AP axis. **Colleen E. Hannon**, Shelby A. Blythe, Eric F. Wieschaus. Molecular Biology, Princeton University/HHMI, Princeton, NJ.

774B
Background subtraction via nuclear Cactus increases the signal-to-noise ratio of the Dorsal gradient. **Michael O'Connell**, Gregory Reeves. Chemical & Biomolecular Engineering, North Carolina State University, Raleigh, NC.

775C
A mathematical approach to predicting the mechanisms underlying the evolution of eggshell patterning by the TGF-alpha-like ligand Gurken. **Nicole Pope**[1], Nastassia Pouradier Duteil[1], Matthew Niepielko[1], Benedetto Picolli[1], Nir Yakoby[1,2]. 1) Computational and Integrative Biology, Rutgers University, Camden, NJ; 2) Biology Department, Rutgers University, Camden, NJ.

776A
From cells to pattern: A NetLogo model of Notch signaling. **Elaine Reynolds**[1], Ryan Himmelwright[1], Christopher Sanginiti[1], Jeffrey Pfaffmann[2]. 1) Neuroscience Program, Lafayette Col, Easton, PA; 2) Computer Science Dept, Lafayette Col, Easton PA.

777B
Evolution in silico of genes with multiple regulatory modules: gap genes vs pair-rule genes. **Alexander Spirov**[1], David Holloway[2]. 1) Cntr Excellence in Wireless & Information Technol, State Univ New York, Stony Brook, NY; 2) Mathematics Department, British Columbia Institute of Technology, Burnaby, B.C., Canada.

778C
Robust patterning of the dorsal-ventral axis in the *Drosophila melanogaster* embryo. **Sophia Carrell**, Alexander Thomas, Jeramey Friedman, Gregory Reeves. Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC.

779A
The Instructive Epidermis: The Role of JNK Organizing Centers. **Molly Jud**, Anthea Letsou. Human Genetics, University of Utah, Salt Lake City, UT.

780B
Taranis buffers regenerating tissue from fate changes induced by the wound response in *Drosophila*. **Keaton Schuster**, Rachel Smith-Bolton. Cell & Developmental Biology, University of Illinois at Urbana-Champaign, Urbana, IL.

Regulation of Gene Expression

781C
Identification of the specific *de2f1* transcript that is required for the formation of imaginal discs. **Mary-Rose Bradley-Gill**, Nam-Sung Moon. Biology, McGill, Montreal, Quebec, Canada.

782A
Genome wide identification of Smad2 target genes mediating TGFβ function during *Drosophila* imaginal development. **Covadonga F. Hevia**, Jose F. de Celis. Centro de Biología Molecular Severo Ochoa, Universidad Autónoma de Madrid, Cantoblanco, Madrid, Spain.

783B
The *triia-s-2* gene encodes a male germ-line specific homolog of the small subunit of the TFIIA General Transcription Factor. **Mark Hiller**, Ashley Cowan, Leah Hirschman, Maura Coughlin. Dept of Biological Science, Goucher College, Baltimore, MD.

POSTER SESSIONS

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784C
The dosage compensation protein CLAMP is involved in non sex-specific histone transcript misprocessing. **Leila Rieder**[1], Anna Zeidman[1], Katy Curry[2], Bob Duronio[2], Erica Larschan[1]. 1) Molecular Biology, Cellular Biology and Biochemistry, Brown University, Providence, RI; 2) Department of Genetics, University of North Carolina, Chapel Hill.

785A
Molecular Genetic Mechanism for Development of The Small Intestine in Drosophila Hindgut. **Sarder Uddin**[1], Ryutaro Murakami[2]. 1) Biotechnology and Genetic Engineering Discipline, Khulna University, Khulna, Bangladesh; 2) Graduate School of Medicine, Yamaguchi University, Japan.

786B
A Role for *Valois* and *Piwi* in the Maternal to Zygotic Transition. **Shelby Blythe**, Eric Wieschaus. Molecular Biology, Princeton University/HHMI, Princeton, NJ.

787C
The role of SAGA subunits for its genome-wide recruitment to chromatin. **G. Dialynas**, S. Abmayr, A. Peak, A. Perera, C. Seidel, J. Workman. Stowers Institute For Medical Research, Kansas City , MO.

788A
Notch alleles encoding variant polyQ tracts disrupt anterior-posterior patterning in *Drosophila* embryos. **Albert Erives**, Clinton Rice, Danielle Beekman, Rachel Harney, Megan Bowman, Sarah Coe, Liping Liu, Megan Tobias, Mark Vaske. Department of Biology, University of Iowa, Iowa City, IA.

789B
COMPASS-like coactivator complex regulation of the *bantam* miRNA enhancer. **David J. Ford**[1], Claudia B. Zraly[2], John S. Perez[2], Andrew K. Dingwall[1,2,3]. 1) Molecular Biology/Biochemistry Program; 2) Oncology Research Institute; 3) Department of Pathology. Loyola University Chicago-Stritch School of Medicine, Maywood, IL.

790C
Akirin-Mediated Gene Regulation during cardiac development. **Austin M. Howard**, Scott J. Nowak. Department of Biology and Physics, Kennesaw State University, Kennesaw, GA.

791A
The transcriptional network of rhabdomeric photoreceptor differentiation. **Xulong Liang**, Simpla Mahato, Savanna Brewski, Andrew Zelhof. Biology, Indiana University Bloomington, Bloomington, IN 47405, IN.

792B
Regulation of mitochondrial function by the transcriptional regulator KDM5. **Xingyin Liu**, Julie Secombe. Genetics, Albert Einstein Med College, Bronx, NY.

793C
Mapping the transcriptional network regulated by the conserved factor Grainyhead during embryonic development. **Markus Nevil**, Eliana Bondra, Melissa Harrison. Department of Biomolecular Chemistry, University of Wisconsin - Madison, Madison, WI.

794A
Klumpfuss/Wilms' tumor suppressor controls stochastic gene expression in the fly eye. **Caitlin C. Anderson**[1], Ben Mormann[2], Daniel Vasiliauskas[2], James Taylor[1], Robert Johnston[1]. 1) Biology, Johns Hopkins University, Baltimore, MD; 2) Biology, New York University, New York, NY.

795B
Identification of the Lola Transcriptional Targets during Embryonic Development. **Edwin Chaharbakhshi**, Christopher Lenkeit, Jennifer Jemc, Safiyah Elahi. Loyola University Chicago, Chicago, IL.

796C
Identification of Transcriptional Targets of Longitudinals Lacking. **Christopher P. Lenkeit**, Jennifer Jemc, Edwin Chaharbahkshi. Loyola University Chicago, Chicago, IL.

797A
Instability element of retinoblastoma protein Rbf1 regulates apoptotic and developmental phenotypes. **Rima Mouawad**[1], Jared Elenbaas[2], Yiliang Wei[2], Sandhya Payankaulam[2], David Arnosti[1,2]. 1) Cell and Molecular Biology, Michigan State University, East lansing, MI; 2) Biochemistry and Molecular Biology, Michigan State University, East lansing, MI.

798B
Transcriptional regulation of cell polarity determinants by the Retinoblastoma tumor suppressor protein (Rbf1) in *Drosophila melanogaster*. **Sandhya Payankaulam**[1], Kelvin Yeung[2], Helen McNeill[2], William Henry[1], David Arnosti[1]. 1) Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI 48823, USA East Lansing, MI; 2) Samuel Lunenfeld Research Institute, Mount Sinai Hospital, 600 University Avenue, Room 881, Toronto, Ontario M5G1X5, Canada.

799C
Genome-wide effects of retinoblastoma family proteins on gene expression and chromatin state in *Drosophila melanogaster* development. **Irina Pushel**[1], Sandhya Payankaulam[1], Rima Mouawad[2], David Arnosti[1,2]. 1) Biochemistry & Molecular Biology, Michigan State University, East Lansing, MI; 2) Cellular & Molecular Biology, Michigan State University, East Lansing, MI.

800A
Identification of potential Stat92E target genes that affect hematopoietic output in *Drosophila*. **Aditi Vyas**, Soichi Tanda. Biological Sciences, Ohio University, Athens, OH.

801B
Groucho and *Rpd3-Caf1* regulate *EGFR* signaling by repressing *rhomboid* expression during *Drosophila* development. **T. Zhang**, W. Du. University of Chicago, Chicago, IL.

802C
A novel 899bp enhancer regulates Vestigial expression in the myoblast population of the notal region of the wing disc. **Elizabeth Clarke**, Tyanna Lovato, Richard Cripps. Biology, University of New Mexico, Albuquerque, NM.

803A
Identification of an evolutionarily-conserved CRM that recapitulates Scr expression in the primordia of the T-row and sex comb bristles of T1 leg. **Ece Eksi**[1], Christopher McCallough[1], Artyom Kopp[2], Olga Barmina[2], Teresa Orenic[1]. 1) Biological Sciences, University of Illinois at Chicago, Chicago, IL; 2) Dept of Evolution and Ecology, University of California, Davis.

804B
REDfly: The Regulatory Element Database for *Drosophila*. **Marc S. Halfon**[1,2,3,4,5], Steven M. Gallo[4,6]. 1) Department of Biochemistry, University at Buffalo, Buffalo, NY; 2) Department of Biological Sciences, University at Buffalo, Buffalo, NY; 3) Department of Biomedical Informatics, University at Buffalo,; 4)

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New York Center of Excellence in Bioinformatics and Life Sciences, Buffalo, NY; 5) Department of Molecular and Cellular Biology and Program in Cancer Genetics, Roswell Park Cancer Institute, Buffalo, NY; 6) Center for Computational Research, University at Buffalo.

805C
Do regulatory interactions that result in repression of transcription elongation dominantly interfere with activation by other enhancers at the same promoter? **Michael Higgins**[1], Saiyu Hang[2], Haiyue Zhang[3], John Peter Gergen[4]. 1) Graduate Program in Biochemistry and Structural Biology, Stony Brook University, Stony Brook, NY; 2) Postdoctoral Fellow, Boston Children's Hospital, Boston, MA; 3) Nanjing University, Nanjing, China; 4) Department of Biochemistry and Cell Biology and the Center for Developmental Genetics, Stony Brook University, Stony Brook, NY.

806A
Expression of *eyes absent* in the developing retina is controlled by a single enhancer composed of 3 separate *cis-regulatory* elements. Bonnie M. Weasner, Brandon P. Weasner, **Justin P. Kumar**. Dept Biol, Indiana Univ, Bloomington, IN.

807B
Patched together: *cis*-regulatory control of the Hedgehog response. **David Lorberbaum**[1,2], Andrea Ramos[2], Scott Barolo[1,2]. 1) Cellular and Molecular Biology, University of Michigan, Ann Arbor; 2) Cell and Developmental Biology, University of Michigan, Ann Arbor, MI.

808C
A comparison of transvection effects at the *Men* and *Tpi* loci in *Drosophila melanogaster*. **Patrick D. O'Donnell**, Thomas J. S. Merritt. Laurentian University, Sudbury, Canada.

809A
Control of transcription dynamics by shadow enhancers of Kruppel. **Clarissa Scholes**[1,2], Alvaro Sanchez[3], Angela DePace[1]. 1) Graduate Program in Molecular and Cellular Biology, Harvard University, Cambridge, MA; 2) Dept of Systems Biology, Harvard Med School, Boston, MA; 3) Rowland Inst at Harvard, Cambridge,

810B
Genome wide identification of cis-regulatory elements from small cell population: Insights from the drosophila cardiac tube. **Denis Seyres**[1], Yad Ghavi-Helm[2], Celine Guichard[3], Magali Torres[1], Charles Girardot[2], Eileen Furlong[2], Laurent Perrin[1]. 1) TAGC U1090, Marseille, cedex 9, France; 2) European Molecular Biology Laboratory (EMBL), MeyerhofstraBe 1, 69117 Heidelberg, Germany; 3) Child and hess institute [Mount Sinai], 1468 madisson avenue, New York, USA.

811C
Enhancers by design. **Ben Vincent**[1], Meghan Bragdon[1], Garth Ilsley[2], Zeba Wunderlich[1], Javier Estrada[1], Angela DePace[1]. 1) Department of Systems Biology, Harvard Medical School, Boston, MA; 2) Okinawa Institute of Science and Technology Graduate University, Japan.

812A
A massively parallel reverse genetic screen for early embryonic patterning mutants. **Peter Combs**[1], Michael Eisen[2,3]. 1) Biophysics Grad Group, UC Berkeley, Berkeley, CA; 2) Department of Molecular and Cell Biology, UC Berkeley, CA; 3) Howard Hughes Medical Institute, UC Berkeley, CA.

813B
A transcriptomic approach to sex determination and the maternal-to-zygotic transition in *Nasonia*. **Deanna Arsala**, Jeremy Lynch. Biological Sciences, University of Illinois at Chicago.

814C
Probing Structure/Function Relationships in the *gurken* 5' UTR. **Phillip A. Frankino**[1], Jacob A. Merle[1], Ramses Rodriguez[1], David DiPalma[1], Allison H. H. Martin[1], Matthew A. Fountain[2], Scott B. Ferguson[1]. 1) Biology Department, Fredonia, NY; 2) Biochemistry and Chemistry Department, Fredonia, NY.

815A
Regulation of expression of RNP-4F splicing assembly factor in *Drosophila melanogaster*. **Sushmita Ghosh**, Lindsey Abraham, Jack Vaughn. Biology, Program in Cell Molecular and Structural Biology, Miami University, Oxford, OH.

816B
Measuring the impact of microRNAs on *in vivo* gene expression at single cell resolution: Can microRNAs suppress noise in gene expression? **R. Giri**, R. Carthew. Department of Molecular Biosciences, Northwestern University, Evanston, IL.

817C
Identifying Novel Drosophila Mutations That Affect *gurken* Translation in *spindle B* Mutants. **John Hasper**, Breanna Meyers, Malachi Blundon, Austie Lawrence, Scott Ferguson. Biology, SUNY Fredonia, Fredonia, NY.

818A
A heterodimer-based regulatory role for *Drosophila* truncated dADAR protein isoform function. **Fatemeh Kohram**, Sushmita Ghosh, Jack Vaughn. Biology, Program in Cell Molecular and Structural Biology, Miami University, Oxford, OH.

819B
The Wright stuff: reinventing path analysis reveals novel components of the sex determination hierarchy in *D. melanogaster*. **Justin Fear**[1,2], Michelle Arbeitman[3], Matthew Salomon[4], Justin Dalton[3], John Tower[4], Sergey Nuzhdin[4], Lauren McIntyre[2]. 1) Genetics & Genomics, Univ Florida, Gainesville, FL; 2) Department of Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; 3) Department of Biomedical Sciences, Florida State University, Tallahassee; 4) Molecular and Computational Biology, University of Southern California, Los Angeles, CA.

820C
Improved statistical methods enable greater sensitivity in rhythm detection for genome-wide data. **Alan L. Hutchison**[1,2,3], Mark Maienschein-Cline[4], Andrew H. Chiang[3], S. M. Ali Tabei[3], Herman Gudjonson[2,3], Neil Bahroos[4], Ravi Allada[5], Aaron R. Dinner[2,3,6]. 1) Medical Scientist Training Program, University of Chicago, Chicago, IL; 2) Graduate Program in Biophysical Sciences, University of Chicago, Chicago, IL; 3) James Franck Institute, University of Chicago, Chicago, IL; 4) Center for Research Informatics, University of Illinois at Chicago, Chicago, IL; 5) Department of Neurobiology, Northwestern University, Evanston, IL; 6) Department of Chemistry, University of Chicago, Chicago, IL.

821A
Using structural equation modeling to detect regulatory interactions in the Inr/Tor pathway. **Felicia New**[1], Michelle Arbeitman[2], Nicole Newell[2], Justin Fear[1], Lauren McIntyre[1]. 1) Department of Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; 2) Department of Biomedical Sciences, Florida State University, Tallahassee, FL.

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822B
An imaging-based approach to quantitative in vivo analysis of gene regulatory networks. **Radoslaw Ejsmont**, Bassem Hassan. VIB Center for the Biology of Disease, VIB, Leuven, Belgium.

823C
Metabolic gene linkages to long non-coding RNAs and allele-specific expression. **Alison Gerken**[1], Justin Fear[1,2], Sergey Nuzhdin[3], Lauren McIntyre[1]. 1) Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; 2) Genetics and Genomics Graduate Program, University of Florida, Gainesville, FL; 3) Molecular and Computational Biology, University of Southern California, Los Angeles, CA.

824A
Caudal drives *Themira putris even-skipped* stripe 2 expression in *Drosophila melanogaster* ? Ah-Ram Kim[1], **Pengyao Jiang**[2], Michael Ludwig[2,3], John Reinitz[2,3,4,5]. 1) MIT Computational Biology Group, Massachusetts Institute of Technology, Cambridge, MA; 2) Ecology & Evolution, University of Chicago, Chicago, IL; 3) Institute for Genomics & Systems Biology, University of Chicago, Chicago, IL; 4) Department of Statistics, University of Chicago, IL; 5) Department of Molecular Genetics and Cell Biology, University of Chicago, IL.

825B
Dissecting *Miscadestral pigmentation* (*Mcp*) in the *Abdominal-B* (*Abd-B*) locus: establishment of a Recombination Mediated Cassette Exchange (RMCE) platform using the CRISPR/Cas9 method. **Mario Metzler**[1,2], Martin Müller[1], Markus Affolter[1]. 1) Biozentrum, Zellbiologie, Universität Basel, Basel, Switzerland; 2) Fellowships for Excellence, Biozentrum, Universität Basel, Basel, Switzerland.

826C
Evolutionary rates of redundant enhancers. **Anne Sonnenschein**, Ian Dworkin, David Arnosti. Michigan State University, East Lansing, MI.

827A
Determining the role of 3D nuclear architecture in stochastic gene expression. **Kayla C. Viets**, Robert J. Johnston Jr.. Department of Biology, The Johns Hopkins University, Baltimore, MD.

828B
Transcriptional regulation of the Insulin Receptor gene in *Drosophila melanogaster*. **Y. Wei**, R. Gokhale, W. Henry, D. Arnosti. Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI.

829C
Mechanism of *repo* Regulation in Glial Cells of *Drosophila melanogaster*. **Jamie L. Wood**, Bradley W. Jones. Dept. of Biology, University of Mississippi, University, MS.

830A
The *cis*-regulatory logic controlling *Defective proventriculus* (*dve*), a critical regulator of *rhodopsin* expression in the *Drosophila* eye. **Jenny Yan**[1], Gregory Goldberg[2], Robert Johnston[1]. 1) Biology, Johns Hopkins University, Baltimore, MD; 2) Immunology, Virology and Microbiology, The Rockerfeller University, New York, NY.

831B
Flexibility and Constraints of Hox complex configuration on Drosophila cis-regulatory modules. **Arya Zandvakili**, Juli Uhl, Ian Campbell, Yi Kuang, Brian Gebelein. Cincinnati Children's Hospital Medical Center, Cincinnati, OH.

832C
Uncovering mechanisms that regulate miRNA expression. **Victoria Church**, Sigal Kellman-Pressman, Richard Carthew. Northwestern University, Evanston, IL.

833A
An in vitro study of Zelda as a pioneer factor. **H. Crimmins**, C. Rushlow, N. Kirov. Department of Biology, New York University, New York, NY.

834B
Hypergravity-induced transcriptome profiling in *Drosophila* pupae via deep mRNA sequencing. **Ravikumar Hosamani**[1], Shannon Hateley[2], Lior Pachter[2], Sharmila Bhattacharya[1]. 1) Space Bioscience Division, NASA Ames Research Center, Mountain View, CA; 2) Department of Molecular and Cell Biology, University of California, Berkeley.

835C
Gene expression analysis of known CASK interacting proteins in CASK knockout fly lines. **Alexander Kneubehl**, Rachel Boody, Lauren Guerriero, Jamie Sanford. Ohio Northern University, 525 S. Main Street, Ada, OH 45810.

836A
Regulation of the Master Regulatory Helix-Loop-Helix Proteins in *Drosophila*. **Ke Li**, Nicholas Baker. Department of Genetics, Albert Einstein College of Medicine, Bronx, NY.

837B
miR-184 regulates the level of Gliotactin, a tricellular marker, through BMP signaling. **Zohreh Sharifkhodaei**[1], Mary Gilbert[1], Mojgan Padash-Barmchi[1], Gayathri Samarasekera[1], Tudor A. Fulga[2], David Van Vactor[2], Vanessa Auld[1]. 1) Department of Zoology, University of British Columbia, Vancouver, Canada; 2) Department of Cell Biology, Harvard Medical School, Boston

838C
Stochastic *spineless* expression in natural *Drosophila* variants. **Cyrus Zhou**[1], Annie Cho[1], Haziq Siddiqi[1], India Reiss[1], Caitlin Anderson[1], Cameron Avelis[2], Elijah Roberts[2], Robert Johnston[1]. 1) Department of Biology, Johns Hopkins, Baltimore, MD; 2) Department of Biophysics, Johns Hopkins, Baltimore, MD.

Chromatin and Epigenetics

839A
How does Ago2 contribute to dosage compensation in *Drosophila melanogaster*? **Nikita Deshpande**, Victoria Meller. Wayne State University, Detroit, MI.

840B
Identification and Characterization of a Novel Regulator of Interphase Chromosome Structure. **Michael Nash**, Nina Hann, Barbara Fasulo, Stephanie McClymont, John Tamkun. Molecular, Cell, & Developmental Biology, University of California, Santa Cruz, Santa Cruz, CA.

841C
Zelda facilitates chromatin accessibility during the earliest stages of development. **Katharine Schulz**[1], Eliana Bondra[1], Jason Lieb[2], Tommy Kaplan[3], Daniel McKay[4], Melissa Harrison[1]. 1) Biomolecular Chemistry, University of Wisconsin Madison, Madison, WI; 2) Department of Human Genetics, University of Chicago, Chicago, IL; 3) School of Computer Science and Engineering, The Hebrew University of Jerusalem, Israel; 4) Department of Biology, The University of North Carolina, Chapel Hill, NC.

POSTER SESSIONS

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842A
Do the physiological effects of exercise depend on genetic background. **Louis Watanabe**, Nicole Riddle. Biology, University of Alabama at Birmingham, Birmingham, AL.

843B
Precise induction of ectopic centromeres in *Drosophila* as a model for neocentromere formation. **Jason Palladino**, Barbara Mellone. Department of Molecular and Cell Biology, University of Connecticut, Storrs, CT.

844C
The impact of ectopic piRNAs on hetrochromatin assembly at a PEV reporter site. **Kiri Ulmschneider**, Sarah C. R. Elgin. Dept Biol, Washington University, St. Louis, MO.

845A
New Evidence for Piwi Association with Specific Sites in the *Drosophila* Genome. **N. Neuenkirchen**, N. Liu, M. Zhong, H. Lin. Stem Cell Center and Department of Cell Biology, Yale University, New Haven, CT.

846B
Chromatin remodelers, nucleoplasm compartment and proteinopathies. Luca Lo Piccolo, Rosa Bonaccorso, Antonia Maria Rita Ingrassia, **Maria Cristina Onorati**. STEBICEF Dept, viale delle Scienze Edificio 16, Universita' degli Studi di Palermo, 90128 Palermo.

847C
The effects of knocking down the expression of TnaA, a trithorax group protein with a putative SUMO E3 ligase function in *Drosophila melanogaster*. **Marco Rosales-Vega**, Zoraya Palomero, Mario Zurita, Martha Vázquez. Univ. Nacional Autónoma de México. Cuernavaca, Morelos. México.

848A
The newly identified HMG-box proteins tHMG-1 and tHMG-2 interact during chromatin remodeling in *Drosophila* spermatogenesis. **Silke Rothenbusch**, Stefanie M. K. Gärtner, Ina Theofel, Christina Rathke, Renate Renkawitz-Pohl. Philipps University, Marburg, Hessen, Germany.

849B
The dAdd1 proteins: The *Drosophila* orthologs of the amino-terminus of the ATRX vertebrate protein. **Viviana Valadez**[1], Brenda López[1], Silvia Meyer[1], Benjamín Hernández[1], Daniel Montero[1], Adam Campos[2], Enrique Rudiño[2], Martha Vazquez[1], Mario Zurita[1]. 1) Genetica del Desarrollo, Instituto de Biotecnologia, UNAM, Cuernavaca, Morelos, Mexico; 2) Medicina Molecular y Bioprocesos. Instituto de Biotecnología, UNAM, Cuernavaca, Morelos, México.

850C
Interactions between the Myb Oncoprotein and the Variant Histone H2A.V in the *D.melanogaster* Hematopoietic Organ. **M. Grigorian**[1], H. DeBruhl[2], J. Lipsick[1]. 1) Depts. of Pathology and Genetics, Stanford University, Stanford, Ca; 2) Dept. of Mol., Cell and Dev. Biology, University of California, Santa Cruz, Santa Cruz, Ca.

851A
An ancient centromeric histone duplication in *Drosophila*. **Lisa E. Kursel**[1,2], Harmit Malik[1,3]. 1) Fred Hutchinson Cancer Research Center, Seattle, WA; 2) University of Washington Molecular and Cellular Biology; 3) HHMI.

852B
The Mof Acetyltransferase Is Required for JIL-1 H3S10 Kinase Stability in *Drosophila* Males. **Yeran Li**, Weili Cai, Chao Wang, Huai Deng, Xiaomin Bao, Weiguo Zhang, Jack Girton, Jorgen Johansen, Kristen Johansen. Biochemistry, Biophysics & Molecular Biology, Iowa State University, Ames, IA.

853C
Sequence-independent transcription is required for centromeric CENP-A deposition by its assembly factor. Chin-Chi Chen[1], Sarion Bowers[1], Zoltan Lipinszki[2,3], Jason Palladino[1], Emily Bettini[1], Sarah Trusiak[1], Leah Rosin[1], Marcin Przewloka[2], David Glover[2], Rachel O'Neill[1,4], **Barbara Mellone**[1,4]. 1) Molecular and Cell Biology, University of Connecticut, Storrs, CT; 2) Department of Genetics, University of Cambridge, Cambridge, CB2 3EH, UK; 3) Institute of Biochemistry, Biological Research Centre of the Hungarian Academy of Sciences, H-6701 Szeged, P.O. Box 521, Hungary; 4) Institute for Systems Genomics, University of Connecticut, Storrs, CT.

854A
Tip60 mediated epigenetic control of cognition-linked genes. **Priyalakshmi Panikker**, Elefant Felice. Department of Biology, Drexel University, Philadelphia, PA.

855B
Understanding Heterochromatin: Determination of DNA Elements That Influence Gene Expression. **April Bauer**, Sarah Elgin. Department of Biology, Washington University, St. Louis, MO.

856C
Comparative Genomics of the Muller F Element among Four Species. **John Braverman**[1], Martin Burg[2], Christopher Jones[3], Nighat Kokan[4], Leming Zhou[5], Don Paetkau[6], Joyce Stamm[7], Christopher Shaffer[8], Wilson Leung[8], Sarah Elgin[8], other faculty and students of the Genomics Education Partnership. 1) Saint Joseph's University, Philadelphia, PA; 2) Grand Valley State University, Allendale, MI; 3) Moravian College, Bethlehem, PA; 4) Cardinal Stritch University, Milwaukee, WI; 5) University of Pittsburgh, Pittsburgh, PA; 6) St. Mary's College, St. Mary's City, MD; 7) University of Evansville, Evansville, IN; 8) Washington University, St. Louis, MO.

857A
Investigation on the expansion of the *Drosophila ananassae* Muller F element. **E. Chen**, W. Leung, K. Ko, T. Quisenberry, S. Elgin. Washington University in St. Louis, Saint Louis, MO.

858B
HP1B, A Member of the Heterochromatin Protein 1 Family. **Tandy L. Dolin Petrov**, Nicole C. Riddle. Biology, University of Alabama at Birmingham, Birmingham, AL.

859C
Repeat-induced Chromatin Silencing in Fruit Flies (*Drosophila melanogaster*). **Michael Lee**[1], Tingting Gu[2], April Bauer[1], Sarah Elgin[1]. 1) Department of Biology, Washington University in St. Louis, St. Louis, MO; 2) Nanjing Agricultural University, Nanjing, China.

860A
Comparative analysis of HP1a, HP1B, and HP1C functions in *Drosophila melanogaster*. **Nicole Riddle**. Biology, University of Alabama at Birmingham, Birmingham, AL.

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861B
Heterochromatin spreading is a common signature of exposure to metals and organic compounds. **Katherine Silkaitis**[1], Cristina Valente[1,2], Alan Branco[1], Bernardo Lemos[1]. 1) Environmental Health, MIPS, Harvard School of Public Health, Boston, MA; 2) Faculdade de Medicina, University of São Paulo, Brazil.

862C
Using FCS methods to study chromatin compaction and the dynamics of heterochromatin formation. **Amy Strom**[1,2], Gary Karpen[1,2]. 1) UC Berkeley, Berkeley, CA; 2) Lawrence Berkeley National Laboratory, Berkeley, CA.

863A
Structure/Function dissection of the *Fab-7* boundary within the context of the bithorax complex: the role of the GAGA factor. Fabienne Cléard, **François Karch**. Dept Genetic and Evolution, Univ Geneva, Geneva, Switzerland.

864B
The Bithorax *Fab-7* insulator element: A paradigm for developmental modulation of insulator function. **Daniel Wolle**[1], Fabienne Cleard[2], Tsutomu Aoki[1], Girish Deshpande[1], Paul Schedl[1], François Karch[2]. 1) Department of Molecular Biology, Princeton University, Princeton, NJ; 2) Department of Genetics and Evolution, University of Geneva, 30 quai E. Ansermet, 1211, Geneva-4, Switzerland.

865C
Deposition of the histone H3K27me3 mark during fly embryogenesis. **Sarah Bowman**[1,2], Aimee Deaton[1,2], Heber Domingues[3], Robert Kingston[1,2], Welcome Bender[3]. 1) Dept. of Molecular Biology, Massachusetts General Hospital, Boston, MA; 2) Dept. of Genetics, Harvard Medical School, Boston, MA; 3) Dept. of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston, MA.

866A
Sex combs on midleg (SCM) is a subunit of both PRC1 and PRC2, and is required for H3K27 trimethylation. **Hyuckjoon Kang**[1,2], Kyle McElory[1,2,3], Youngsook Jung[2,4], Artyom Alekseyenko[1,2], Peter Park[2,4,5], Mitzi Kuroda[1,2]. 1) Genetics and Medicine, Harvard Medical School, Boston, MA; 2) Division of Genetics, Department of Medicine, Brigham and Women's Hospital, Boston, MA; 3) Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA; 4) Center for Biomedical Information, Harvard Medical School, Boston, MA; 5) Center for Functional Cancer Epigenetics, Dana-Farber Cancer Institute, Boston, MA.

867B
A Positive Role of Polycomb in Transcription Regulation by Modulating H4K20me1 during Normal Development. **Xiangdong Lv**[1], Zhijun Han[2], Hao Chen[1], Yuanxin Xia[1], Yi Lu[1], Chenyu Pan[1], Lin Fu[1], Hui Han[1], Gang Wei[2], Yun Zhao[1]. 1) State Key Laboratory of Cell Biology, Institute of Biochemistry and Cell Biology, SIBS, CAS, Shanghai, China; 2) Key Laboratory of Computational Biology, CAS-MPG Partner Institute for Computational Biology, SIBS, CAS, Shanghai, China.

868C
Physical and functional interaction between PIWI and PC is required for transcriptional silencing in *Drosophila*. **Tanmoy Mondal**[1], Utpal Bhadra[2], Sncvl Pushpavalli[2], Manika Pal Bhadra[1]. 1) Centre for Chemical Biology, Indian Institute of Chemical Technology, Uppal Road, Hyderabad-500007, India; 2) Functional Genomics and Gene silencing Group, Centre for Cellular and Molecular Biology, Uppal Road, Hyderabad-500007, India.

869A
Combgap is a DNA binding protein required for Polycomb group silencing. **P. Ray**, S. De, J. Kassis. NICHD/NIH, Bethesda, MD.

870B
Role of epigenetic factors in aging. **Dasari Vasanthi**. CCMB, Hyderabad, India.

871C
Baseline X chromosome dosage compensation in heads. **Zhen-Xia Chen**, Brian Oliver. NIDDK, National Institute of Health, Bethesda, MD.

872A
The 1.688 satellite is required for targeting of POF to a transgenic recruitment element. **M. Kim**, J. Larsson. Umeå University, Umeå, Sweden.

873B
How does the fly identify X chromatin during dosage compensation? **Victoria H. Meller**, Debashish U. Menon. Biological Sciences, Wayne State University, Detroit, MI.

874C
New data suggests an ancient mechanism for a chromosome-specific factor. **Anna Zeidman**, Leila Rieder, Erica Larschan. Brown University, Providence, RI.

875A
The role of chromatin organization in regulating histone gene repeats. **K. Boltz**, R. Duronio. Lineberger Comprehensive Cancer Center, Univ of North Carolina, Chapel Hill, NC.

876B
The role of PIWI-interacting RNA pathway genes in cell survival after telomere loss. Ana C. Gonzalez, **Rebeccah L. Kurzhals**. Southeast Missouri State University, Cape Girardeau, MO 63701.

877C
Characterization of *His2Av* in cell survival after telomere loss. **Lakshmi P. D. Pulavarthi**, Rebeccah L. Kurzhals. Southeast Missouri State University, Cape Girardeau, MO.

878A
Developmental stability and the maintenance of chromatin structure. **Frédérique Peronnet**[1], Delphine Cuménal[1], Camille Dupont[1], Valérie Ribeiro[1], Vincent Debat[2], Neel B. Randsholt[1]. 1) UMR7622 - Developmental Biology, Institute of Biology Paris Seine, CNRS - UPMC, Paris, France; 2) UMR7205 - OSEB, Systematic and Evolution, MNHN - CNRS, Paris France.

879B
Cosuppression of *Adh* gene in *Drosophila melanogaster* by insertion of inducible transgene follows typical RNAi pathway. **Debabani Roy Chowdhury**, Utpal Bhadra. Functional Genomics, Centre for Cellular and Molecular Biology, Hyderabad, Andhra Pradesh, India.

880C
Digitor, an Essential Protein with Homology to Mammalian ATMIN is Involved in Brain Development and Oxidative Stress Pathways in Drosophila. **Saheli Sengupta**, Changfu Yao, Uttama Rath, Jack Girton, Jorgen Johansen, Kristen Johansen. Biochemistry, Biophysics & Molecular Biology, Iowa State University, Ames, IA.

POSTER SESSIONS

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RNA Biology

881A
A microRNA minimizes the phenotypic impact of genomic diversity. **Justin Cassidy**[1], Aashish Jha[2], Diana Posadas[1], Ritika Giri[1], Koen Venken[3,4], Jingran Ji[1], Hongmei Jiang[5], Hugo Bellen[3,4], Kevin White[2], Richard Carthew[1]. 1) Molecular Biosciences, Northwestern University, Chicago, IL; 2) Institute for Genomics and Systems Biology, Departments of Human Genetics and Ecology and Evolution, University of Chicago, Chicago, IL; 3) Department of Molecular and Human Genetics, Howard Hughes Medical Institute, Program in Developmental Biology, Baylor College of Medicine, Houston, TX; 4) Verna and Marrs McLean Department of Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX; 5) Department of Statistics, Northwestern University, Evanston, IL.

882B
piRNA-mediated repression during female germline development. **Pauline Marie**, Stéphane Ronsseray, Antoine Boivin. Developmental Biology Laboratory, IBPS, CNRS, Universite Pierre et Marie Curie, Paris, France.

883C
Subtelomeric regions and transposable element repression in *D. melanogaster*. **Laure Teysset**, Amna Asif-Laidin, Stephane Ronsseray. Developmental Biology Laboratory, IBPS, CNRS, Universite Pierre et Marie, Paris, France.

884A
Dynamic turnover of transposable elements in the *Drosophila simulans* clade supports an evolutionary arms race with the host silencing machinery. **Jeffrey Vedanayagam**, Daniel Garrigan. Department of Biology, University of Rochester, Rochester, NY.

885B
Tagging the iab-8ncRNA of the bithorax complex with mCherry. **Yohan El bali**, Dragan Gligorov, Robert Maeda, François Karch. Dept of Genetic and Evolution University of Geneva, Switzerland.

886C
Lobe-less RNA is a new member of Polycomb group genes and essential for mushroom body morphogenesis in *Drosophila*. **Sachi Inagaki**[1], Masanao Sato[3,4], Natsuki Nakamura[2], Satoru Kobayashi[3,4], Yuji Kageyama[1,2]. 1) Research Center for Environmental Genomics ,Kobe University, Kobe, Japan; 2) Department of Biology, Graduate School of Science, Kobe University, Kobe, Japan; 3) Okazaki Institute for Integrative Bioscience, Okazaki, Japan; 4) National Institute for Basic Biology, National Institutes of Natural Sciences, Okazaki, Japan.

887A
Role of specialized ribonucleoprotein granules in germline development in Drosophila. **Alexey L. Arkov**[1], Ming Gao[1], Travis C. Thomson[2], T. Michael Creed[1], Shikui Tu[3], Sudan N. Loganathan[1], Christina A. Jackson[1], Nhan Huynh[1], Jimiao Zheng[1], Patrick McCluskey[1], Yanyan Lin[1], Scott E. Collier[5], Jarred Koerner[1], Zachary Ryne[1], Zhiping Weng[3], Paul Lasko[4], Melanie D. Ohi[5]. 1) Department of Biological Sciences, Murray State University, Murray, KY; 2) Program in Molecular Medicine, University of Massachusetts Medical School, Worcester, MA; 3) Program in Bioinformatics and Integrative Biology, University of Massachusetts Medical School, Worcester, MA; 4) Department of Biology, McGill University, Montreal, Canada; 5) Department of Cell and Developmental Biology, Vanderbilt University School of Medicine, Nashville, TN.

888B
Temporal and spatial control of the Smaug RNA binding protein in the early embryo. **Wendy Cao**[1], Alexander Marsolais[2], Matthew Cheng[2], Najeeb Siddiqui[1], Craig Smibert[1,2], Howard Lipshitz[1]. 1) Molecular Genetics, University of Toronto, Toronto, Ontario, Canada; 2) Biochemistry, University of Toronto, Toronto, Ontario, Canada.

889C
Extensive cross-regulation of post-transcriptional regulatory networks in *Drosophila*. **Marcus Stoiber**[1,2], Sara Olson[3], Gemma May[3], Michael Duff[3], Jan Manent[4], Robert Obar[4], K. G. Guruharsha[4,5], Spyros Artavanis-Tsakonas[4,5], James Brown[2,6], Brenton Graveley[3], Susan Celniker[2]. 1) Department of Biostatistics, UC Berkeley, Berkeley, CA; 2) Department of Genome Dynamics, Lawrence Berkeley National Laboratory, Berkeley, CA; 3) Department of Genetics and Developmental Biology, Institute for Systems Genomics, University of Connecticut Health Center, Farmington, CT; 4) Department of Cell Biology, Harvard Medical School, Boston, MA; 5) Biogen Idec Inc, 14 Cambridge Center, Cambridge, MA 02142 USA; 6) Department of Statistics, University of California Berkeley

890A
The RNA interactome of early Drosophila embryo. **Vasily Sysoev**, Bernd Fischer, Christian Frese, Sophia Föhr, Alfredo Castello, Matthias Hentze, Jeroen Krijgsveld. European Molecular Biology Laboratory, Heidelberg, Germany.

891B
Isoform-specific function of Squid in *bicoid* mRNA localization. **Evan Abbaszadeh**, Elizabeth Gavis. Department of Molecular Biology, Princeton University, Princeton, NJ.

892C
Independent and coordinate trafficking of single germ plasm mRNAs. **Shawn Little**[1,2], Kristina Sinsimer[1], Jack Lee[1], Eric Wieschaus[1,2], Elizabeth Gavis[1]. 1) Department of Molecular Biology, Princeton University, Princeton, NJ; 2) Howard Hughes Medical Institute.

893A
Location, Location: whole genome study of subcellular RNA localization beyond the early *Drosophila* embryo. **Ronit Wilk**[1,2], Jack Hu[1], Henry Krause[1,2]. 1) The Terrence Donnelly Centre for Cellular and Bimolecular Research, University of Toronto, Toronto, ON, Canada; 2) Department of Molecular Genetics, University of Toronto, Toronto, ON, Canada.

894B
Decreased expression of SR proteins alters lipid droplet morphology and triglyceride levels in Drosophila larvae. **Leelabati Biswas**[1], Spencer Ng[1], Bijal Kakrecha[2], Alexis Nagengast[1]. 1) Biochemistry, Widener University, Chester, PA; 2) Biology, Widener University, Chester, PA.

895C
Using a histone replacement system to define co-transcriptional interactions between histone modifications and elongating RNA. **Michael P. Meers**[1], A. Gregory Matera[2]. 1) Curriculum in Genetics and Molecular Biology; 2) Department of Biology, The University of North Carolina at Chapel Hill, Chapel Hill, NC.

896A
The exon junction complex facilitates pre-mRNA splicing via modulation of transcription elongation. J. Akhtar[1], N. Kreim[1], F. Martini[2], G. Mohana[1], J. Mazur[2], H. Binder[2], **JY Roignant**[1]. 1) Institute of Molecular Biology, Mainz, Germany; 2) Institute for Medicine Biometrie, Epidemiologie and Informatic (IMBEI), Mainz, Germany.

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897B
Tet, the 5-methylcytosine Oxidase, is Essential in Drosophila. **F. Wang**, S. Minakhina, R. Steward. Waksman Institute, Piscataway, NJ.

898C
The level of nuclear 80S ribosomes increases during cell stress. **A. Abdullahi**, S. Brogna. Bioscience, University of Birmingham, Birmingham, Birmingham, W. Midlands, United Kingdom.

899A
Translational regulation of the grk mRNA during Drosophila oogenesis. **Ramses Rodriguez**[1], Jacob Merle[1], Philip Frankino[1], Danielle Hindes[1], Malachi Blundon[1], Maya Mills[1], Matthew Fountain[1,2], Scott Ferguson[1]. 1) Department of Biology, SUNY Fredonia, Fredonia, NY; 2) Department of Chemistry, SUNY Fredonia, Fredonia, NY.

900B
Long noncoding RNA-Proteins interaction module initiates heterochromain. **Indira Bag**[1], Manika Pal Bhadra[2], Utpal Bhadra[1]. 1) Centre for Cellular & Molecular Biology, Uppal Road, Hyderabad 500007, INDA; 2) Centre for Chemical Biology, Indian Institute of Chemical Technology, Uppal Road, Hyderabad 500007, India.

901C
Genome editing in *Drosophila* to reconstruct the evolutionary change in the transcriptional control and processing of RNase P RNA, an essential ribozyme. **Geeta Palsule**[1], Sathiya Manivannan[1], Lien Lai[2], Venkat Gopalan[1,2], Amanda Simcox[1]. 1) Molecular Genetics, The Ohio State University, Columbus, OH; 2) The Department of Chemistry and Biochemistry, The Ohio State University,Columbus, OH.

Techniques and Resources

902A
On a wing and a chip - microfluidics for whole organ studies in *Drosophila* development. **Cody Narciso**[1], Thomas Storey[2], David Hoelzle[2], Jeremiah Zartman[1]. 1) Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, IN; 2) Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, IN.

903B
A rationally designed fluorogenic protease reporter visualizes spatiotemporal dynamics of apoptosis *in vivo*. **Xiaokun Shu**, Tsz-Leung To, Beverly Piggott, Yuh-Nung Jan. Pharmaceutical Chemistry, UCSF, San Francisco, CA.

904C
High-throughput analysis of RNAi knockdown efficiency and off-target effects. **Hangnoh Lee**[1], Michael Buckner[2], Quentin Gilly[2], Haiwang Yang[1], Hina Sultana[1], Cale Whitworth[1], Maria Jaime[1], Satish Kumar[1], Harold Smith[1], Yanhui Hu[2], Stephanie Mohr[2], Norbert Perrimon[2], Brian Oliver[1]. 1) Laboratory of Cellular and Developmental Biology, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD 20892, USA; 2) Drosophila RNAi Screening Center, Department of Genetics, Harvard Medical School, Boston, MA 02115, USA.

905A
The Transgenic RNAi Project: Reagents, Tools & Validation. **Liz Perkins**[1], Claire Hu[1], Laura Holderbaum[1], J.-Q. Ni[2], Shu Kondo[3], Stephanie Mohr[1], Norbert Perrimon[1]. 1) DRSC & TRiP, Harvard Medical School, Boston, MA; 2) TsingHua Univ, China; 3) NIG, Japan.

906B
CRISPR/Cas9 mediates efficient conditional mutagenesis in *Drosophila*. Zhaoyu Xue, Menghua Wu, Kejia Wen, Mengda Ren, Li Long, Xuedi Zhang, **Guanjun Gao**. School of Life Sciences, Tsinghua University, Beijing, Beijing, China.

907C
Toward a Complete Set of Germline Null and Modifiable Mutations in *Drosophila*. **Graeme Mardon**, Ming Fa, Min Li, Rui Chen. GenetiVision Corporation, Houston, TX.

908A
Anchoring proteins away: a fast and regulated method to deplete proteins in the cell. **Pablo Sánchez Bosch**, Julia Pepperl, Konrad Basler. University of Zürich, Zürich, Switzerland.

909B
Chemical control of gene expression in *Drosophila melanogaster*. **Sachin Sethi**, Jing W. Wang. Neurobiology Section, Div of Biological Sciences, Univ of California, San Diego

910C
To Apply the CRISPR/Cas9 System in Drosophila. **Jin Sun**[1], Xingjie Ren[1], Zhihao Yang[1], Jiang Xu[1,2], Lu-Ping Liu[1,2], Jian-Quan Ni[1]. 1) School of Medicine, Tsinghua University, Beijing, China; 2) Tsinghua Fly Center, Tsinghua University, Beijing, China.

911A
Application of CRISPR/Cas9 system and efficient mutants screening in *Drosophila* species. J.-S. Chen, **C.-T. Ting**. Dept Life Sci, National Taiwan Univ, Taipei, Taiwan, ROC.

912B
Fly Facility: A resource to facilitate modern molecular genetics in *Drosophila*. **Deepti Trivedi**. Fly Facility, Centre for Cellular and Molecular Platforms, Bangalore, India.

913C
CoinFLP: A system for efficient mosaic screening and for visualizing clonal boundaries in *Drosophila*. **Justin A. Bosch**, Ngoc Han Tran, Iswar K. Hariharan. Molecular and Cell Biology, University of California - Berkeley, Berkeley, CA.

914A
Resource Development for Investigation of Chromatin Modifying Proteins. **Benjamin B. Mills**. Biology Dept., University of Alabama at Birmingham, Birmingham, AL.

915B
QuantiFly 4D: Learning to Count in 4 Dimensions. **Richard M. Parton**[1], Dominic Waithe[2], Lu Yang[1], Ilan Davis[1]. 1) Biochemistry Dept., University of Oxford, Oxford, United Kingdom; 2) Wolfson Imaging Centre, University of Oxford, Oxford, United Kingdom.

916C
Creation of a *Drosophila* ORFeome library. Johannes Bischof[2], **Emma Sheils**[1], Mikael Björklund[1], Konrad Basler[2]. 1) University of Dundee, Dundee, United Kingdom; 2) Institute of Molecular Life Sciences, University of Zurich, Zürich, Switzerland.

917A
Towards an automated experimental platform for *Drosophila melanogaster*. Matt Zucker[1], **Dave Zucker**[2]. 1) Swarthmore College, Swarthmore, PA; 2) FlySorter LLC, Cambridge, MA.

918B
An LD-based approach for increasing coverage in pooled sequence experiments without additional cost. **Hussein Al-Asadi**, Matthew Stephens. University of Chicago

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919C
A deep learning based universal representation for *Drosophila* Embryos Image Annotation. **Qian Sun**[1], Wenlu Zhang[2], Rongjian Li[2], Sudhir Kumar[3,4], Jieping Ye[1], Shuiwang Ji[2]. 1) School of Computing, Informatics, and Decision Systems, Arizona State University, Tempe, AZ.Biodesign Institute, Arizona State University, Tempe, AZ; 2) Department of Computer Science, Old Dominion, Norfolk, VA; 3) Institute for Genomics and Evolutionary Medicine, Temple University, Philadelphia, PA; 4) Center of Excellence in Genomic Medicine Research, King Abdulaziz University, Jeddah, Saudi Arabia.

920A
FlyBase: A new and improved website coming to a browser near you. **Josh Goodman**, Victor Strelets, Jim Thurmond, Gary Grumbling, Thomas Kaufman. FlyBase, Department of Biology, Indiana University, Bloomington, IN, USA.

921B
DRSC Informatics Tools for Functional Genomics Studies. **C. Hu**, I. Flockhart, C. Roesel, A. Vinayagam, B. Yilmazel, A. Comjean, L. Perkins, N. Perrimon, S. Mohr. Genetics, Harvard Medical School, Boston, MA.

922C
Gene Groups in FlyBase. **Steven Marygold**, Helen Attrill, FlyBase consortium. FlyBase, Dept. of Genetics, University of Cambridge, Cambridge, United Kingdom.

923A
UAS-driven Cerulean and Venus hybrid reporters provide calibration standards for FRET analysis in *Drosophila* tissues. **K. Mecklenburg**[1], H. Xia[2], S. Freed[3], J. E. O'Tousa[3], D. F. Ready[4]. 1) Indiana Univ. South Bend, IN; 2) Weill Cornell Med. Coll., NY; 3) Univ. of Notre Dame, IN; 4) Purdue Univ., IN.

924B
Targeted insertions in *Drosophila* cell lines using φC31 integrase. **Lucy Cherbas**[1], Jennifer Hackney[1,2], Lei Gong[1,3], Claire Salzer[1], Eric Mauser[1], Dayu Zhang[1], Peter Cherbas[1]. 1) Dept Biol and Drosophila Genomics Resource Center, Indiana Univ, Bloomington, IN; 2) School of Math and Nat Sci, New College, Arizona State Univ, Phoenix, AR; 3) Hangzhou School of Agr and Food Sci, Zhejiang Agr. and Forestry Univ, Zhejiang Lin'an, Hangzhou, China.

925C
A comprehensive and precise genome duplication kit in *Drosophila*. **Ming Fa**, Min Li, Rui Chen, Graeme Mardon. GenetiVision Corporation, Houston, TX.

926A
An *in vivo* reporter system to trace aged cells in *Drosophila*. **Xingchen Liu**[1], Lei Liu[1,2]. 1) State Key Laboratory of Biomembrane and Membrane Biotechnology, School of Life Sciences, Peking University, Beijing 100871, China; 2) Beijing Institute for Brain Disorder and Beijing Tiantan Hospital, Capital Medical University, Beijing 100069, China.

927B
BioTapestry: Modeling Gene Regulatory Networks for Development. Suzanne Paquette, Kalle Leinonen, **William Longabaugh**. Institute for Systems Biology, Seattle, WA.

928C
Manipulation of Gene Expression by Infrared Laser Heat Shock and Its Application to the Study of Tracheal Development in *Drosophila*. **Guangxia Miao**[1,2], Shigeo Hayashi[1,2]. 1) Laboratory for Morphogenetic Signaling, RIKEN Center for Developmental Biology, 2-2-3 Minatojima-minamimachi, Chuo-ku, Kobe, Hyogo, 650-0047, Japan; 2) Department of Biology, Kobe University Graduate School of Science, 1-1 Rokkodai-cho, Nada-ku, Kobe, Hyogo, 657-8051, Japan.

929A
New stocks at the Bloomington Drosophila Stock Center. **Annette L. Parks**, Kevin R. Cook, Thom C. Kaufman, Kathy A. Matthews. Bloomington Drosophila Stock Center, Dept. of Biology, Indiana University, Bloomington, IN.

Educational Initiatives

930B
Evidence-Based Inquiry Into the Remote: Using *Drosophila's* Phenoloxidase to Open the Door to Research-Based Experiences in a High School Classroom. **Rebecca Steiger**[1], Nicole Green[2], Erika Geisbrecht[2], Carolyn Ferguson[3]. 1) Junction City High School, Geary Co. USD 475, Junction City, KS; 2) Bioch. & Mol. Biophysics Dept., Kansas State University, Manhattan, KS; 3) Biology Dept., Kansas State University, Manhattan, KS.

931C
The Council on Undergraduate Research- a resource for future faculty to integrate research and educational activities. **Joyce Fernandes**. Biology Dept, Miami Univ, Oxford, OH.

932A
An Undergraduate Course Combining Authentic Research and Scientific Writing. **Sarah E. Hynek**, Tomer Avidor-Reiss. Biological Sciences, University of Toledo, Toledo, OH.

933B
An Inquiry Based Genetics Laboratory Utilizing Randomly Mating Populations of *Drosophila melanogaster*. **M. Kimble**, A. Schirmer, T. Campbell. Dept of Biology, Northeastern Illinois University, Chicago, IL.

934C
The Genomics Education Partnership: Assessing and improving a research-based genomics project for undergraduates. **D. W. Paetkau**[1], J. Braverman[2], M. Burg[3], J. DiAngelo[4], C. Jones[5], K. Jones[6], L. Kadlec[7], N. Kokan[8], M. Manier[9], A. Nagengast[10], J. Sanford[11], K. Saville[12], C. Small[13], R. Spokony[14], J. Stamm[15], C. Ting[16], M. Wawersik[17], L. Zhou[18], W. Leung[19], C. D. Shaffer[19], S.C.R. Elgin[19]. 1) Saint Mary's Col (IN); 2) St. Joseph U; 3) Grand Valley St U; 4) Hofstra U; 5) Moravian Col; 6) Huntingdon Col; 7) Wilkes U; 8) Cardinal Stritch U; 9) George Washington U; 10) Widener U; 11) Ohio Northern U; 12) Albion Col; 13) Medgar Evers Col; 14) Baruch Col; 15) U Evansville; 16) National Taiwan U; 17) Col of William and Mary; 18) U Pittsburgh; 19) Washington U at St. Louis.

SPEAKER AND AUTHOR INDEX

This index includes names and speakers for the Opening General Session and for Plenary Sessions I and II, and names of all authors of programmed abstracts. The number following the author's name refers to the abstract program number. A, B, or C following a number indicates a poster presentation. The presenting author of an abstract is noted with an asterisk. Please note that the complete abstracts are available at http://www.genetics-gsa.org/drosophila/2015/pages/abstracts.shtml

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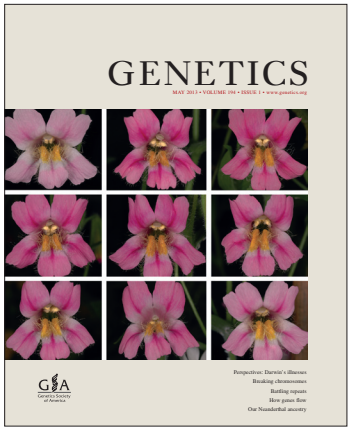

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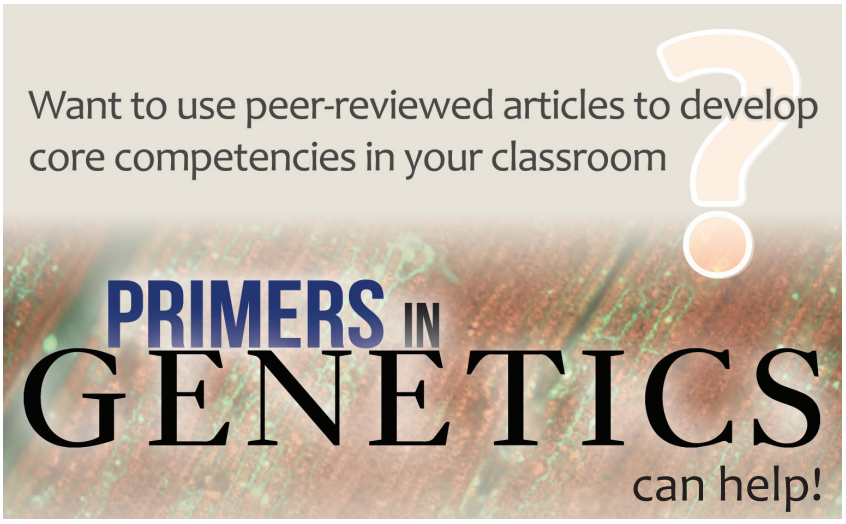

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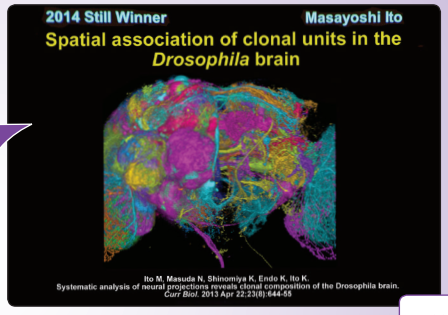

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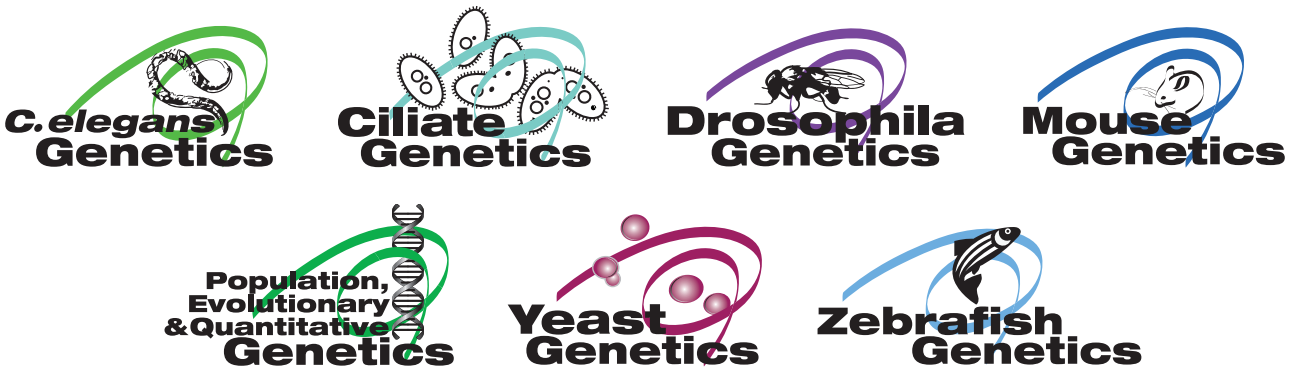

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