TAGC24

BRINGING GENETICS TOGETHER

The Allied Genetics Conference 2024

March 6–10, 2024

Program Book

GSA

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Genetics Society of America

GSA is an international scientific society representing more than 5,000 researchers and educators around the world. As well as connecting researchers through conferences and career programs, we publish two peer-edited scholarly journals, GENETICS and G3: Genes|Genomes|Genetics. We encourage you to join GSA so you can make use of exclusive member benefits and get involved in the Society's many programs, including professional development training, awards, advocacy, and more. Join us as we work to advance the field and serve our community. Visit genetics-gsa.org for more information.

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GENETICS has been innovating since 1916, publishing high quality original research across the breadth of the field.

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The Allied Program Committee would like to thank the following community committees for their help:

C. elegans

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Erin Cram, *Northeastern University*

Michelle Mondoux, *College of the Holy Cross*

Aakanksha Singhvi, *Fred Hutchinson Cancer Center*

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Sally Horne-Badovinac, *University of Chicago*

General Information

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Conference App

In-person participants: Download the GSA Meetings app to your smartphone (available on both iOS and Android platforms) to have meeting information at your fingertips. Once you download the App, you will not need an internet connection to access previously downloaded information. You will only need an internet connection to download updates. Those who cannot download to their mobile devices can access the App through the web desktop version: https://genetics-gsa.org/tagc-2024/program-planner.

Virtual participants: Virtual attendees will use the App to see live streams of the keynote sessions and view recordings of the concurrent sessions and poster uploads. Sign in to the App using your registration badge ID number and last name. The App is available in two formats: Desktop (for desktop and laptop computers) or Mobile (for Apple iOS and Android mobile devices).

You can find your registration badge ID in your conference registration confirmation email, which was sent from GSA Conferences or NoReply@events.cdsreg.com.

Registration, Badges, and Pre-ordered T-shirts

Registrants were emailed their badge to print at home. Show your pre-printed badge to the registrar to collect your badge holder and lanyard. The Registration Desk will be open in the Convention Center Lobby on the Ballroom Level during the following hours:

Wednesday, March 6	12:00 p.m.–9:00 p.m.
Thursday, March 7	7:30 a.m.–5:00 p.m.
Friday, March 8	7:30 a.m.–4:30 p.m.
Saturday, March 9	7:45 a.m.–1:00 p.m.

For admission to all sessions, posters, the Exhibit Hall (Prince George's Exhibition Hall), and mixers, attendees must be wearing their badge. Security will not allow individuals without them to enter the Exhibit Hall. If you lose your badge, you may request a replacement at the Registration Desk.

If you ordered a T-shirt in advance, you can pick it up at the Registration Desk beginning Thursday, March 7 during registration hours. A limited quantity will be available for purchase at this location.

Oral Presenters: Speaker Ready Room—Camellia 4

If you are giving an oral presentation (except in a workshop), you must load and check your presentation in the Speaker Ready Room the **day before** the start of your session. The room is located in Camellia 4 and will be open during the following hours:

Wednesday, March 6	1:00 p.m.–5:00 p.m.
Thursday, March 7	7:00 a.m.–4:00 p.m.
Friday, March 8	7:00 a.m.–4:00 p.m.
Saturday, March 9	7:00 a.m.–4:00 p.m.

NOTE: Presentations cannot be uploaded in the meeting room; you must check in at the Speaker Ready Room. Workshop speakers should coordinate directly with the workshop organizers and should not upload their talks in the Speaker Ready Room.

Poster Presenters

All posters and exhibits will be in the Prince George's Exhibition Hall. The hall will be open between the hours of 7:00 a.m. and 11:00 p.m., Thursday through Saturday for poster viewing. See schedule below for times when authors will be presenting their poster. All posters will be displayed throughout the conference. Security will be posted at the entrance to the hall, and only individuals with a TAGC badge will be admitted.

Poster Presentation Schedule:

Thursday, March 7	7:30 p.m.–8:30 p.m. 8:30 p.m.–9:30 p.m. 9:30 p.m.–10:00 p.m.	"T" even numbered posters "T" odd numbered posters Open viewing of all posters
Friday, March 8	8:30 p.m.–9:30 p.m. 9:30 p.m.–10:30 p.m.	"F" even numbered posters "F" odd numbered posters
Saturday, March 9	8:00 p.m.–9:00 p.m. 9:00 p.m.–10:00 p.m.	"S" even numbered posters "S" odd numbered posters

All posters must be removed from poster boards at **10:00 p.m. on Saturday, March 9**. After that time, remaining posters will be removed and recycled. Posters may only be removed by their own authors. Posters that are not collected may not be taken by someone who is not an author on that poster.

Exhibits

Visit the Exhibit Hall to see the latest technology, hear presentations at the Discovery Stage, and meet with exhibitors and GSA editors. Be sure to visit all of the companies who have come to support your science and show you how they can help advance your research. You can renew current relationships or meet potential future suppliers. The chart below shows the hours and activities in the Exhibit Hall. In addition to the listed events, throughout the exhibit hours there will be a Creative Corner for attendees to network in a relaxed environment and Bingo for the attendees and exhibitors to encourage interaction.

Wednesday, March 6	8:45 p.m.–10:00 p.m. Opening Mixer 9:00 p.m. - 10:00 p.m. Speed Networking
Thursday, March 7	12:30 p.m.–2:00 p.m. Exhibits Open 12:30 p.m.–1:30 p.m. Pre-purchased lunches 12:45 p.m.–1:05 p.m. Discovery Stage, Guidance for writing a title, abstract and cover letter, GSA Journals 12:45 p.m.–1:45 p.m. Networking Hotspots - Primarily Undergraduate Institution Topics 12:45 p.m.–1:45 p.m. It takes Two Networking 1:15 p.m.–1:35 p.m. Discovery Stage, HCR™ RNA-FISH: The benchmark in multiplexed, quantitative, high-resolution RNA imaging, Molecular Instruments 6:15 p.m.–10:15 p.m. Exhibits Open 6:30 p.m.–7:30 p.m. Meet the Speakers 6:30 p.m.–7:30 p.m. Networking Hotspots - Education and PALM 7:30 p.m.–10:00 p.m. Poster Presentations 7:30 p.m.–9:00 p.m. Complimentary Professional Headshots (pre-reg required)
Friday, March 8	12:30 p.m.–2:00 p.m. Exhibits Open 12:30 p.m.–1:30 p.m. Pre-purchased lunches 12:45 p.m.–1:45 p.m. Networking Hotspots - PGED Building an Inclusive Genetics Future 6:30 p.m.–10:30 p.m. Exhibits Open 6:30 p.m.–7:30 p.m. Meet the Speakers 6:30 p.m.–7:30 p.m. Networking Hotspots - Education and PALM 8:00 p.m. –8:20 p.m. Discovery Stage, Why Publish, GSA Journals 8:30 p.m. –10:30 p.m. Poster Presentations 8:30 p.m. –9:30 p.m. Complimentary Professional Headshots (pre-reg required)
Saturday, March 9	12:30 p.m.–2:00 p.m. Exhibits Open 12:30 p.m.–1:30 p.m. Pre-purchased lunches 12:45 p.m.–1:05 p.m. Discovery Stage, Communicating your science to a general audience; SciComm, GSA Journals 12:45 p.m.–1:45 p.m. Networking Hotspots - Scientific Topics 12:45 p.m.–1:45 p.m Meet the Speakers 6:15 p.m.–10:15 p.m. Exhibits Open 6:30 p.m.–7:30 p.m Networking Hotspots - Cultural Topics 8:00 p.m.–10:00 p.m. Poster Presentations 8:00 p.m.–9:00 p.m. Complimentary Professional Headshots (pre-reg required)

GSA Central - Booth 520

Stop by GSA Central in the Prince George's Exhibition Hall to meet the Journals staff and editors and let us know how the Society can better serve you. Learn about GSA programs and resources to help you grow and excel in your career. You can also sign up to meet one-on-one with an editor from GENETICS or G3.

Badge ribbons are available at GSA Central, including Job Seeker, Hiring, GENETICS Author, and G3 Author ribbons.

Wi-Fi Access

Complimentary Wi-Fi is available at the Gaylord National Harbor in guest rooms, public spaces, and the lobby. When in the meeting space, use the Conferences network. The username and password are **GSATAGC24**.

Community Hubs

Each of the eight official TAGC 2024 communities will have a “Community Hub” area where you can charge your phone, take a break, and catch up with colleagues. You’ll see a community banner outside of the room where community sessions will be held. There will also be designated space in the Exhibit Hall.

Meditation Room (Chesapeake J–K)

This room is open to conference participants as a quiet place to meditate or pray. The room will be open to all conference attendees from 7:30 a.m. until 10:00 p.m., Thursday through Saturday.

Quiet Room (Chesapeake L, Chesapeake 10)

These rooms are for those who need a break. The rooms will be open to all conference attendees from 7:30 a.m. until 10:00 p.m., Thursday through Saturday.

Informational Interview Room (Chesapeake 11, Chesapeake 12)

These rooms can be used on a first-come, first-served basis for anyone who would like to meet with a potential candidate or employer. The room will be open to all conference attendees from 7:30 a.m. until 10:00 p.m., Wednesday through Saturday.

Creative Corner

GSA will provide craft supplies for attendees to connect in a relaxed atmosphere. Various supplies will be available to use in the Exhibit Hall and Cherry Blossom foyer.

Career Stage Lounges

Connect with others at a similar place in your career. The following rooms will be available for you to get together with colleagues from Thursday at 7:00 a.m. through Saturday at 2:00 p.m. Purchase something to eat at the Market and meet up with friends for a meal.

Undergraduate Student Lounge—RiverView 4–5

Graduate Student Lounge—RiverView 1–2

Postdoc Lounge—Eastern Shore 2

Faculty Lounge—Eastern Shore 1

Professional Headshot Photographer

TAGC 2024 conference attendees will have the opportunity to have professional headshots taken during poster and exhibit sessions. The photographer will be located in booth 425, right across from GSA Central.

Security/Lost and Found

For all emergencies and lost and found items contact the Gaylord Resort National Harbor Security by dialing 0 from any house phone. You can also request assistance at the conference Registration Desk.

Meals

Meals are not included in the conference registration fee unless you purchased the lunch package in advance. Those who purchased the lunch package in advance will pick up their meal in the Exhibit Hall and will be able to dine at the tables provided or take their meal to-go to another location (such as one of the career stage lounges). If you are participating in the Community, Connections, and Mentorship event on Thursday, your meal will be available in the meeting room. The hotel has a variety of restaurants including a grab and go market in the lower atrium. There are also dozens of restaurants within walking distance of the hotel where you can grab a quick bite or enjoy a meal. The hotel concierge, located in the hotel lobby, can help you find something that fits your preferences.

Parking

Discounted self-parking ($20 per day) is available for conference attendees. If you are staying at the hotel, please notify the front desk that you have a car when you check in. Guests of the hotel will have in-and-out privileges, meaning you can leave and return to the parking garage as much as you like. If you are attending the meeting but not staying at the hotel, the discounted rate is only valid for one exit from the parking garage. So if you leave and come back on the same day, you will have to pay an additional fee.

If you are not staying at the hotel, please visit the parking desk in the Woodrow Wilson Ballroom Foyer to pay for your parking at the discounted rate. Vouchers will only be available at this parking desk and during the following hours:

Wednesday, 12:00 noon–7:00 p.m.

Thursday, 12:00 noon–5:00 p.m.

Friday, 12:00 noon–5:00 p.m.

Saturday, 12:00 noon–5:00 p.m.

Sunday, 8:00 a.m.–1:00 p.m.

National Harbor Shuttle Bus

The National Harbor Circulator Bus will take hotel guests to locations around National Harbor including the Tanger Outlets between the hours of 11:00 a.m. and midnight. The shuttle picks up at the Woodrow Wilson bus loop at the conference hotel (across from the parking garage). There is no cost for the shuttle for those staying at the hotel, but you will need to show your room key. The bus leaves every half hour on the hour.

Nursing Rooms

Nursing Rooms are available in two locations:

- On the ballroom level (Potomac Ballroom Green Room)
- On the exhibits and poster level (outside of the Prince George's Exhibition Hall)

The rooms will be open from 7:30 a.m. until 10:00 p.m., Thursday through Saturday, and 7:30 a.m. to 12:00 noon on Sunday. Each room can accommodate multiple people and will provide seating, outlets, a refrigerator, sanitizing wipes, and hand sanitizer. The rooms will be near bathrooms for access to sinks.

Space will be available in each room for storing pumping equipment, bottles, etc.; however, the room will not be secured, so any items left behind are at your discretion. All items must be removed from the nursing rooms at the end of each day and by Sunday, March 10, 2024, at noon.

Attendees who are guests at the Gaylord National Resort may take labeled breast milk to the front desk to be stored in a freezer.

Childcare/Camp GSA

For those who have signed up in advance, childcare is located in the Magnolia Room. For more information, please contact registration@accentoca.com.

Guidelines for Children at TAGC 2024

TAGC 2024 welcomes attendees with children! Children are allowed in keynote, concurrent, and poster sessions; this includes babywearing of young children.

To ensure the safety of all children in attendance and to create a productive and fulfilling meeting atmosphere for all attendees, we ask all parents and caregivers to abide by the following guidelines:

- Children must be supervised by an adult in all meeting areas.
- Parents and caregivers should do their best to ensure that children are not disruptive to any sessions they attend (including poster sessions). Large sessions will have seating at the back of the room reserved for attendees with children to allow for easy access in and out of the room. These seats will be clearly marked.
- For safety reasons, children are not allowed in the Prince George's Exhibition Hall all during set-up or break-down times.

Conference Policies

Health & Safety Policy

Masks are recommended while in the meeting space; masks will be available for attendees at the Registration Desk. As a precaution, GSA recommends all attendees take a rapid antigen test within 24 hours before departing for the conference and to stay home if they test positive.

Code of Conduct

This Code of Conduct covers in-person conferences, online conferences, and other online events hosted by the Genetics Society of America. GSA conferences include keynote presentations, concurrent sessions, live poster Q&A, workshops, and Q&A via Zoom chat.

GSA Conferences foster an international community of geneticists and provide an opportunity to discuss scientific advances and form new collaborations.

GSA values your attendance and wants to make your experience productive and inspiring by fostering an open exchange of ideas in a professional setting. Our Code of Conduct was established to communicate a transparent set of standards and guidelines for acceptable behavior at GSA Conferences and to provide a positive, safe, and welcoming environment for all attendees, vendors, volunteers, and staff.

All conference participants (regardless of their role) are expected to follow the Code of Conduct while attending any portion of the conference, including but not limited to keynote presentations, concurrent sessions, live poster Q&A sessions, and workshops. Because there is also a virtual nature to the conference, our Code of Conduct extends to communications related to the meeting and its attendees, presenters, exhibitors, sponsors, staff, and vendors. These types of communications include Zoom chat, Zoom Q&A window, live poster Q&A, email, social media, and texts.

Unacceptable Behaviors

Unacceptable behaviors include, but are not limited to:

- Intimidating, harassing, abusive, discriminatory, derogatory, or demeaning speech or actions by any participant and at all related events
- Harmful or prejudicial verbal or written comments or visual images related to gender, gender expression, gender identity, marital status, sexual orientation, race, religion, political orientation, socioeconomic standing, disability or ability status, or other personal characteristics, including those protected by law
- Inappropriate use of nudity and/or sexual images (including presentation slides, posters, Slack channels, or Zoom chat)
- Deliberate intimidation or stalking
- Violating the rules and regulations of the online provider, Zoom
- Sustained disruption of scientific sessions or other events
- Unwelcome and uninvited attention or contact
- Real or implied threat of physical harm
- Real or implied threat of professional or financial damage or harm
- Photographing or reproducing slides of oral presentations and posters without permission
- Recording of scientific and other sessions without permission

Taking Action Or Making a Report

To confidentially report a Code of Conduct violation or to file a complaint, including a complaint about a GSA volunteer or GSA staff member, please visit genetics-gsa.ethicspoint.com. To contact our Ethics Committee directly, please email E. Jane Hubbard, Chair, at jane.hubbard@nyulangone.org. GSA staff is available to assist participants in making a report. Please email Tracey DePellegrin, GSA Executive Director, at tracey.depellegrin@genetics-gsa.org.

Consequences of Non-compliance

Anyone asked by GSA staff, Organizer, Session Chair, Workshop Leader, Moderator, Presenter, or Zoom representative to stop unacceptable behavior is expected to comply immediately. Retaliation toward GSA or toward someone reporting an incident or after experiencing any of the following consequences will not be tolerated and may result in additional sanctions.

The consequences of non-compliance with GSA's Code of Conduct may include:

- Immediate removal from in-person meeting
- Immediate removal from accessing the online meeting
- Immediate removal from Slack channels and the meeting app without warning
- Restrictions from future GSA meeting attendance
- Termination of GSA membership or positions on GSA Boards or Committees
- Incidents may be reported to the proper authorities

Accessibility

GSA is committed to assisting attendees with special needs. If you have accessibility questions or requests please email gsaconferences@genetics-gsa.org. If you have difficulty walking long distances, consider renting a scooter from Scoot Around. They will deliver your scooter to your hotel and pick it up when you no longer need it. For more details, visit www.scootaround.com or call (888) 441-7575.

Diversity and Inclusion

GSA is committed to foregrounding equity, accessibility, and inclusion alongside scientific content, education, and professional development at each step of conference planning. We seek to create opportunities for all individuals to fulfill their scientific potential, regardless of their background, identity, or circumstances.

A commitment to inclusion leads to innovation by attracting the widest possible talent to the community and fostering greater diversity of ideas, approaches, and perspectives. The Allied Program Committee and the Community Organizers aim to select speakers and session chairs that represent the breadth and diversity of the discipline and conference participants. GSA especially encourages the Committee and Organizers to select excellent speakers from groups that have been historically excluded or marginalized in science.

Social Media/Photo/Video Policy

Live posting of presentations on social media is allowed unless the speaker explicitly opts out by stating so at the start of their talk. Taking or sharing photos or videos of posters is permitted only with the presenter's consent during the assigned poster session. Taking photos of posters while the presenter is not present is strictly prohibited. By attending a GSA conference, you grant GSA the right to use your photograph, video, name, and likeness in GSA education, news, and promotional materials.

General Safety Tips for Attending Meetings

You should practice common sense safety guidelines when attending any conference:

- Be aware of your surroundings at all times, and don't get distracted by your phone.
- Use the buddy system when leaving the hotel, especially during early morning and late evening hours.
- Don't wear your meeting badge outside of the designated meeting space or when you leave the hotel.
- Don't carry a lot of cash or credit cards. Use the hotel room safe.
- Don't leave personal property unattended anywhere, at any time.

Schedule of Events

TAGC24

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Thursday, February 29, 2024		
11:00 a.m.–12:00 p.m.	**Conference Success Tips and Welcome**	Online
12:30 p.m.–1:30 p.m.	**Individual Development Plan (IDP) Workshop**	Online
2:00 p.m.–3:00 p.m.	**Career Exploration Panel**	Online
3:30 p.m.–5:00 p.m.	**Careers in Academia Panel**	Online
Friday, March 1, 2024		
10:00 a.m.–12:00 pm	**Reproducibility for Everyone**	Online
12:30 p.m.–2:30 p.m.	**CUREs and BREWMOR**	Online
4:00 p.m.–5:00 p.m.	**Accessibility Workshop**	Online
Tuesday, March 5, 2024		
8:00 a.m.–7:30 p.m.	**Capitol Hill Day (pre-registration required)**	
Wednesday, March 6, 2024		
9:00 a.m.–10:00 a.m.	**Conference Success Tips and Welcome**	RiverView A
10:30 a.m.–11:00 a.m.	**Getting Involved in GSA's Professional Development Programs**	RiverView A
11:00 a.m.–12:00 p.m.	**Undergraduate Student Meet-up**	RiverView 4-5
11:00 a.m.–12:00 p.m.	**Graduate Student Meet-up**	RiverView 1-2
11:00 a.m.–12:00 p.m.	**Postdoc Meet-up**	Eastern Shore 2
12:00 p.m.–9:00 p.m.	**Registration Open**	Convention Center Lobby
12:00 p.m.–4:00 p.m.	**2024 Graduate Career Consortium (GCC) Virtual Career Expo (VCE)**	Online
12:30 p.m.–5:15 p.m.	**IMGS Trainee Symposium**	Maryland C
1:00 p.m.–2:30 p.m.	**3-D Printing in the Lab**	RiverView A

Wednesday, March 6, 2024 (continued)		
1:00 p.m.–2:30 p.m.	**Science Policy Panel Discussion: Scientists in Policy**	Cherry Blossom Ballroom
1:00 p.m.–3:00 p.m.	**Peer Review Workshop**	National Harbor 2
1:00 p.m.–4:00 p.m.	**Fly Board Meeting (invitation only)**	Chesapeake 4-6
1:00 p.m.–5:00 p.m.	**Speaker Ready Room Open**	Camellia 4
2:00 p.m.–3:00 p.m.	**View Virtual Posters**	PDF's available in the App
3:30 p.m.–5:30 p.m.	**Academic Writing Workshop**	Cherry Blossom Ballroom
6:15 p.m.–10:15 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
6:45 p.m.–9:00 p.m.	**Opening General Session and Keynote 1**	Potomac
9:00 p.m.–10:00 p.m.	**Opening Mixer**	Prince George's Exhibition Hall
9:00 p.m.–10:00 p.m.	**Speed Networking**	Discovery Stage, Exhibit Hall
Thursday, March 7, 2024		
7:00 a.m.–4:00 p.m.	**Speaker Ready Room Open**	Camellia 4
7:00 a.m.–11:00 p.m.	**Posters Open for Viewing**	Prince George's Exhibition Hall
7:00 a.m.–8:00 a.m.	**microPublication Workshop - Publishing Q&A**	Baltimore 1-2
7:30 a.m.–5:00 p.m.	**Registration Open**	Convention Center Lobby

Thursday, March 7, 2024 (continued)

8:00 a.m.–10:00 a.m.	**Thematic Scientific Sessions**	
	Behavior	Woodrow Wilson A
	Genetic Conflict	Maryland A
	Disease Models	Potomac AB
	Undergraduate Platform Session	Maryland B
	Patterning and Cell Fate	Maryland C
	Gene Regulation 1: Regulatory Complexity	Maryland D
10:30 a.m.–12:30 p.m.	**Community Scientific Sessions**	
	Chromosome Biology (Mammalian)	Maryland C
	***C. elegans* Session 1**	Woodrow Wilson A
	Developmental Genetics 1 (Early Development) (Zebrafish)	Maryland D
	Intracellular Dynamics (Yeast)	Woodrow Wilson B-D
	Evolution on the Chromosomal Scale (PEQG)	Maryland A
	Plant Evolutionary Genetics (Plant)	Maryland B
	***Drosophila* Plenary Session**	Potomac
12:30 p.m.–2:00 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
12:30 p.m.–1:30 p.m.	**Lunch (on own or if you pre-purchased tickets, in Prince George's Exhibition Hall)**	
12:45 p.m.–1:05 p.m.	**Guidance for Writing a Title, Abstract, and Cover Letter**	Prince George's Exhibition Hall
12:45 p.m.–1:45 p.m.	**Networking Hotspots–Primarily Undergraduate Institution Topics**	Prince George's Exhibition Hall
12:45 p.m.–1:45 p.m.	**Community, Connections, and Mentorship Lunch (pre-registration required)**	RiverView A

Thursday, March 7, 2024 (continued)		
12:45 p.m.–1:45 p.m.	**It Takes Two Networking**	Prince George's Exhibition Hall
1:15 p.m.–1:35 p.m.	**HCR™ RNA-FISH: The benchmark in multiplexed, quantitative, high-resolution RNA imaging**	Prince George's Exhibition Hall
1:45 p.m.–3:45 p.m.	**The Eugenics Movement and Scientific Racism: Past, Present, and Future**	Potomac
4:15 p.m.–6:33 p.m.	**Keynote 2**	Potomac
6:15 p.m.–10:15 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
6:30 p.m.–7:30 p.m.	**Networking Hotspots–Education and PALM**	Prince George's Exhibition Hall
6:30 p.m.–7:30 p.m.	**Meet the Speakers**	Prince George's Exhibition Hall
7:30 p.m.–10:00 p.m.	**"T" Poster Presentations**	Prince George's Exhibition Hall
Friday, March 8, 2024		
7:00 a.m.–4:00 p.m.	**Speaker Ready Room Open**	Camellia 4
7:00 a.m.–11:00 p.m.	**Posters Open for Viewing**	Prince George's Exhibition Hall
7:30 a.m.–4:30 p.m.	**Registration Open**	Convention Center Lobby

Friday, March 8, 2024 (continued)

8:00 a.m.–10:00 a.m.	**Thematic Scientific Sessions**	
	Neurodevelopment	Potomac C-3
	Intracellular Dynamics 1	Maryland B
	Contemporary Evolution	Maryland A
	Sex Differences in Biology and Disease	Woodrow Wilson A
	Genomes and Genomics: Insights into Complex Genetics and Evolution	Woodrow Wilson B-D
	Cancer and Metabolism	Maryland C
	Genetics in Drug Discovery Industry Session	Maryland D
10:30 a.m.–12:30 p.m.	**Thematic Scientific Sessions**	
	Deleterious Mutation	Maryland A
	Aging and Neurodegeneration	Potomac AB
	Forward Genetics: Building an Equitable Scientific future through Education and Outreach	Woodrow Wilson A
	Cell Biology of Development	Maryland C
	Chromosome Dynamics	Maryland D
	Sensory Systems	Potomac C-3
	Technology, Resources, and Tools	Woodrow Wilson B-D
12:30 p.m.–2:00 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
12:30 p.m.–1:30 p.m.	**Lunch (on own or if you pre-purchased tickets, in Prince George's Exhibition Hall)**	
12:45 p.m.–1:45 p.m.	**Networking Hotspots–PGED Building an Inclusive Genetics Future**	Prince George's Exhibition Hall
12:45 p.m.–1:45 p.m.	**Charting a Vision and Making Changes in the Undergraduate Biology Classroom: Evidence-Based Teaching from Vision and Change**	Chesapeake D-F

Friday, March 8, 2024 (continued)		
12:45 p.m.–1:45 p.m.	**Grants and Funding Workshop**	Cherry Blossom Ballroom
2:00 p.m.–4:00 p.m.	**Community Scientific Sessions**	
	Developmental Genetics 1 (*Drosophila*)	Potomac AB
	Technology, Resources, and Tools/EvoDevo (*Drosophila*)	Potomac C-3
	Methodological Advances in Population Genomics (PEQG)	Maryland A
	***C. elegans* Session 2**	Woodrow Wilson A
	Developmental Genetics 2 (Cardiac Development and Regeneration) (Zebrafish)	Maryland D
	Chromosome Biology and Genome Technology (Yeast)	Woodrow Wilson B-D
	Disease Models 1 (Mammalian)	Maryland C
6:30 p.m.–8:15 p.m.	**Keynote 3: Science to Discovery and Application**	Potomac AB
6:30 p.m.–10:30 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
8:00 p.m.–8:20 p.m.	**Why Publish–GSA Journals**	Prince George's Exhibition Hall
8:30 p.m.–10:30 p.m.	**"F" Poster Presentations**	Prince George's Exhibition Hall
Saturday, March 9, 2024		
7:00 a.m.–4:00 p.m.	**Speaker Ready Room Open**	Camellia 4
7:00 a.m.–10:00 p.m.	**Posters Open for Viewing**	Prince George's Exhibition Hall
7:45 a.m.–1:00 p.m.	**Registration Open**	Convention Center Lobby

Saturday, March 9, 2024 (continued)

8:00 a.m.–10:00 a.m.	**Community Scientific Sessions**	
	Sex Differences in Biology and Disease/Genomes and Genomics (*Drosophila*)	Potomac C-3
	Developmental Genetics 2 (*Drosophila*)	Potomac AB
	Disease Models 2 (Mammalian)	Maryland C
	Comparative Genomics (PEQG)	Maryland A
	***C. elegans* Session 3**	Woodrow Wilson A
	Technology, Resources, and Tools (Zebrafish)	Maryland D
	Gene Regulation (Yeast)	Woodrow Wilson B-D
10:30 a.m.–12:30 p.m.	**Community Scientific Sessions**	
	Adaptation (PEQG)	Maryland A
	Gene Regulation (*Drosophila*)	Potomac AB
	Disease Models and Aging (*Drosophila*)	Potomac C-3
	Complex Traits and Evolution (Mammalian)	Maryland C
	***C. elegans* Session 4**	Woodrow Wilson A
	Genetics, Immunity, Behavior, and Disease (Zebrafish)	Maryland D
	Yeast Models and Technology	Woodrow Wilson B-D
12:30 p.m.–2:00 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
12:30 p.m.–1:30 p.m.	**Lunch (on own or if you pre-purchased tickets, in Exhibit Hall)**	
12:30 p.m.–2:00 p.m.	**Peer into Publishing: An Insider Look at Scientific Journals**	RiverView A
12:45 p.m.–1:45 p.m.	**Towards an Equitable Future: Genetics Education Beyond Academia**	Cherry Blossom Ballroom

Saturday, March 9, 2024 (continued)		
12:45 p.m.–1:45 p.m.	**Networking Hotspots–Scientific Topics**	Prince George's Exhibition Hall
12:45 p.m.–1:05 p.m.	**Communicating your Science to a General Audience; SciComm**	Prince George's Exhibition Hall
12:45 p.m.–1:45 p.m.	**Meet the Speakers**	Prince George's Exhibition Hall
2:00 p.m.–4:00 p.m.	**Workshops**	
	Mid-Career Event: Incorporating Multiple Model Systems Panel Discussion	Chesapeake D-F
	The Neighborhood Program: Leveraging Cultural Community Connections	Chesapeake 1-3
	Undergraduate Curators: Bridging Genome Resources and Education	National Harbor 6
	Glia-fari: Latest Advancements in Glial Biology Across the Animal Kingdom	National Harbor 2
	Incorporating Genetics-and-Society Issues into Classroom Pedagogy: Sickle Cell as a Case Study	National Harbor 5
	Behind the Science Stories	National Harbor 12
	Emerging Roles for Model Organisms in Precision Toxicology	National Harbor 10
	Advancing Computational Developmental Biology: Integrating Experimental and Computational Systems Approaches	National Harbor 11
	Tools for Comparative Genomics from the Alliance of Genome Resources	National Harbor 4
	Exploring and Downloading NCBI Data with NCBI Datasets	Chesapeake A-C
	Comparative Biology of Aging	Chesapeake G-H
	Communicating Science	National Harbor 3
	Nuclear Receptors and their Ligands	Chesapeake 4-6
	A Roadmap for Publishing Education Papers	National Harbor 7

Saturday, March 9, 2024 (continued)

4:30 p.m.–6:30 p.m.	**Thematic Scientific Sessions**	
	Host-pathogen and Host-commensal Interactions	Potomac AB
	Intracellular Dynamics 2	Maryland B
	Complex Trait Genetics	Maryland A
	Germline and Gonad Development	Maryland C
	Gene Regulation 2: Chromatin and Transcriptional Landscape	Maryland D
	Nervous Systems Disease Models	Potomac C-3
6:00 p.m.–10:00 p.m.	**Exhibits Open**	Prince George's Exhibition Hall
6:30 p.m.–7:30 p.m.	**Networking Hotspots–Cultural Topics**	Prince George's Exhibition Hall
8:00 p.m.–10:00 p.m.	**"S" Poster Presentations**	Prince George's Exhibition Hall
10:15 p.m.–11:00 p.m.	**TAGC Variety Show: Cry Until You Laugh**	Potomac

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.	**Community Scientific Sessions**	
	Ecological Genetics and Genomics/Chromosome Biology and Genome Integrity (*Drosophila*)	Potomac C-3
	Intracellular Dynamics (*Drosophila*)	Potomac AB
	Technology, Resources, and Tools (Mammalian)	Maryland C
	Behavioral and Sensory Evolution (PEQG)	Maryland A
	***C. elegans* Session 5**	Woodrow Wilson A
	Genomes and Genomics (Yeast)	Woodrow Wilson BD
	Evolution and Gene Regulation (Zebrafish)	Maryland D
10:30 a.m.–12:15 p.m.	**Keynote 4 and Gruber Prize Presentation**	Potomac AB

Oral Presentation and Workshop Session Listings

Thursday, February 29, 2024

11:00 a.m.–12:00 p.m.
Online

Conference Success Tips and Welcome

This event is designed to help first-time conference attendees and early career scientists make the most of TAGC 2024. Topics covered may include introductions to meeting organizers, advice on having meaningful interactions during the conference, a chance to meet other attendees in an informal setting, and an introduction to scientific events and other programming. GSA Early Career Leadership Program members will share details on how to get involved in GSA's professional development programming for early-career scientists. GSA will provide information on upcoming events and programs, including how and when to apply to the Early Career Leadership Program.

12:30 p.m.–1:30 p.m.
Online

Individual Development Plan (IDP) Workshop

This event will guide early- and mid-career scientists through completing an Individual Development Plan using two free virtual tools. The workshop will encourage participants to break out of the linear career path thought process, practice informational interviews, and provide a roadmap of events highlighting the rich variety of academic and non-academic careers throughout TAGC 2024.

2:00 p.m.–3:00 p.m.
Online

Career Exploration Panel

This event, featuring a panel of individuals following different career paths, will showcase the broad options available to those with a PhD. Career sectors highlighted may include academic research, industry research, biotech, science writing, science teaching, and academic administration.

3:30 p.m.–5:00 p.m.
Online

Careers in Academia Panel

This 90-minute discussion panel will feature department heads and academic faculty who will discuss applying and hiring in academia from both sides of the process, as well as provide insight into an academic career.

Friday, March 1, 2024

10:00 a.m.–12:00 p.m.
Online

Reproducibility for Everyone

Rigor and reproducibility are at the core of modern science and set apart scientific inquiry from pseudoscience. Several new initiatives and tools have been established to address barriers to reproducibility. While very welcome, these projects have led to a proliferation of online tools and resources which can be hard to sift through. This workshop will introduce participants to reproducible workflows and a range of tools for organization, documentation, analysis, and dissemination. After a brief introduction to the topic of reproducibility, the workshop will provide specific tips and tools useful in improving your daily research workflows, including the 101 of all data handling, wet lab protocol sharing platforms, documentation of code using notebooks, workflow systems, and version control, best practices for plotting of small data sets, and reagent sharing platforms.

12:30 p.m.–2:30 p.m.
Online

CUREs and BREWMOR

4:00 p.m.–5:00 p.m.
Online

Accessibility Workshop

Part of the Accessibility in STEM series, this workshop will teach students and early-career scientists in STEM about challenges faced by people with disabilities and ways to make the community more welcoming and inclusive.

Tuesday, March 5, 2024

8:00 a.m.–7:30 p.m.
(Pre-registration required)

Capitol Hill Day

Hosted along with the Coalition for Life Sciences, this event allows participants to spend the day on the Hill, meeting with Senators, Representatives, and staffers to help GSA engage with policymakers to highlight the importance of fundamental discoveries in genetics.

Wednesday, March 6, 2024

9:00 a.m.–10:00 a.m.
RiverView A

Conference Success Tips and Welcome

The purpose of this event is to help first-time conference attendees and early-career scientists make the most of TAGC 2024. Topics covered may include introductions to meeting organizers, advice on having meaningful interactions during the conference, a chance to meet other attendees in an informal setting, and an introduction to scientific events and other programming.

Wednesday, March 6, 2024

10:30 a.m.–11:00 a.m.
RiverView A

Getting Involved in GSA's Professional Development Programs

GSA Early Career Leadership Program members will share details on how to get involved in GSA's professional development programming for early-career scientists. GSA will provide information on upcoming events and programs, including how and when to apply to the Early Career Leadership Program.

11:00 a.m.–12:00 p.m.
RiverView 4-5

Undergraduate Student Meet-up

Undergraduate student attendees will have the opportunity to meet and network in an exclusive space.

11:00 a.m.–12:00 p.m.
RiverView 1-2

Graduate Student Meet-up

Graduate student attendees will have the opportunity to meet and network in an exclusive space.

11:00 a.m.–12:00 p.m.
Eastern Shore 2

Postdoc Meet-up

Postdoctoral fellow attendees will have the opportunity to meet and network in an exclusive space.

12:00 p.m.–4:00 p.m.
Online

2024 Graduate Career Consortium (GCC) Virtual Career Expo (VCE)

GSA is a host institution for the 2024 Graduate Career Consortium-sponsored Virtual Career Expo through the CareerEco platform. This virtual recruiting and networking experience will connect graduate students, postdocs, and alumni from STEM and other fields to employers. In 2023, the VCE featured 52 employers and almost 984 participants from 38 GCC institutions.

Wednesday, March 6, 2024

12:30 p.m.–5:15 p.m.
Maryland C

IMGS Trainee Symposium

Moderators:
Yann Herault, IGBMC, Laura Reinholdt, The Jackson Laboratory, and Fernando Pardo-Manuel de Villena, UNC, Chapel Hill

12:30 p.m. Relationships Between Germline Mutation Rates and Reproductive Success, **Alexis Garretson**, The Jackson Laboratory

12:45 p.m. Role of miR-290-295 and miR-302/367 Clusters in Testicular Germ Cell Tumor Development, **Harlie Cope**, Baylor College of Medicine

1:00 p.m. CRISPR Induced Overexpression of Placental Igf-1 Causes Sex Specific Changes in Placental and Fetal Development in Mice, **Annemarie Carver**, University of Iowa

1:15 p.m. Single Cell Genomic Strategies for Prioritizing Candidate Genes in Sox10 Dom Aganglionosis Modifier Intervals, **Joseph Benthal**, Vanderbilt University

1:30 p.m. Pumilio Proteins Interact with Upf1 to Promote Degradation of a Subset of Pumilio-target mRNAs in Mouse Embryonic Stem Cells, **Yuedong Huang**, Yale University

1:45 p.m. Genetic Mapping and Mediation Analysis Reveal Immune Phenotypes Underlying Genetic Susceptibility to Severe Coronavirus Disease in Mice, **Ellen Risemberg**, UNC, Chapel Hill

2:00 p.m. Characterizing Dominant Noncoding Suppressor Variants of Lethal Thrombosis in the Mouse, **Arina Rodionova**, Oakland University

2:15 p.m. Identification of a Major Actr2 Thrombosis Suppressor Mutation via a Sensitized ENU Mutagenesis Screen, **Adrianna Jurek**, Oakland University

2:30 p.m. **Break**

3:00 p.m. Improving Annotation of Introgressions in the Laboratory Mouse Using the Collaborative Cross, **Michelle Aries**, McLaughlin Research Institute

3:15 p.m. Molecular Basis of Seasonal Adaptation in Mammals, **Liang Ren**, Nagoya University

3:30 p.m. Elucidating the Mysterious Function of Noncanonical DNA Methylation in the Brain, **Mandy Eckhardt**, UT Southwestern Medical Center

3:45 p.m. Exploring the Systems Genetics of Age-related Macular Degeneration in Diversity Outbred Mice, **Abdulfatai Tijjani**, The Jackson Laboratory

4:00 p.m. Improving Annotation of Introgressions in the Laboratory Mouse Using the Collaborative Cross, **Sam Ardery**, UNC, Chapel Hill

4:15 p.m. Epistatic Mutations in Ssc4d and Kpna3 Regulate Age Dependent Hyperactivity in Mice, **Yehya Barakat**, The Jackson Laboratory

4:30 p.m. Mediation Analysis of Key Hepatic Drug Metabolizing Enzymes and Transporters in Collaborative Cross Mice to Characterize Causal Pathways of Genetic Regulation of Drug Metabolism as a Resource for Pharmacogenetics, **Teresa McGee**, UNC, Chapel Hill

4:45 p.m. Parent-of-origin Disruption of Growth and Metabolism in Hybrid Mice, **Emily Moore**, University of Denver

5:00 p.m. The Influence of MUTYH on Germline and Somatic Mutagenesis Across Species, **Candice Young**, University of WA School of Medicine

Wednesday, March 6, 2024

1:00 p.m.–3:00 p.m.
National Harbor 2

Peer Review Workshop

This two-hour workshop will introduce participants to the principles and best practices of peer review. The session will begin with a presentation describing the principles and purposes of peer review, peer review models, and the roles of editors and reviewers, followed by a discussion of manuscript evaluation, covering topics such as evaluating scientific rigor, methodological appropriateness, clarity of presentation, strength of the conclusions, and impact on the field. Attendees will learn how to write a good review, covering important aspects of review structure, level of detail, fit for journal scope, and appropriate language and tone. Participants will be joined by a group of editors for a panel discussion and Q&A.

Wednesday, March 6, 2024

1:00 p.m.–2:30 p.m.
RiverView B

3-D Printing in the Lab

This is unique workshop will introduce educators, researchers, and science communicators to the wonders of 3D printing. During this workshop, participants will learn how to use 3D printer software and free 3D model resources. Worksop facilitators will showcase printable educational tools, such as anatomical models of organisms and molecules. Researchers will discover types of laboratory equipment which can be printed for a fraction of the standard cost.

Wednesday, March 6, 2024

1:00 p.m.–2:30 p.m.
Cherry Blossom Ballroom

Science Policy Panel Discussion: Scientists in Policy

Moderator:
Drea Darby
PhD Candidate, Entomology
Cornell University

Panelists:
Darya Minovi
Senior Analyst
Union of Concerned Scientists

Gerald (Jerry) Tuskan
Director and Chief Executive Officer, Center for Bioenergy Innovation, and ORNL Corporate Fellow
Oak Ridge National Laboratory

Jamie Lahvic
Training Officer
National Institute of Aging (NIH)

Jennifer Zeitzer
Director of Public Affairs
Federation of American Societies for Experimental Biology

Yvette Seger
Director of Strategic Scientific Program Advancement, Director of Science Policy and Department Director, Public Affairs Federation of American Societies for Experimental Biology

Wednesday, March 6, 2024

Fly Board Meeting (invitation only)

1:00 p.m.–4:00 p.m.

Chesapeake 4-6

Academic Writing Workshop

3:30 p.m.–5:30 p.m.
Cherry Blossom Ballroom

Are you putting off starting that manuscript? Looking to tighten your writing skills? Science writer Carolyn Beans will lead a workshop on how to kick-start the manuscript writing process by tackling your abstract. After covering abstract structure and style, Carolyn will give participants the opportunity to write their own abstracts with step-by-step instructions. Participants will also learn how to edit their work for clarity, brevity, and voice, and produce clear and engaging academic writing for abstracts and beyond. Those who already have a rough abstract are encouraged to bring it along to receive peer feedback.

Wednesday, March 6, 2024

6:45 p.m.–9:00 p.m.

Opening General Session and Keynote 1

Session Chairs:
Maureen Barr, Rutgers University; and Harmit Malik, Fred Hutchinson Cancer Center

6:45 Welcome from Organizers

6:55 Welcome from GSA President **Mariana Wolfner**, Cornell University

7:00 Presentation of GSA Medal to Luciano Marraffini

7:05 Presentation of Thomas Hunt Morgan Medal to Paul Sternberg

7:10 Presentation of GSA Early Career Medal to Ofer Rog

7:15 Presentation of Edward Novitski Prize to Elaine Ostrander

7:20 Presentation of Elizabeth Jones Award for Excellence in Education to Build-a-Genome led by Jef Boeke

7:25 Presentation of George W. Beadle Award to Deborah Andrew

7:30 GSA Journals Welcome **Howard Lipshitz**, GENETICS Editor in Chief

7:35 Early Career Leadership Program Overview **Rupinder Kaur**, Pennsylvania State University

7:38 Presentation of the Larry Sandler Award to Sherzod Tokamov

1 7:40 Larry Sandler Award Lecture—How proteolytic degradation, actomyosin contractility, and cell polarity converge to regulate Hippo signaling and tissue growth **Sherzod Tokamov**, University of California, Berkeley

7:55 Presentation of the Sydney Brenner Award to Sneha Ray

7:57 Sydney Brenner Award **Sneha Ray,** Fred Hutchinson Cancer Center

8:12 Understanding the Sources of Regenerative Capacity in Animals **Alejandro Sánchez Alvarado**, Stowers Institute for Medical Research

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson A

Behavior

Session Chairs:
Michelle Arbeitman, Florida State University, United States; and Harold Burgess, NIH/NICHD

2 8:00 Defective *Hoxb8* Microglia are Causative for both Chronic Anxiety and OCSD-like Behavior in Mice **Mario Capecchi**, University of Utah School of Medicine

3 8:15 *Doublesex* modifies wing circuits in the evolution of courtship song types in *Drosophila* **Dajia Ye**, University of Pennsylvania

4 8:30 Rock (dove) 'n' roll: the genetic basis of rolling in the domestic pigeon (*Columba livia*) **Atoosa Samani**, University of Utah

5 8:45 IGEG-1 is an EGFR ligand that links cellular stress with sleep in *C. elegans* **Cheryl Van Buskirk**, California State University Northridge

6 9:00 Evolutionary genetics of aggression of the Siamese fighting fish Pei-Yin Shih, Columbia University

7 9:15 Cellular and molecular basis of an aversive pathway regulating drinking in flies Anindya Ganguly, University of California, Santa Barbara

8 9:30 Caregiving Drives Changes in Male Behavior, Neural Physiology, and Gene Expression in California Mice Maria Colt, University of Maryland

9 9:45 Transgenic worms for interrogating signal propagations in *Caenorhabditis elegans* using GUR-3+PRDX-2 as neuro-actuator **Anuj Sharma**, Princeton University

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Potomac AB

Disease Models

Session Chairs:
Erin Jimenez, Johns Hopkins University; and Ming Xu, University of Connecticut

10 8:00 Understanding and exploiting murine tolerance of haploinsufficiency in human disease research **Ruth Arkell**, The Australian National University

11 8:15 Zebrafish pre-clinical models link oxidative stress with intervertebral ECM defects and identify elevated spine stiffness as a prognostic biomarker and possible therapeutic target for adolescent idiopathic scoliosis **Brian Ciruna**, The Hospital for Sick Children

12 8:45 Interneuron migration is controlled by *Dyrk1*a dosage via deregulations of actomyosin dynamics during corticogenesis, insights for the *Dyrk1a* haploinsufficiency syndrome pathogenesis **Yann Herault**, Institute of Genetics and Molecular and Cellular Biology (IGBMC)

13 9:00 A *C. elegans* Model of Fanconi Anemia Neurological Syndrome (FANS) **Jessica Leighton**, University of Rhode Island

14 9:15 Mechanisms of photoreceptor stabilization upon chronic vitamin A-deprivation **Deepshe Dewett**, UMASS Boston

15 9:30 Transcriptomic landscape of *DEAF1* mutations in zebrafish models of Autism Spectrum Disorder **Mary Capps**, UMass Chan Medical School

16 9:45 MARRVEL and ModelMatcher: publicly available web services that facilitate collaborative research on rare diseases **Shinya Yamamoto**, Baylor College of Medicine

17 8:30 Genome-wide association studies of nephrolithiasis and water transport of renal tubule in *Drosophila melanogaster* **Keqin Li**, School of Molecular Biosciences, University of Glasgow

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Maryland D

Gene Regulation 1: Regulatory Complexity

Session Chairs:
Jeffrey Farrell, National Institute of Child and Human Development, United States; and Alicia Rogers, University of Texas Arlington, United States

18 8:00 Piwi regulates the usage of alternative transcription start sites in the *Drosophila* ovary via interaction with the FACT complex component Ssrp **Jiaying Chen**, Yale University

19 8:15 Transcriptional adaptation and genetic compensation, from *C. elegans* to mammals **Didier Stainier**, Max Planck Institute for Heart and Lung Research

20 8:30 Relative enhancer-promoter positioning tunes the kinetics of enhancer-mediated transcriptional activity **Emilia Leyes Porello**, University of Pennsylvania

21 8:45 Non-additive genetic components contribute significantly to population-wide gene expression variation **Jing Hou**, Université de Strasbourg/CNRS

22 9:00 Chromatin regulatory networks underlying coordinated synaptic gene expression **James Kentro**, Brown University

23 9:15 Interallelic gene regulation promotes robustness and evolvability **Noa Borst**, EMBL

24 9:30 The role of post-transcriptional gene regulation in adaptation to stress **Pieter Spealman**, New York University

25 9:45 Social regulation of intergenerational signaling via a defined chemosensory pathway **Jadiel Wasson**, New York University

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Maryland A

Genetic Conflict (PEQG)

Session Chair:
Jenn Coughlan, Yale University

26 8:00 Repeated, rapid origins of incompatibility in the Mimulus guttatus species complex: the role of shared variation in repeated speciation **Jenn Coughlan**, Yale University

27 8:30 A programmed Mendelian violation maintains heterozygosity in a parthenogenetic ant **Kip Lacy**, The Rockefeller University

28 8:45 Adaptive piRNA pathway tuning tames sex- and lineage-specific selfish genes **Peiwei Chen**, California Institute of Technology

29 9:00 Genetic conflicts shape rapid evolution of young *Drosophila* protamines **Ching-Ho Chang**, Fred Hutchinson Cancer Center

30 9:15 Telomere protein coevolution preserves chromosome end protection **Sung-Ya Lin**, University of Pennsylvania

31 9:30 Post-insemination sexual selection in males indirectly masculinizes the female transcriptome **Katja Kasimatis**, University of Virginia

32 9:45 The impact of genomic autoimmunity across the *Drosophila* genus **Justin Blumenstiel**, University of Kansas

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Maryland C

Patterning and Cell Fate

Session Chairs:
Celeste Berg, University of Washington; and Mary Mullins, University Pennsylvania School of Medicine, United States

33 8:00 Cellular and molecular organization of the *Drosophila* foregut **Haolong Zhu**, Carnegie Institution for Science

34 8:15 Spatial patterning regulates neuron numbers in the *Drosophila* visual system **Jennifer Malin**, New York University

35 8:30 Protein-intrinsic and extrinsic features regulating pioneer factor-mediated reprogramming **Eliana Torres Zelada**, University of Wisconsin-Madison

36 8:45 Secretion and Transportation of the Hedgehog Morphogen in *Drosophila* **Pascal Therond**, CNRS

37 9:00 Decoding Butterfly Wing Patterning: Single-Cell Multi-Omics Analysis of the Uncharted *WntA/fz2* Signaling Pathway **Anyi Mazo-Vargas**, Duke University

38 9:15 Transcriptional control of male-specific tail tip morphogenesis in *C. elegans* by DMD-3 **Porfirio Fernandez**, New York University

39 9:30 Ancient evolutionary origin of a pluripotency-neural crest gene regulatory network in vertebrates **Joshua York**, Northwestern University

40 9:45 Ribosome heterogeneity drives early development in zebrafish **Kamena Kostova**, Carnegie's Department of Embryology

Thursday, March 7, 2024

8:00 a.m.–10:00 a.m.
Maryland B

Undergraduate Platform Session

Session Chairs:
Rhea Datta, Hamilton College, United States; and Andrea Kalis, St. Katherine University

8:00 Keynote **Needhi Bhalla**, University of California, Santa Cruz

41 8:30 BindCompare: A Novel Platform to Identify and Analyze Coupled Protein-DNA and Protein-RNA Binding Regions **Pranav Mahableshwarkar**, Brown University

42 8:45 The Effect of Long Non-coding RNA Expression on Vitamin E Concentration in Maize Grain **Morgan Apolonio**, University of California, Berkeley

43 9:00 Global proteome rewiring in times of desiccation and rehydration **Sheila Ferer**, California State University Channel Islands

44 9:15 Using chromosome synthesis to study genetics and molecular evolution across yeast genera **Shawn Yang**, University of Southern California

45 9:45 Adenylosuccinate alleviates mobility deficits associated with Adenylosuccinate Synthetase deficiency in *Caenorhabditis elegans* **Rishika Patil**, The Pennsylvania State University

46 9:30 Investigating the effects of cannabidiol (CBD) on sleep, lifespan, and protein aggregation in a *Drosophila* melanogaster model of Parkinson's disease **Matthew Irons**, Juniata College

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson A

C. elegans Session 1

Session Chair:
Jadiel Wasson, New York University, United States

10:30 Keynote - Proximity Labeling, Proteomics, and Protein Modeling: From the Very Last Person Who Should be Talking About Any of These Things! **David Fay**, University of Wyoming

47 11:00 Tapping into worm conversations: transfer of memory from one *Caenorhabditis elegans* to another and investigating its underlying molecular mechanism **Monmita Bhar**, Indian Institute of Science

48 11:15 TOP-2 is differentially required for meiotic chromosome morphology in spermatogenesis and oogenesis **Christine Rourke**, University of Delaware

11:30 General Discussion

49 11:45 How does a complex genomic rearrangement affect gene expression?: A research project for undergrads in a classroom setting **Tatiana Maroilley**, Cumming School of Medicine, University of Calgary

50 12:00 A LIN-42-Casein kinase 1δ interaction is necessary for *C. elegans* developmental timing **Jordan Ward**, UC Santa Cruz

51 12:15 The molecular atlas of *C. elegans* glia across sexes reveals sexually dimorphic and heterogeneous glia **Richard Manning**, Fred Hutchinson Cancer Center

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Maryland C

Chromosome Biology (Mammalian)

Session Chairs:
Kennedy Agwamba, Australia; and Beth Dumont The Jackson Laboratory, United States

10:30 Bev Paigen Lecture Introduction **Laura Reinholdt**, The Jackson Laboratory

52 10:45 Genetic Integration of Multi-Omics Data: Realizing the Promise of Genetical Genomics **Gary Churchill**, The Jackson Laboratory

11:15 Trainee Talk

53 11:30 Effects of sex-linked variation and paternal age on recombination rate in house mice **Andrew Morgan**, University of North Carolina

54 11:45 *De novo* structural variants on the sex chromosomes of CC029/Unc mice cause meiotic segregation errors in F1 hybrid males and lead to a high rate of sex chromosome aneuploidy **Rachel Lynch**, University of North Carolina at Chapel Hill

55 12:00 The X and Y of sex disparities in cancer: sex chromosomes contribute to the male bias in melanoma progression **Nora Engel**, Coriell Institute for Medical Research

56 12:15 General Discussion

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Maryland D

Developmental Genetics 1 (Zebrafish)

Session Chairs:
Rebecca Burdine, Princeton University; and David Grunwald, University of Utah

57 10:30 Cas13d Unveils the Essential Role of Cell-Specific Maternal RNA Degradation in Zebrafish Development **Gopal Kushawah**, Stowers institute for medical research

58 10:45 Characterizing a tissue-biased *tp53*-mediated DNA damage response in early zebrafish development **Sean Lee**, NIH

59 11:00 A New Mechanism of Dorsal Axial Organizer Repression by Integrator Complex Subunit 6 **William Jones**, University of Pennsylvania Perelman School of Medicine

60 11:15 BMP receptor trafficking and specialization in signal transduction during embryonic patterning in the zebrafish **Jeet Patel**, University of Pennsylvania

61 11:30 Single-cell temporal dynamics reveals the relative contributions of transcription and degradation to cell-type specific gene expression in zebrafish embryos **Jeffrey Farrell**, National Institute of Child Health and Human Development

62 11:45 Defining the Molecular and Neural Roles of the Understudied Kinase *vrk2* in Zebrafish **Jaqueline Martinez**, UMass Chan Medical School

63 12:00 Fate switching of melanophores to leucophores requires Agouti and BMP **Dylan Huang**, University of Virginia

12:15 General Discussion

Thursday, March 7, 2024

10:30 a.m.–12:35 p.m.
Potomac

Drosophila Plenary Session

Session Chair:
Melissa Harrison, University of Wisconsin-Madison

64 10:30 Post-transcriptional regulation of gene expression in time and space **Howard Lipshitz**, University of Toronto

65 11:00 Examining the molecular mechanisms of fat-to-ovary communication in *Drosophila melanogaster* **Alissa Armstrong**, University of South Carolina

11:30 Transposable elements drive genetic and epigenetic variation in *Drosophila* melanogaster natural populations **Josefa González**, CSIC (Spanish National Research Council

66 12:00 Building Tissue Specific Centrosomes **Nasser Rusan**, NHLBI, NIH

12:30 Image Awards

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Maryland A

Evolution on the Chromosomal Scale (PEQG)

Session Chair:
Mia Levine, University of Pennsylvania

67 10:30 Centromere Polymorphisms in *Drosophila melanogaster* **Miraz Sadi**, University of Rochester

68 10:45 Balanced inversions help maintain sexually antagonistic polymorphism **Christopher McAllester**, UW Madsion

69 11:00 The functional consequences of chromosomal inversions in local adaptation to high altitude in deer mice **Kelsie Hunnicutt**, University of Denver

70 11:15 Sex chromosome formation, expansion and turnover in the genus Rumex **Stephen Wright**, University of Toronto

71 11:30 Enrichment of hard sweeps on the X chromosome across six *Drosophila* species **Mariana Harris**, University of California, Los Angeles

72 11:45 Quantitative genetics of sex chromosome evolution **Pavitra Muralidhar**, University of Chicago

73 12:00 Patterns of genomic ancestry in the house mouse hybrid zone **Megan Frayer**, Yale University

74 12:15 Evolutionary origin of the recent allotetraploid *Mimulus sookensis* **Andrea Sweigart**, University of Georgia

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson B-D

Intracellular Dynamics (Yeast)

Session Chairs:
Audrey Gasch, University of Wisconsin, Madison, United States; and Allyson Odonnell, University of Pittsburgh, United States

10:30 Lee Hartwell Lecture Introduction **Phil Hieter**, Michael Smith Laboratories, University of British Columbia

10:35 Lee Hartwell Lecture **Sue Biggins**, Fred Hutchinson Cancer Center

75 11:00 Drying Without Dying: Small Metabolites Counteract Proteotoxicity During Desiccation **Alejandra Arroyo**, CSUCI

76 11:15 Impact of α-arrestins on organelle function and cellular metabolism **Elif Filiztekin**, University of Pittsburgh

77 11:30 Glyphosate as an amino acid mimic and the role of human glutamate transporters in glyphosate import **Dionysios Patriarcheas**, West Virginia University

78 11:45 Single-cell RNA sequencing data reveal new energetic constraints on making a (microbial) cell **Leandra Brettner**, Arizona State University

79 12:00 Divergence of TORC1-mediated stress response leads to novel acquired stress resistance in a pathogenic yeast **Jinye Liang**, University of Iowa

80 12:15 Elucidating a Novel Role for Septins During High Temperature Stress Response in *Cryptococcus neoformans* **Stephani Martinez**, Clemson University

Thursday, March 7, 2024

10:30 a.m.–12:30 p.m.
Maryland B

Plant Evolutionary Genetics (Plant)

Session Chairs:
John Lovell, HudsonAlpha Institute for Biotechnology; and Carrie Wessinger, University of South Carolina

81 10:30 A few essential genetic loci distinguish Penstemon species with flowers adapted to pollination by bees or hummingbirds **Carolyn Wessinger**, University of South Carolina

82 10:45 Integrating comparative and quantitative genetics to accelerate breeding efforts **John Lovell**, HudsonAlpha Institute for Biotechnology

83 11:00 The post-domestication history of rice: insights from herbarium genomes and ancestral recombination graphs **Ornob Alam**, New York University (on leave from Independent University, Bangladesh)

84 11:15 The Loaded Potato Genome **Laura Shannon**, University of Minnesota

85 11:30 The Barley Cytonuclear Multi-Parent Population (CMPP) as a Novel Resource for Dissecting Cytonuclear Interactions **Schewach Bodenheimer**, Volcani Agricultural Research Organization (ARO)

86 11:45 Elucidating the genetic architecture governing cytonuclear genomic stoichiometry **Evita Chee**, New Mexico Institute of Mining & Technology

87 12:00 The genetic basis of complex traits in an over-wintering *Arabidopsis thaliana* common garden **Amanda Peake**, University of Toronto

88 12:15 Unravelling the molecular genetics of root system architecture in wheat (*Triticum aestivum* L.) **Tanushree Halder**, Sher-e-Bangla Agricultural University

Thursday, March 7, 2024

1:45 p.m.–3:45 p.m.
Potomac

The Eugenics Movement and Scientific Racism: Past, Present, and Future

Session Chairs:
Tracy Johnson, UCLA; and Denise Montell, University of California, Santa Barbara

The fields of genetics and genomics are exciting scientific domains with great potential for advancing our understanding of the natural world and improving human health. However, the history of our field is marred by the eugenics movement—and unfortunately, genetic concepts and findings are still twisted to support supremacist ways of thinking. Only by confronting the realities of the past and strongly opposing the misuse of scientific findings happening today can we create a scientific enterprise that welcomes and is safe for all—a necessary piece of continuing to move science toward discovery.

Panelists with expertise in the history of science, the eugenics movement, human population genetics, and race relations in the US will join past GSA Presidents Tracy Johnson and Denise Montell to explore the complexities of our field's history and help us conceptualize how to move forward.

Panelists:

Katrina Claw, University of Colorado Anschutz Medical Campus

Nathaniel Comfort, Johns Hopkins University

Steve Farber, Johns Hopkins/Carnegie Science

Daniel Martinez HoSang, Yale University

Jazlyn Mooney, University of Southern California

Thursday, March 7, 2024

4:15 p.m.–6:33 p.m.
Potomac

Keynote 2

Session Chairs:
Maureen Barr, Rutgers University; and Harmit Malik, Fred Hutchinson Cancer Center

4:15 Context is Everything: Learning Scientific Lessons **Needhi Bhalla**, University of California, Santa Cruz

4:50 Presentation of Angelika Amon Award to Xiaoxue Snow Zhou

89 4:52 A noncanonical GTPase signaling mechanism controls exit from mitosis in *Saccharomyces cerevisiae* **Xiaoxue Zhou**, Massachusetts Institute of Technology

5:07 Presentation of James F. Crow Early Career Researcher to Olivia Harringmeyer

90 5:09 The Evolution of an Inversion Supergene in Deer Mice **Olivia Harringmeyer**, Harvard University

5:24 Presentation of International Zebrafish Society Genetics Trainee Award to Mollie Sweeney

91 5:26 Mycobacterial effector EsxM alters macrophage dynamics via the host actin cytoskeleton **Mollie Sweeney**, Duke University

5:41 Presentation of International Mammalian Genome Society President's Award to Jason Bubier

92 5:43 Host genetics, microbiome composition and addiction/addiction-related behavior in mice. **Jason Bubier**, The Jackson Laboratory

5:58 The Unbreakable Attraction of Mosquitoes to Humans **Leslie Vosshall**, HHMI – The Rockefeller University

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Maryland C

Cancer and Metabolism

Session Chairs:
Michelle Mondoux, College Holy Cross, United States; and Tania Reis, University of Colorado

93 8:00 Intestinal tumor proliferation requires and promotes wax ester production from hepatocyte-like cells through PDGF/VEGF signaling **Kerui Huang**, Harvard Medical School

94 8:15 A novel antidiuretic hormone governs tumor-induced renal dysfunction **Wei Roc Song**, Wuhan University

95 8:30 *Drosophila* brain metastasis model uncovers injury-response-like cellular dynamics between host and tumor cells **Chaitali Khan**, NHLBI/National Institute of Health

96 9:00 A high sugar diet, but not obesity, reduces female fertility in *Drosophila melanogaster* **Rodrigo Dutra Nunes**, University of Wisconsin-Madison

97 9:15 Sensing of dietary amino acids and metabolic regulation through Adipokinetic hormone-mediated brain-fat body axis in *Drosophila melanogaster* larvae **Muhammad Ahmad**, Harvard Medical School

98 9:30 Vitamin B12 can rescue tissue-fusion mutant survival in *C. elegans* embryonic development by altering mitochondrial metabolism **Amanda Zacharias**, Cincinnati Children's Research Foundation

99 9:45 Biallelic Variants in *KMO* Cause a Novel Form of Congenital NAD Deficiency **Nathalie Aceves**, Baylor College of Medicine

100 8:45 *Drosophila* Spaetzle, an Ortholog of Human Nerve Growth Factor−β, induces Squamous Cell Carcinoma **Saurabh Singh Parihar**, Indian Institute of Technology, Kanpur

Friday, March 8, 2024

8:00 a.m.–9:30 a.m.
Maryland A

Contemporary Evolution (PEQG)

Session Chair:
Ryan Gutenkunst University of Arizona, United States

101 8:00 Genetic and maternal determinants of adaptive tail length divergence in tropical and temperate house mice (*Mus musculus domesticus*) **Sylvia Durkin**, University of California, Berkeley

102 8:15 Genetic changes underlying adaptation to CO2 in the *Drosophila* suzukii species complex **Alice Gadau**, The Rockefeller University

103 8:30 Continuously fluctuating selection reveals extreme granularity and parallelism of adaptive tracking **Mark Bitter**, Stanford University

104 8:45 Recent population collapse shapes deleterious variation across subpopulations of the endangered Florida scrub-jay. **Mitchell Lokey**, Cornell University

105 9:15 Gene amplification as a driver of insect adaptation to transgenic crops: The case of *Helicoverpa zea* **Megan Fritz**, University of Maryland

106 9:00 Comparative genomics for California's wildlife: linking estimated migration rates and population demographics **Erik Enbody**, University of California, Santa Cruz

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson B-D

Genomes and Genomics: Insights into Complex Genetics and Evolution

Session Chairs:
Jacob Steenwyk, UC-Berkeley/HHMI, United States; and Jolanda van Leeuwen, University of Lausanne

107 8:00 Systematic mapping of natural variants that bypass essential genes **Amandine Batté**, Center for Integrative Genomics, University of Lausanne

108 8:15 Epigenetic Silencing of Transposable Elements Drives Variation In Recombination Landscapes **Yuheng Huang**, UC-Irvine

109 8:30 Temporal Dynamics of Phase Transitions: Transcriptome Profiling in Swarming Locusts **Maeva Techer**, Texas A&M University

110 8:45 A Telomere-to-Telomere (T2T) complete mouse genome **Thomas Keane**, EMBL-EBI

111 9:00 Convergent and lineage-specific genomic changes contribute to adaptations in nectar-taking birds **Ekaterina Osipova**, Harvard University

112 9:15 Evolutionary invention of a thermocouple-like sensor by adaptation of cytochrome c oxidase in a subterrestrial metazoan **TreVaughn Ellis**, American University

113 9:30 Metabolic profile of *Drosophila* exercise-trained flies suggests NRF2 pathway as a link between exercise & oxidative stress **Tolulope Kolapo**, The University of Alabama

114 9:45 Pangenome analysis of 1,098 *Saccharomyces cerevisiae* isolates reveals the hidden genomic and genetic basis behind the phenotypic variation **Victor Loegler**, Université de Strasbourg, CNRS, GMGM UMR 7156, Strasbourg, France.

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Maryland B

Intracellular Dynamics 1

Session Chairs:
Julie Brill, Hospital for Sick Kids; and Rebecca Heald, UC Berkeley

115 8:00 Unexpected roles for the bud site selection machinery in the establishment and maintenance of polarity in *S. cerevisiae* spores **Benjamin Cooperman**, University of Colorado Anschutz Medical Campus

116 8:15 The Role of Hemocytes in Cell Debris Clearance in the *Drosophila* Ovary **Alexandra Chasse**, Boston University

117 8:30 From *Drosophila* to a human immunodeficiency and enhanced cancer cell immunotherapy: hyperactive Rac stimulates cellular cannibalism **Abhinava Mishra**, University of California Santa Barbara

118 8:45 RAS and PLK-1 signaling intersect to control nuclear envelope dynamics in early embryogenesis **Han Bit Baek**, UT MD Anderson Cancer Center

119 9:00 Aneuploidy-induced defects in Ribosome Quality Control disrupt quiescence and aging in wild *S. cerevisiae* **Audrey Gasch**, University of Wisconsin-Madison

120 9:15 *Getting there in one piece:* The Rac pathway is required to maintain cellular integrity during long distance leader-cell migration in *C. elegans* gonadogenesis. **Noor Singh**, University of North Carolina at Chapel Hill

121 9:30 Actin filament stiffness regulates the rate of embryonic wound closure in *Drosophila* **Ji Hong Sayo**, University of Toronto

122 9:45 Ribosomal proteins, Splicing and Cell Competition. Connecting the dots. **Marianthi Kiparaki**, Biomedical Sciences Research Center "Alexander Fleming"

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Potomac C-3

Neurodevelopment

Session Chairs:
Max Heiman, Harvard Medical School; and Kristen Kwan, University of Utah, United States; and Kathy Bui, University of Georgia

123 8:00 Cryo-EM structure of the retrotransposon Copia capsid hints at structural antagonism with dArc1 to regulate structural synaptic plasticity **Peter M'Angale**, University of Massachusetts Chan Medical School

124 8:15 Chromosome-level organization of the regulatory genome in the *Drosophila* nervous system **Xiao Li**, Princeton University

125 8:30 Developmental remodeling repurposes larval neurons for sexual behaviors in adult *Drosophila* **Julia Diamandi**, Villanova University

126 8:45 Toll-7 acts with Fra/DCC to promote commissural axon guidance across the midline **Sarah Gagnon**, University of Pennsylvania

127 9:00 LET-381/FoxF and UNC-30/Pitx2 control fate specification and maintenance of *C. elegans* mesodermal glia that regulate motor behavior. **Nikolaos Stefanakis**, The Rockefeller University

128 9:15 A gene expression program induced by neuronal inactivity that regulates neuronal plasticity **Justin Blau**, NYU Biology Department

129 9:30 Balancing act: exploring pH dynamics in stem cell fate regulation **Bernice Lin**, University of Montana

130 9:45 Ancient enlargement of complex neuronal genes **Matthew McCoy**, Stanford University School of Medicine

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson A

Sex Differences in Biology and Disease

Session Chairs:
Eric Haag, University of Maryland; and Rita Graze, Auburn University

131 8:00 Elucidating shared and dimorphic circuitry regulating aggression in *Drosophila* **Catherine Schretter**, Janelia Research Campus of HHMI

132 8:15 Experience-dependent control of sex-specific cadherin expression defines sexually dimorphic neurite adjacency and synaptic connectivity **Chien-Po Liao**, Columbia University

133 8:30 Regulation of Sex Differences in Innate Immunity by Sex-Determining Gene *transformer* in *Drosophila* **MD Mursalin Khan**, Auburn University

134 8:45 Functional genomics of sexual dimorphism : Doublesex mediates sex-specific control of ultraviolet iridescence in sulphur butterflies **Ling Sheng Loh**, George Washington University

135 9:00 The TGF-β hormone *amh* is a convergently evolved sex determination gene in threespine stickleback (*Gasterosteus aculeatus*) **Matthew Treaster**, University of Georgia

136 9:15 The RNA-binding protein, Rbpms2, regulates mTOR signaling via the GATOR2 complex protein, Mios, to promote oogenesis and female fate in zebrafish **Miranda Wilson**, Icahn School of Medicine at Mount Sinai

137 9:30 Combining transcriptomic and epigenetic data to understand the sources of sex-specific ageing in bats **Jack Rayner**, University of Maryland, College Park

138 9:45 Ancient structural variation controls heterodichogamy across Juglandaceae **Jeffrey Groh**, University of California, Davis

Friday, March 8, 2024

8:00 a.m.–10:00 a.m.
Maryland D

Genetics in Drug Discovery Industry Session

Sponsored by Avalo and InVivo Biosystems

Session Chair:
Kailene Simon, Aliada Therapeutics, United States

8:00 Pipeline for RNAi therapeutics: from target to lead **Alexey Wolfson**, ADViRNA

8:30 New models for the pursuit and discovery of biology **Ryan York**, Arcadia Biosciences

9:00 Avalo AI **Mariano Alvarez**

9:30 Finding effective treatments fas – Lessons leard from fish & worms **Ben Jussila**, InVivo Biosystems

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Potomac AB

Aging and Neurodegeneration

Sponsored by the National Institute on Aging

Session Chairs:
Pankaj Kapahi, Buck Institute; and Sean Curran, University of Southern California, United States; and Hans Dalton, University of Utah, United States

139 10:30 The Interplay of peroxisome and mitochondrial dynamics during aging in *Drosophila* melanogaster **Ankur Kumar**, Iowa State University

140 10:45 Defective phagocytosis leads to neurodegeneration through systemic increased innate immune signaling in *Drosophila.* **Guangmei Liu**, Boston University

141 11:00 Probing the mechanism of ROS-induced glial lipid droplet formation and implications for Alzheimer's disease **Matthew Moulton**, Baylor College of Medicine

142 11:15 Dissecting cutaneous wound healing in zebrafish **Leah Greenspan**, National Institutes of Health

143 11:30 Tissue-specific temporal responses to aging in *Drosophila melanogaster* transcriptome **Maryam Nasiri Aghdam**, Clemson University

144 11:45 Addressing Mendelian neurodegeneration: genome engineering of mouse models for X-linked dystonia-parkinsonism **Yu Zhao**, NYU Langone Health

145 12:00 Uncovering shared and neuron-specific targets across ALS and FTD relevant circuits in *Drosophila* models of TDP-43 proteinopathy **R. Keating Godfrey**, University of Florida

146 12:15 Profiling Transcriptomics and Chromatin Accessibility Reveals Molecular Changes Associated with Protective Effects Induced by Priming **Hsin-Yun Chang**, Cornell University

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Maryland C

Cell Biology of Development

Session Chairs:
Rachel Brewster, UMBC; and Jordan Ward, University of California, Santa Cruz, United States

147 10:30 Large Scale Analysis of Early Lethal Phenotypes **Jesse Mager**, University of Massachusetts

148 10:45 A cellular shearing mechanism important for dynamic tissue shape changes and cell differentiation **Liyuan Sui**, TUD Dresden University of Technology

149 11:00 The Nucleus as a Barrier to Epithelial Cell Shape Changes **Rashmi Budhathoki**, University of Denver

150 11:15 Positioning of the *Drosophila* hematopoietic niche **Kara Nelson**, University of Pennsylvania

151 11:30 *C. elegans* Hedgehog-related Proteins are Apical Extracellular Matrix Components **Nicholas Serra**, University of Pennsylvania Perelman School of Medicine

152 12:00 The Reissner's Fiber assembles downstream of local motile cilia activity to control body morphology **Elizabeth Bearce**, University of Oregon

153 12:15 Mechanosensitive live cell extrusions shrink the gut following food withdrawal **Emile Magny**, Stanford University School of Medicine

154 11:45 Control and Sensing of Spatially Patterned Embryonic Genome Activation Is Essential for Early Development **Matthew Good**, University of Pennsylvania

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Maryland D

Chromosome Dynamics

Session Chairs:
David Lowry, Michigan State University, United States; and Laurie Stevison, Auburn University, United States and Spencer Koury Auburn University United States

155 10:30 A genetic model for metazoan programmed DNA elimination **Jianbin Wang**, The University of Tennessee, Knoxville

156 10:45 Regulation and function of non-canonical cell cycles in *C. elegans* and human hepatocyte organoids **Matilde Galli**, Hubrecht Institute

157 11:00 Actin nucleator Arp2/3 promotes efficient DNA repair during *C. elegans* meiosis **Jordan Brown**, University of Oregon

158 11:15 Transcriptional regulators modulate DNA damage response **Gonen Memisoglu**, The University of Chicago

159 11:30 Defective crossover homeostasis compromises chromosome segregation in aged mouse spermatocytes **Francesca Cole**, University of Texas MD Anderson Cancer Center

160 11:45 Recombination rate plasticity depends not only on environmental stressors, but also genomic context and genetic background **Laurie Stevison**, Auburn University

161 12:00 Aneuploidies of Specific Chromosomes upon Loss of the Spindle Checkpoint Protein Bub3 in Budding Yeast **Soni Lacefield**, Geisel School of Medicine at Dartmouth

162 12:15 General Discussion

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Maryland A

Deleterious Mutation (PEQG)

Session Chair:
John Kelly, Kansas University

163 10:30 Genetic basis of lethal mutations and how they persist in nature **Sarah Marion**, Duke University

164 10:45 Comparison of mutation rate in different ploidy states of the fission yeast *Schizosaccharomyces pombe* as a test of the drift-barrier hypothesis **Kevin Bao**, University of Wisconsin, Madison

165 11:00 Selection can locally reduce deleterious germline mutation rates via the deposition of H3K36me3 and DNA methylation **Leandros Boukas**, Johns Hopkins University/Children's National Hospital

166 11:15 Natural selection causes association studies to prioritize variant specificity over variant impact **Jeffrey Spence**, Stanford University

167 11:30 The impact of sample design on the observed site frequency spectra and its relevance for the discovery of rare deleterious variants in natural populations and associations with phenotypic variation **Margaret Steiner**, University of Chicago

168 11:45 Background selection landscape in human genomes: insights from Ancestral Recombination Graph **Yun Deng**, UC Berkeley

169 12:00 The relationship between the mutation spectrum and the distribution of fitness effects across species **David Castellano**, University of Arizona

170 12:15 Environment-independent distribution of mutational effects emerges from microscopic global epistasis **Sergey Kryazhimskiy**, University of California San Diego

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson A

Forward Genetics: Building an Equitable Scientific Future Through Education and Outreach

Session Chairs:
Aimee Jaramillo-Lambert, University of Delaware and Teresa Lee, University of MA, Lowell

171 10:30 Increasing undergraduate access to research with *C. elegans* **Joslyn Mills**, Bridgewater State University

172 10:45 Melanogaster: Catch The Fly!: A Citizen Science Network in Adaptation Genomics **Josefa González**, Institut de Biologia Evolutiva (CSIC-UPF)

173 11:00 Mini-CURE molecular genetics lab exercises using *C. elegans* and toxicology **Julie Hall**, Lincoln Memorial University

174 11:15 A virtual lab meeting training program benefits both mentees and host labs **Megan Phifer-Rixey**, Drexel University

175 11:30 An undergraduate course at the intersections of genetics, disability studies, and gender and sexuality studies **Karen Hales**, Davidson College

176 11:45 Development and Retention of Female Academics Via a Peer-led Book Club Intervention **Amanda Zacharias**, Cincinnati Children's

177 12:15 Nematode Hunters: an integrated approach combining science outreach, course-based undergraduate research, and mentored research to identify novel nematode viruses **Jessica Sowa**, West Chester University of Pennsylvania

178 12:00 Enhancing biology education in Nigeria: use of *Drosophila* as an effective teaching and learning aid **Rashidatu Abdulazeez**, Ahmadu Bello University, Zaria

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Potomac C-3

Sensory Systems

Session Chairs:
Aakanksha Singhvi, Fred Hutchinson Cancer Center, United States; and Pelin Volkan, Duke University

179 10:30 Investigating the mechanisms by which hunger modulates an animal's olfactory behavior **Roshni Jain**, University of Nevada, Reno

180 10:45 Type 3 iodothyronine deiodinase (DIO3) controls the timing and stability of cone development in human retinal organoids **Robert Johnston**, Johns Hopkins University

181 11:00 Velvet Ant venom activates both insect and mammalian pain sensors through distinct mechanisms **Lydia Borjon**, Indiana University

182 11:15 Identifying cellular and molecular regulators of acoustic startle sensitivity **Kimberly Scofield**, North Carolina State University

183 11:30 How flies and vector mosquitoes sense heat and humidity (and you) **Paul Garrity**, Brandeis University

184 11:45 Neurexin (*nrx-1*) isoforms differentially mediate multiple foraging circuits and behaviors in *C. elegans* **Michael Hart**, University of Pennsylvania

185 12:00 Defining neuronal extracellular vesicle (EV) subtypes by single-EV molecular analysis **Inna Nikonorova**, Rutgers University

186 12:15 Neuromodulation of serotonin drives presynaptic plasticity underlying reward learning **Aaron Stahl**, University of Iowa

Friday, March 8, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson B-D

Technology, Resources, and Tools

Session Chairs:
Brenda Andrews, University of Toronto, Canada; and Kailene Simon, Aliada Therapeutics, United States

187 10:30 A Notch signal required for a morphological novelty in *Drosophila* has antecedent functions in genital disc eversion **Donya Shodja**, George Washington University

188 10:45 Decoding developmental signaling using molecular optogenetics in zebrafish **Katherine Rogers**, National Institutes of Health

189 11:00 WheresWally: a bioinformatic pipeline for rapid mutation mapping using whole genome sequencing **McKenna Feltes**, Johns Hopkins University

190 11:15 Ecolocator: A supervised machine learning model for location and climate-of-origin prediction **Jordan Rodriguez**, University of Oregon

191 11:30 ProteinCartography: Comparing proteins with structure-based maps for interactive exploration **Dennis Sun**, Arcadia Science

192 11:45 Leveraging genome-scale molecular networks from multiple species using machine learning to translate gene-level data and knowledge across species **Arjun Krishnan**, University of Colorado Anschutz Medical Campus

193 12:00 Biomarker Curation, Integration, and Data Model Development **Daniall Masood**, George Washington University

194 12:15 A genome-wide genetic screen uncovers determinants of human melanogenesis **Vivek Bajpai**, University at Oklahoma

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Woodrow Wilson A

C. elegans Session 2

Session Chair:
Michael Hart, University of Pennsylvania, United States

2:00 Keynote **Oded Rechavi**

195 2:30 Update on the Alliance of Genome Resources **Paul Sternberg**, California Institute of Technology

196 2:40 Investigating differences in mitotic checkpoint strength in the early *C. elegans* embryo **Priscila Medrano Gonzalez**, McGill University

197 2:45 Developmental phenotypes caused by the inappropriate inheritance of histone methylation require Polycomb Repressive Complex 2 **Zaynab Massenburg**, Kennesaw State University

198 2:50 The CYK4 GAP domain controls contractile ring assembly and dissolution by regulating the corical targeting of centralspinlin **Aleesa Schlientz**, University of CA, San Diego

199 3:10 The transgenerational accumulation of repressive chromatin extends lifespan via DAF-12 signaling in *C. elegans* **Scott Roques**, University of Massachusetts Lowell

200 3:15 DROSHA forms distinct nuclear condensates in *C. elegans* **Bing Yang**, National Institute of Diabetes and Digestive and Kidney Diseases

201 3:20 Mechanical force of uterine occupation enables large vesicle extrusion from proteostressed maternal neurons **Guoqiang Wang**, Rutgers University

202 3:25 Emerging high-content methods for aging research in *C. elegans* **George Sutphin**, University of Arizona

203 3:30 Sex-specific mechanisms of temperature-induced transposon mobilization in spermatocytes **Diana Libuda**, University of Oregon

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Woodrow Wilson B-D

Chromosome Biology and Genome Technology (Yeast)

Session Chairs:
Neil Hunter, University of California, Davis, United States; and Gonen Memisoglu, The University of Chicago, United States

2:00 YGM Lifetime Achievement Award Introduction **Gonen Memisoglu**

2:05 YGM Lifetime Achievement Award **Jim Haber**, Brandeis University

204 2:30 Modeling the fitness cost of chromosomal duplication identifies determinants of aneuploidy toxicity in budding yeast **Julie Rojas**, University of Wisconsin-Madison

205 2:45 SUMO modifies Hop1^{HORMAD1} at distinct sites to facilitate checkpoint signaling and inter-homolog crossing over **Sara Hariri**, UC Davis

206 3:00 Strategic targeting of Cas9 nickase induces large segmental duplications **Yuki Sugiyama**, Kyushu University

207 3:15 Expanded CCTG tetranucleotide DNA repeat tracts associated with Myotonic Dystrophy Type-2 elevate DNA fragility *in vivo* in a length-dependent manner **Jane Kim**, California State University San Marcos

208 3:30 Determining the role of a major microtubule binding pathway in the regulation and function of kinetochore **Nairita Maitra**, Fred Hutch Cancer Center

209 3:45 Elevated and skewed dNTP pools alter multiple activities at the replisome **Jennifer Surtees**, University at Buffalo

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Potomac AB

Developmental Genetics 1 (*Drosophila*)

Session Chairs:
Cheng-Yu Lee, University of Michigan, United States; and Rachel Smith-Bolton, University of Illinois; and Ana Caroline Paiva Gandara, University of Wisconsin-Madison, United States

210 2:00 Evolution in action: extreme genomic and phenotypic variation in RNAi/meiotic drive systems **Eric Lai**, MSKCC

211 2:15 Unveiling a novel exonuclease driving paternal mitochondrial DNA elimination in *Drosophila* spermatogenesis **Zhe Chen**, National Institutes of Health

212 2:30 Specialized translational machinery is required for spermatogenesis in *Drosophila melanogaster* **Brook Falk**, University of Toronto

213 2:45 Mating induces ecdysone signaling in the *Drosophila* testis niche disrupts soma-germline contacts and stem cell cytokinesis **Tiffany Roach**, Drexel University

214 3:15 Close encounters with Oskar: proteomic profiling of germ granule interactions and beyond **Kwan Yin Lee**, Princeton University

215 3:30 *Drosophila* H2A.Z regulates developmental timing and the global transcriptome **Pakinee Phromsiri**, University of Rochester

216 3:45 Cuticle nanopatterning in the *Drosophila* olfactory organs is controlled by the ER-resident *Osiris* family protein Gore-tex. **Shigeo Hayashi**, RIKEN Center for Biosystems Dynamic Research

217 3:00 Combinatorial role of signaling factors in the maintenance of *Drosophila* germline stem cell fate **Amelie Raz**, Whitehead Institute for Biomedical Research

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Maryland D

Developmental Genetics 2 (Cardiac Development and Regeneration) (Zebrafish)

Session Chairs:
Christian Mosimann, University of Colorado School of Medicine, United States; and Katherine Rogers, NIH/NICHD

218 2:00 Investigating the generation of asymmetric cell migration during heart development **Vanessa Gonzalez**, Princeton University

219 2:15 Dissecting the cell type-specific roles of Hand2 during zebrafish cardiac development **Yanli Xu**, Max Planck Institute for Heart and Lung Research

220 2:30 The role of neural crest-derived cardiomyocytes in zebrafish heart development and regeneration **Julia Whittle**, University of Utah

221 2:45 A regulatory network of Sox and Six transcription factors initiate a cell fate transformation during hearing regeneration in adult zebrafish **Shawn Burgess**, National Human Genome Research Institute

222 3:00 Neutrophils facilitate the epicardial regenerative response after heart injury **Elizabeth Peterson**, Emory University

223 3:15 ptx3a+ fibroblast/epicardial cells provide a transient macrophage niche to promote heart regeneration **Jisheng Sun**, Emory University

224 3:30 The role of cilia genes in the development, survival and regeneration of hair cells **Tamara Stawicki**, Lafayette College

3:45 General Discussion

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Maryland C

Disease Models 1 (Mammalian)

Session Chairs:
Marie Bourdon, Institute Pasteur, France; and Teresa Gunn, McLaughlin Research Institute

225 2:00 Genetic analysis of CNS autoimmunity using the diversity of the Collaborative Cross reveals unique phenotypes and mechanisms **Emily Holt**, University of Vermont

226 2:15 A cross-species approach using an *in vivo* evaluation platform in mice demonstrates that sequence variation in human *RABEP2* modulates ischemic stroke outcomes **Han Kyu Lee**, Duke University School of Medicine

227 2:30 Mapping cell death and expression QTL using a barcoded library of genetically diverse macrophages **Gavin Fujimori**, UMass Chan Medical School

2:45 Trainee Talk

3:00 Trainee Talk

3:15 Verne Chapman Lecture Introduction **Yann Herault**, CNRS

228 3:30 Genetics of Susceptibility to Mouse Myeloma leads to Co-targeting of Oncogenes and Tumor Suppressors **Beverly Mock**, CCR, NCI, NIH

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Maryland A

Methodological Advances in Population Genomics (PEQG)

Session Chair:
Sara Mathieson

229 2:00 Generative adversarial networks, transfer learning, and interpretability for evolutionary inference **Sara Mathieson**, Haverford College

230 2:30 Population genetics meets ecology: a guide to simulations in continuous geography **Elizabeth Chevy**, Brown University

231 2:45 A genealogy-based framework to estimate population structure and demographic history **Charleston Chiang**, University of Southern California

232 3:00 Creating a fully-differentiable coalescent simulator using StyleGAN **Dylan Ray**, UNC Chapel Hill

233 3:15 Bayesian phylodynamic inference of population dynamics with dormancy **Jaehee Kim**, Cornell University

234 3:30 Tests of Ghost Introgression into Extant Lineages **Margaret Wanjiku**, San Diego State University

235 3:45 Stabilizing selection shapes the distribution of shared variation after archaic introgression **Aaron Ragsdale**, University of Wisconsin-Madison

Friday, March 8, 2024

2:00 p.m.–4:00 p.m.
Potomac C-3

Technology, Resources, and Tools/ EvoDevo (*Drosophila*)

Session Chairs:
Bomyi Lim, University of Pennsylvania, United States; and Hongjie Li Baylor, College of Medicine; and Tzu-Chiao Lu, Baylor College of Medicine; and Artyom Kopp, UC Davis; and Leslie Pick, University of MD, United States

236 2:00 A machine vision guided robot for fully automated embryonic microinjection **Andrew Alegria**, University of Minnesota

237 2:15 The Janelia Atalanta plasmids provide a simple and efficient CRISPR/Cas9-mediated homology directed repair platform for *Drosophila* **David Stern**, Howard Hughes Medical Institute

238 2:30 Building metabolic pathway resources for *Drosophila melanogaster* **Steven Marygold**, University of Cambridge

239 2:45 The Alzheimer's Disease Fly Cell Atlas (AD-FCA): A Whole-Organism, Single-Cell sequencing resource on Brain-Body Interactions **Ye-Jin Park**, Baylor College of Medicine

240 3:00 OligoY pipeline allows full Y chromosome painting assays **Maria Vibranovski**, University of Sao Paulo

241 3:15 PANGEA: A New Gene Set Enrichment Tool for Common Research Organisms **Claire Hu**, Harvard Medical School

242 3:30 The genetic basis of novel cell type evolution in the *Drosophila* sex comb **Ben Hopkins**, University of California, Davis

243 3:45 Comparative developmental genetics of female-limited mimicry polymorphisms **Sofia Sheikh**, University of Chicago

Friday, March 8, 2024

6:30 p.m.–8:15 p.m.
Potomac AB

Keynote 3 Science to Discovery and Application

Session Chairs:
Maureen Barr, Rutgers University; and Harmit Malik, Fred Hutchinson Cancer Center

6:30 Introduction **Harmit Malik**, FHCRC

6:32 Overview **Kailene Simon**, Aliada Therapeutics

6:35 Nucleic Acid Immunity and the development of nucleic acid therapeutics **Art Krieg**, UMass Chan Medical School

7:00 Targeted Modulation of Gene Expression with Antisense Oligonucleotides **Adrian Krainer**, Cold Spring Harbor Laboratory

7:25 Panel Discussion

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson A

C. elegans Session 3

Session Chair:
Katherine McJunkin, NIH, United States

244 8:00 Chromatin Dynamics and Aging in *C. elegans* **Siu Lee**, Cornell University

245 8:30 Vitamin B12 Protects Against DGLA-Induced Ferroptosis in *C. elegans* **Michael Mortensen**, Washington State University

246 8:45 Neurobehavioral and mobility phenotypes of adenylosuccinate lyase deficiency are due to distinct mechanisms of SAICAR toxicity **Sabrina Sony**, The Pennsylvania State University

9:00 General Discussion

247 9:15 Nutrient-Induced Overcoming of Dual Inhibition on MYRF Cleavage on the Cell Membrane is essential for Temporal Developmental Control in *C. elegans* **Yingchuan Qi**, ShanghaiTech University

248 9:30 'UnLocking' Protein Degradation in *C. elegans* **Erika Sorensen**, Wabash College

249 9:45 Loss of the H3K9me2 demethylase jhdm-1 in C. elegansresults in a transgenerational decrease in chemotaxis **Jaely Chavez**, Oglethorpe University

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Maryland A

Comparative Genomics (PEQG)

Session Chair:
Li Zhao, Rockefeller University, United States

250 8:00 The origin and evolution of de novo genes and de novo proteins **Li Zhao**, The Rockefeller University

251 8:30 A vast evolutionarily novel translatome participates in conserved cellular processes **Aaron Wacholder**, University of Pittsburgh

252 8:45 Evolutionary Signatures of Host-Pathogen Interactions through the Lens of Paleogenomics **C. Eduardo Guerra Amorim**, California State University Northridge

253 9:00 Horizontal gene transfer as a mechanism for evolution of novel immune defenses in *Drosophila* **Rebecca Tarnopol**, UC Berkeley

254 9:15 Evolutionary diversification and repeated gene capture by telomeric retrotransposons across the *Drosophila* genus **Jae Hak Son**, Rutgers, The State University of New Jersey

255 9:30 Duplication, transposition, and divergence of the telomerase RNA underlies the evolution of Mimulus telomeres **Jae Young Choi**, University of Kansas

256 9:45 Selective dynamics of interruptions at short tandem repeats **Michael Goldberg**, University of Utah

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Potomac AB

Developmental Genetics 2 (*Drosophila*)

Session Chairs:
Cheng-Yu Lee, University of Michigan, United States; and Rachel Smith-Bolton, University of Illinois; and Ana Caroline Paiva Gandara, University of Wisconsin-Madison, United States

257 8:00 Dusky-like shapes the corneal lens by maintaining apical expansion of retinal cells and establishing a scaffold of ZP domain proteins **Neha Ghosh**, NYU School of Medicine

258 8:15 A novel protein Outspread determines organ dimension during salivary gland tubulogenesis **Ji Hoon Kim**, Johns Hopkins University

259 8:30 The pioneer transcription factor *zelda* is crucial for tissue patterning and morphology in the regenerating *Drosophila* wing imaginal discs **Anish Bose**, University of Illinois at Urbana Champaign

260 8:45 Tissue regeneration following necrosis requires non-apoptotic caspase activity **Jacob Klemm**, Arizona State University

261 9:00 Unscheduled endocycles impair growth of the *Drosophila* wing disc **Yi-Ting Huang**, Indiana University Bloomington Biology

262 9:15 Nutrient-dependent dedifferentiation in the midgut epithelium promotes adaptive growth in *Drosophila* **Yuichiro Nakajima**, University of Tokyo

263 9:30 Two sequential gene expression programs bridged by cell division support long-distance collective cell migration **Jingjing Sun**, California Institute of Technology

264 9:45 Regulation of the Competency to Amplify Intermediate Progenitor generation during Neurogenesis **Cyrina Ostgaard**, University of Michigan

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Maryland C

Disease Models 2 (Mammalian)

Session Chairs:
Kento Morimoto; and Michelle Southard-Smith, Vanderbilt University Medical Center, United States

265 8:00 Stress-responsive keratins regulate innate immunity in inflamed skin **Erez Cohen**, University of Michigan Medical School

266 8:15 Evidence that Orthologous Loci Containing R-spondin 2 Regulate Respiratory Responses to Air Pollution in Mice and Humans **Samir Kelada**, University of North Carolina

267 8:30 A European effort for therapeutic gene editing in Rett syndrome: from organoids to mouse models **Tania Sorg**, PHENOMIN - ICS

268 8:45 Humanization of the mouse telomerase reverse transcriptase gene reset telomeres to human length **Fan Zhang**, Washington State University

269 9:00 A missense mutation in *Birc6* causes dwarfism in mice **Monica Justice**, Hospital for Sick Children

270 9:15 The host-transposase fusion *THAP7* is a transcription factor implicated in vertebrate development and human intellectual disability **Rachel Cosby**, National Institute of Child Health and Human Development

271 9:30 Defects in maternal LSD1/KDM1A reprogramming may contribute to phenotypes observed in human neurodevelopmental disorders **Carrie Falkenberry**, Emory University

272 9:45 Chance, individuality, and phenotypic variation in health and disease **Joseph Nadeau**, Maine Medical Center

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson B-D

Gene Regulation (Yeast)

Session Chairs:
David Gresham, New York University, United States; and Tracy Johnson, UCLA

273 8:00 The nonsense-mediated mRNA decay pathway degrades regulatory non-coding RNAs **Nicholas Guydosh**, NIDDK/NIH

274 8:15 Understanding the mechanisms controlling deposition and interplay of co-transcriptional nucleosome modifications **Tasniem Fetian**, University of Pittsburgh

275 8:45 Insights into yFACT-gene interactions and the mechanisms underlying a human developmental disorder through analyses of histone mutants in yeast **Andrea Duina**, Hendrix College

276 9:00 Regulation of heterochromatin formation and mRNA export via potential targets of Dsk1 and Kic1 kinases **Aditi Vyas**, Claremont McKenna College, Scripps College and Pitzer College

277 9:15 Allelic variation in codon bias and mRNA folding stability act on transcript abundances, translation, and protein abundances via both shared and distinct mechanisms in yeast **Daniel Pollard**, Western Washington University

278 9:30 Modularizing the budding yeast transcription factor repertoire **Daniel Lusk**, USC

279 8:30 The fourth zinc finger is a negative regulator of yeast transcription factor Fzf1 **Ying Du**, University of Saskatchewan

9:45 General Discussion

Saturday, March 9, 2024

8:00 a.m.–10:00 a.m.
Potomac C-3

Sex Differences in Biology and Disease/ Genomes and Genomics (*Drosophila*)

Session Chairs:
Doris Bachtrog, UC Berkeley; and Rita Graze, Auburn University, United States; and Kevin Wei, University of British Columbia; and Olivia Rissland, University of Colorado School of Medicine; and J.J. Emerson, UC Irvine

280 8:00 The Sex of the Fat Body is a Locus of the Sex Difference in Reproductive and Ingestive Response to Energy Deficits **Attilio Ceretti**, Lehigh University

281 8:15 Sexual dimorphism in tumor growth requires innate immune cells from the tumor microenvironment and systemic regulation **Xianfeng Wang**, Tulane University School of Medicine

282 8:30 Evolutionary and Functional Characterization of Female Control of the Mating Plug in *Drosophila melanogaster* **Jolie Carlisle**, Cornell University

283 8:45 Identification of female ovulation-regulating membrane receptors/proteins in *D. melanogaster* **Mengye Yang**, Cornell University

284 9:00 Structure-expression analysis of different-sized tandem duplicates of the *Alcohol dehydrogenase* locus in *Drosophila melanogaster* **David Loehlin**, Williams College

285 9:15 What vs. When: Determining functional differences between canonical histone H3.2 and variant histone H3.3 in post-mitotic cells **Jeanne-Marie McPherson**, University of North Carolina at Chapel Hill

286 9:30 Impact of *de novo* transposition events on the 3D nuclear architecture and sequence structure of telomeres and centromeres in multigenerational heat-shock lines of *Drosophila melanogaster* **Ryan Pellow**, University of Iowa

287 9:45 Investigating the role of the microbiome on gonadogenesis **Taylar Mouton**, Johns Hopkins University

Saturday, March 9, 2024

8:00 a.m. –10:00 a.m.
Maryland D

Technology, Resources, and Tools (Zebrafish)

Session Chairs:
Alexa Burger, University of Colorado, United States; and Shawn Burgess, NHGRI/NIH, United States

288 8:00 Quantifying dynamics of optogenetic signaling activators in zebrafish embryos **Allison Saul**, National Institutes of Health

289 8:15 Single-cell analysis of shared signatures and transcriptional diversity during zebrafish development **Abhinav Sur**, National Institute of Child Health and Human Development, National Institutes of Health

290 8:30 Safe harbor landing sites for reproducible transgenesis and variant testing in zebrafish **Christian Mosimann**, University of Colorado School of Medicine, Anschutz Medical Campus

291 8:45 ABE-Ultramax for high-efficiency biallelic adenine base editing **Wei Qin**, Oklahoma Medical Research Foundation

292 9:00 Discovering context-specific functionally-equivalent genes in research organisms using cross-species transcriptome-based machine learning **Hao Yuan**, Michigan State University

293 9:15 Towards large-scale computational whole-organism microanatomical phenotyping: Democratizing access to large-field submicron histotomography, cloud-based visualization, and computational workflows **Keith Cheng**, Penn State College of Medicine

294 9:30 Telomere-to-telomere genome assemblies for commonly used zebrafish laboratory strains **Javan Okendo**, National Human Genome Research Institute

9:45 General Discussion

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Maryland A

Adaptation (PEQG)

Session Chair:
Elizabeth Everman, University of Oklahoma, United States

295 10:30 The genetic basis of copper resistance and adaptation in natural populations **Elizabeth Everman**, University of Oklahoma

296 11:00 Characterizing Epistasis in Copper Sulfate Resistance using Chromosome Fixation and Bulk Segregant Analysis **Cassandra Buzby**, New York University

297 11:15 A molecular evolutionary cascade facilitates nematode parasitism of prey carrying toxic cardiac glycosides **Perla Achi**, UCR

298 11:30 Chaos below the stability: evolution-selection equilibrium model explains co-existence of resistant and susceptible strains **Pleuni Pennings**, San Francisco State University

299 11:45 Investigating freeze-thaw tolerance in *S. cerevisiae* via experimental evolution **Leah Anderson**, University of Washington

300 12:00 Natural hybrid zones reveal the molecular underpinnings and evolutionary history of hummingbird pollination in *Penstemon* **Lucas Wheeler**, University of South Carolina

301 12:15 Cracking coevolution: consequences of spatial dynamics on coevolving quantitative traits **Victoria Caudill**, University of Oregon

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson A

C. elegans Session 4

Session Chair:
David Wynne, University of Portland, United States

10:30 Keynote **Swathi Arur**

302 11:00 The expanded role of the conserved *snpc-1* and *snpc-3* gene families in *C. elegans* small RNA transcription **Lars Benner**, Johns Hopkins University

303 11:15 Determination of the mechanisms governing piRNA degradation **Benjamin Pastore**, The Ohio State University

11:30 General Discussion

304 11:45 Polarizing Epithelia with Branched Actin Regulators **Patricia Irizarry**, Rutgers Univeristy

305 12:00 Investigating the Impact of PI(4,5)P_2 on Biogenesis of Extracellular Vesicle Subpopulations from *C. elegans* Cilia **Malek Elsayyid**, University of Delaware

306 12:15 The conserved kinase NEKL-4/NEK10 orchestrates ciliary integrity and mitochondrial dynamics to modulate hyperglutamylation-induced neurodegeneration **Kaiden Power**, Rutgers University

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Maryland C

Complex Traits and Evolution (Mammalian)

Session Chairs:
Alexis Garretson, Tufts University and The Jackson Laboratory, United States; and Xavier Montagutelli, Institut Pasteur, France

307 10:30 Analysis of hundreds of genes with limited functional annotation that are required for normal mammalian development **David Beier**, Seattle Children's Research Institute

308 10:45 Signatures of selection associated with haploid biased transcript exchange in murine round spermatids **Daniel Shaw**, University of Montana

309 11:00 Quantitative Trait Locus mapping in a mouse model of ischemic stroke identifies Macrophage Scavenger Receptor 1 (Msr1) as modifier of cerebral infarct volume **Douglas Marchuk**, Duke University

310 11:15 The genetic regulation of dose response in a diverse mouse cell population is revealed by cell morphology QTL (cmQTL) **Laura Reinholdt**, The Jackson Laboratory

311 11:30 QTL mapping reveals independent loci affecting the magnitude and composition of inactivated influenza vaccine- and adjuvant- mediated immune responses in an F2 intercross **Martin Ferris**, University of North Carolina, Chapel Hill

312 11:45 Characterizing the influence of genetic variation on cell states **Selcan Aydin**, The Jackson Laboratory

12:00 Mary Lyon Lecture introduction **Fernando Pardo-Manuel de Villena**, UNC, Chapel Hill

313 12:15 Leveraging Mammalian Genetics to Silence Infectious Diseases **Clare Smith**, Duke University

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Potomac C-3

Disease Models and Aging (*Drosophila)*

Sponsored by the National Institute of Aging

Session Chairs:
Jason Tennessen, Indiana University; and Tania Reis, University of Colorado; and Lydia Grmai, University of Pittsburgh, United States

314 10:30 Natural partial loss of function variants in *SEL1L* rescue NGLY1 deficiency by altering ERAD and improving proteasome function **Travis Tu'ifua**, University of Utah

315 10:45 The *Drosophila melanogaster* enzyme Glycerol-3-phosphate dehydrogenase (GPDH1) interacts with Target of rapamycin (Tor) to control larval growth. **Shefali Shefali**, Indiana University Bloomington

316 11:00 Time Flies, how? Unlocking the Secrets of Aging **Hongjie Li**, Baylor College of Medicine

317 11:15 Extracellular vesicles mediate venom protein function in the parasitoid wasp *Ganaspis hookeri* **Nathan Mortimer**, Oregon State University

318 11:30 A *Drosophila* model to investigate cell-intrinsic and non- autonomous toxicity of C9orf72 familial ALS and FTD **Isabel Hubbard**, Stony Brook University

319 11:45 Yolk protein 3 (YP3) has both metabolic and immune functions in *Drosophila melanogaster.* **Krystal Maya-Maldonado**, Johns Hopkins University

320 12:00 Tau functions in glia lipid droplet formation and protects against neuronal ROS with implications in disease progression. **Lindsey Goodman**, Baylor College of Medicine

321 12:15 Tumor cytokine-induced hepatic gluconeogenesis contributes to cancer cachexia: insights from full body single nuclei sequencing **Ying Liu**, Harvard Medical School

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Potomac AB

Gene Regulation (*Drosophila*)

Session Chairs:
Zeba Wunderlich, Boston University; and Shelby Blythe, Northwestern University; and Lianne Cohen, Boston University

322 10:30 The conserved transcription factor Hmx/HMX1 establishes a positive feedback loop to specify blue-sensitive photoreceptor fate. **Joseph Bunker**, Umass Boston

323 10:45 Promoter-proximal pausing of RNA Polymerase II as a key regulator of morphogenetic furrow progression in *Drosophila* larval eye development **Bonnie Weasner**, Indiana University

324 11:00 The histone acetyltransferase Nejire is recruited to the genome by the pioneer factor Zelda and activates gene expression during the maternal-to-zygotic transition. **Audrey Marsh**, University of Wisconsin-Madison

325 11:15 *Drosophila* hnRNP M homolog Rumpelstiltskin promotes Homie barrier activity and regulates Polycomb-dependent 3D interactions **Savanna Lyda**, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

326 11:30 Damage-Responsive enhancers activate the regeneration program by sensing sequential inputs **John Quinn**, Arizona State University

327 11:45 Bicoid-nucleosome competition sets a concentration threshold for transcription **Eleanor Degen**, Northwestern University

328 12:00 Spatiotemporal regulation of *orthodenticle* during early embryogenesis and retinal development in *Drosophila* **Jungwon Lee**, Hamilton College

329 12:15 Integrator-mediated clustering of poised RNA polymerase II synchronizes histone transcription **Feiyue Lu**, NYU School of Medicine

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Maryland D

Genetics, Immunity, Behavior, and Disease (Zebrafish)

Session Chairs:
Qing Deng, Purdue University; and Kurt Madsen, North Carolina State University

330 10:30 Establishing the zebrafish as a model to study the pharynx **Kiyohito Taimatsu**, NIH

331 10:45 Dixdc1b is a novel downstream effector of Nckap1l (Hem1) during biliary system morphogenesis. **Takuya Sakaguchi**, Cleveland Clinic

332 11:00 Discovery of a new external organ in the zebrafish, an exciting model to study the immune response *in* and *ex vivo* **Daniel Castranova**, NICHD, NIH

333 11:15 Decoding Neutrophil Dynamics During Mycobacterial Infection Using Live Imaging, Single-Cell, and Dual Host-Pathogen RNA-Seq Approaches **Gopinath Viswanathan**, Duke University

334 11:30 A high-throughput whole-animal screen to identify modifiers of atherogenic lipoproteins **Daniel Kelpsch**, Johns Hopkins University

335 11:45 The atypical cadherin-encoding gene *cdh16* directs establishment and plasticity of acoustic startle response thresholds **Jessica Nelson**, University of Colorado Denver

336 12:00 PCP proteins guide the way to a fast escape **Joy Meserve**, University of Pennsylvania

12:15 General Discussion

Saturday, March 9, 2024

10:30 a.m.–12:30 p.m.
Woodrow Wilson B-D

Yeast Models and Technology

Session Chairs:
Soni Lacefield, Dartmouth University; and Gregory Lang, Lehigh University, United States

10:30 Winge-Lindegren Address Introduction **Charles Boone**

10:35 Winge-Lindegren Address **Michael Knop**, Zentrum für Molekulare Biologie der Universität

337 11:00 Functional characterization of human *G6PD* variants using a multiplexed assay in *S. cerevisiae* **Renee Geck**, University of Washington

338 11:15 Identifying conserved aging regulators by high throughout lifespan screen in budding yeast **Weiwei Dang**, Baylor College of Medicine

339 11:30 Using evolutionary rate covariation to build protein-protein interaction networks and identify organelle crosstalk **Jordan Little**, University of Utah

340 11:45 Changing course: Regulation of Hexokinase 2 nuclear access and function **Allyson O'Donnell**, University of Pittsburgh

341 12:00 Building synthetic chromosomes from natural DNA **Alessandro L. V. Coradini**, University of Southern California

342 12:15 Simple-to-use CRISPR-SpCas9/SaCas9/AsCas12 vector series with multiple selection markers enabling single-step multiplex genome editing in budding yeast **Satoshi Okada**, Kyushu University Graduate School of Medical Sciences

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
Chesapeake 1-3

The Neighborhood Program: Leveraging Cultural Community Connections

The Neighborhood Program is an equity-focused program designed to address these issues by driving cultural change through inclusive practices that focus on science. This workshop is a pilot effort for that program. In this workshop, scientists committed to addressing genetics-related community challenges will form "neighborhoods." Together, these "neighbors" will 1) define their community, 2) identify a challenge facing that community that connects to a science-in-society topic, and 3) outline research plans to tackle the issue. For this workshop, we'll focus on topics related to health disparities. Our ultimate aim is to foster a climate of friendship, mentoring, leadership, and discovery built from a culturally-infused scientific foundation.

Organizers: Alana O'Reilly, Fox Chase Cancer Center, eCLOSE Institute, and Sarah Bay, Genetics Society of America

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 6

Undergraduate Curators: Bridging Genome Resources and Education

This workshop should serve as the foundation for developing a network of undergraduate mentors and a framework that includes quality control to educate the next generation of curators.

Organizer: Andrea Scharf, Missouri University of Science and Technology

2:00 Andrea Scharf, Missouri University of Science and Technology, Building a network to educate undergraduate curators and help the Genome Resources.

2:15 Lina Dahlberg, Western Washington University, Part of the "Top 10": Undergraduate students as Worm Community Curators.

2:30 Karen Yook, WormBase, Enhancing reproducibility through pre-publication curation at microPublication Biology.

2:45 Laura Reed, Genomics Education Partnership (GEP), Lessons from multi-institution gene annotations in the Genomics Education Partnership ecosystem.

3:00 Kelli Carroll & Rebecca Delventhal, BREWMOR, Building a network for Course-based Undergraduate Research Experiences.

3:15 p.m. Q&A, Open discussion with network & framework building.

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 2

Glia-fari: Latest Advancements in Glial Biology Across the Animal Kingdom

The goal of this workshop is to bring together glial biologists working in different model organisms to discuss emerging hot topics, highlight new technical advancements, and foster new interactions and collaborations.

Organizers: Ashley Frakes, National Institutes of Health, and Amy Gleichman, University of California, Los Angeles

2:00 Laura Bianchi, University of Miami, Ion channels, transporters, and neuromodulators in glia to neuron signaling in *C. elegans*.

2:20 Ashley Frakes, National Institutes of Health, Glia regulate ER stress resistance and longevity in *C. elegans*

2:30 Jaeda Coutinho-Budd, University of Virginia, Glial-glial interactions and functional compensation in health and disease

2:50 Megan Corty, University of Arizona, How and why do glia wrap axons?

3:00 Misha Ahrens, Janelia Research Campus, Neuron-glia communication underlying flexible sensorimotor behavior in zebrafish

3:20 Jiakun Chen, University of North Carolina, “Using zebrafish to study astrocyte development and function”

3:30 Ukpong Eyo, University of Virginia, P2RY12-dependent regulation of microglial-astrocyte communication

3:50 Amy Gleichman, UCLA, Astrocyte-specific viral manipulation in mice with miRNA-targeted AAVs

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 5

Incorporating Genetics-and-Society Issues into Classroom Pedagogy: Sickle Cell as a Case Study

The workshop goals are to give attendees skill and confidence in engaging with genetics-and-society issues in the classroom, as well as an awareness of these and other free relevant resources for genetics education.

Organizers: Vida Mingo, Columbia College, Rob O'Malley, Harvard Medical School, Marnie Gelbart, Harvard Medical School, and Alma E. Rodriguez Estrada, Aurora University

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 12

Behind the Science Stories

The objective of this workshop is to not only cultivate creative thinking among trainees but to also illuminate the role of failure as a fundamental element in any scientific endeavor, thereby fostering their motivation to keep growing.

Organizer: Shefali, Indiana University, Bloomington

2:05 Mariana Federica Wolfner, Cornell University

2:28 Derek A. Applewhite, Reed College

2:51 Alejandro Sanchez Alvarado, Stowers Institute for Medical Research

3:14 Shawn Burgess, National Human Genome Research Institute

3:37 Needhi Bhalla, University of California, Santa Cruz

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 10

Emerging Roles for Model Organisms in Precision Toxicology

The workshop will both highlight the importance of using model organisms to conduct modern toxicological studies and provide a forum to discuss the challenges and opportunities associated with this emerging field.

Organizers: Jason Tennessen, Indiana University, and Tess Leuthner, Duke University

2:00 Tess Leuthner, Duke University, *C. elegans*

2:20 Jesse Cushman, Neurobehavioral Core Laboratory, NIH/NIEHS, mouse

2:40 Justin Crocker, EMBL Heidelberg, *Drosophila*

3:00 Anna Hendrika Vlot, Centre for Genomic Regulation (Barcelona, Spain), Daphnia

3:20 Anurag Chaturvedi, Clemson University, *Drosophila*

3:40 Heidi Lempradl, Van Andel Institute, *Drosophila*

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 11

Advancing Computational Developmental Biology: Integrating Experimental and Computational Systems Approaches

Organizers: Jeremiah Zartman, University of Notre Dame, Gregory Reeves, Texas A&M University, Linlin Li, Purdue University

2:00 Jeremiah Zartman, University of Notre Dame, Title: Introductory remarks

2:05 Gregory Reeves, Texas A&M University, Title: Can We Make Developmental Biology as Quantitative as Chemical Engineering?

2:20 Nilay Kumar, University of Notre Dame, Title: Piezo regulates epithelial topology and promotes precision in organ size control

2:35 Qing Deng, Purdue University, Title: Modeling immediate calcium wave after tailfin amputation in zebrafish

2:50 WeiWei Zhang, Purdue University, Title: Decoding Ca2+ signatures and signaling to the actin cytoskeleton in plant immune response.

3:05 James Glazier, Indiana University Bloomington Title: Using Virtual Tissue Computer Simulations to Explore Biological Mechanisms Across Scales

3:25 Dougla Brubaker, Case Western Reserve University, Title: Bridging Animal and Human Biology via Computational Systems Biology Approaches

3:45 Linlin Li, Purdue University, Title: Modeling the BMP patterning formation of Zebrafish Embryo with Quantitative Analysis of Imaging Data

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 4

Tools for Comparative Genomics from the Alliance of Genome Resources

This workshop will highlight major features of the Alliance resources that support comparative genomics using a combination of demos followed by time for hands-on exercises.

Organizers: Carol Bult, The Jackson Laboratory; Chris Grove, CalTech; Wen Chen, CalTech; Chris Tabone, Harvard University; and David Shaw, The Jackson Laboratory

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
Chesapeake A-C

Exploring and Downloading NCBI Data With NCBI Datasets

This workshop is intended for all users, whether they are experienced bioinformaticians, new to the command line, or just using the web.

Organizers: Nuala O'Leary, NCBI/NLM/NIH; and Eric Cox, NCBI/NLM/NIH

2:00 Nuala O'Leary, NCBI, Introduction to NCBI Datasets

2:15 Nuala O'Leary, NCBI, Getting genome data through the NCBI Datasets web interface

2:30 Nuala O'Leary, NCBI, Getting gene and ortholog data through the NCBI Datasets web interface

2:45 Eric Cox, NCBI, Getting started with the NCBI Datasets command line tools

3:00 Eric Cox, NCBI, Getting genome data using the datasets tool

3:15 Eric Cox, NCBI, Getting gene and ortholog data using the datasets tool

3:45 Nuala O'Leary, NCBI, Q&A and how to get help with NCBI Datasets

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
Chesapeake G-H

Comparative Biology of Aging

This workshop will bring together researchers from across the communities represented at TAGC 2024 to discuss the challenges and opportunities for collaborative research into aging.

Organizers: Nicole C. Riddle, University of Alabama at Birmingham; Richard Meisel, University of Houston

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 3

Communicating Science

Communicating basic science such as genetics to the public presents special challenges and opportunities. This workshop will highlight a panel of members of our genetics community who communicate science to diverse audiences using a variety of formats.

Organizer: E. Jane Albert Hubbard, NYU Grossman School of Medicine

Panelists:

Christopher Volpe: What the Public Thinks About Science

Elizabeth Marnik: Blogging and Instagram

Brandon Ogbunu: Writing Science for All

Marnie Gelbart: Personal Genetics Education Project and Empowering All

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
Chesapeake 4-6

Nuclear Receptors and their Ligands

The goal of this broader workshop is to bring together researchers from diverse research backgrounds and model organisms who share a common interest in endocrinology and to foster discussion and collaboration among them.

Organizers: Joanna Wardwell-Ozgo, Kennesaw State University; and Jordan Ward, UC Santa Cruz

2:00 Welcome Remarks, Joanna Wardwell-Ozgo and Jordan Ward, Kennesaw State University and University of California, Santa Cruz

2:05 Keynote, Stefan Taubert, The University of British Columbia, New regulators of NHR-49 driven stress response and longevity in *C. elegans*

2:40 Plenary Session 1, Katie Thompson Michigan State University, Role of Ecdysone receptor regulation in the complex regulatory circuitry of the insulin receptor gene

2:55 Plenary Session 1, Ping Kang, Iowa State University, Ptth regulates lifespan through temporal and spatial activation of STING/NF-κB signaling during *Drosophila* metamorphosis

3:10 Break

3:20 Plenary Session 2, Nick Peterson, University of Massachusetts Chan Medical School, Non-canonical pattern recognition of a pathogen derived metabolite by a nuclear hormone receptor identifies virulent bacteria in *C. elegans*

3:35 Plenary Session 2, Taylor Medwig-Kinney, University of North Carolina at Chapel Hill, Localization of *C. elegans* nuclear hormone receptor NHR-67 reveals a role for Groucho in regulating a proliferation-invasion switch

3:55 Closing Remarks, Joanna Wardwell-Ozgo and Jordan Ward, Kennesaw State University and University of California, Santa Cruz

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
National Harbor 7

A Roadmap for Publishing Education Papers

This workshop, hosted by GSA's Education Committee, will introduce attendees to the world of biology education publishing. Participants will connect with others in the GSA community interested in evidence-based approaches to teaching and leave with their own roadmap for developing an education paper.

Organizers: Teresa Lee, University of Massachusetts Lowell; and the GSA Education Committee

Saturday, March 9, 2024

2:00 p.m.–4:00 p.m.
Chesapeake D-F

Mid-Career Event: Incorporating Multiple Model Systems Panel Discussion

This workshop, targeted to mid-career researchers, will highlight the benefits to using multiple organisms in research with the goal of inspiring collaborations or new research directions.

Organizers: Jessica Velez, Genetics Society of America; and Balint Kacsoh, Genetics Society of America

Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Maryland A

Complex Trait Genetics (PEQG)

Session Chair:
Kerry Geiler-Samerotte, Arizona State University, United States

343 4:30 The genotype-phenotype-phenotype-phenotype map **Kerry Geiler-Samerotte**, Arizona State University

344 5:00 *Trans*-eQTL hotspots shape complex traits by modulating cellular states **Kaushik Renganaath**, University of Minnesota

345 5:15 Epigenetic context predicts gene expression variation and reproductive traits across genetically identical individuals **Amy Webster**, University of Oregon

346 5:30 What's so special about height? More hits ≠ more polygenic **Yuval Simons**, University of Chicago

347 5:45 Causal interpretations of family GWAS in the presence of heterogeneous effects **Carl Veller**, University of Chicago

348 6:00 Using the threshold trait model of quantitative genetics to understand the evolutionary dynamics of dispersal in wing-dimorphic insects **Lisa Treidel**, University of Nebraska, Lincoln

349 6:15 Clark (2023) and the Persistence of Hereditarian Fallacies **Jedidiah Carlson**, University of Texas at Austin

Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Maryland D

Gene Regulation 2: Chromatin and Transcriptional Landscape

Session Chairs:
Julie Claycomb, University of Toronto; and Leila Rieder, Emory University

350 4:30 Revealing functional consequences of eukaryotic histone H2A repertoire innovations **Pravrutha Raman**, Fred Hutchinson Cancer Center

351 4:45 The Mute button: Turning down the volume of histone expression **Mark Geisler**, University of North Carolina - Chapel Hill

352 5:00 Ectopic transcription due to inappropriately inherited histone methylation may interfere with the ongoing function of terminally differentiated cells **Monica Reeves**, Emory University

353 5:15 Nucleoporin complex NPP-14/24 shape perinuclear germ granule architecture and coordinate piRNA silencing **Kun Shi**, Huazhong University of Science and Technology

354 5:30 OVO Positively Regulates Essential Maternal Pathways by Binding Near the Transcriptional Start Sites in the *Drosophila* Female Germline **Leif Benner**, National Institutes of Health

355 5:45 Sexually dimorphic Argonaute structure and localization facilitate sex specificity of small RNA pathways in *C. elegans* germ cells **Acadia DiNardo**, University of Oregon

356 6:00 A regulatory network of Sox and Six transcription factors initiate hearing regeneration in zebrafish **Erin Jimenez**, Johns Hopkins University

357 6:15 Ketogenic diet and multiple loci drive diet-induced thermogenesis in mice **Alexandra Naron**, Texas A&M University

Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Maryland C

Germline and Gonad Development

Session Chairs:
Alissa Armstrong, University of South Carolina; and Florence Marlow, Mt. Sinai Hospital NYI

358 4:30 Germ granules modify the posterior pole promoting primordial germ cell formation **Marcus Kilwein**, Princeton University & Simons Foundation

359 4:45 Homologous recombination is essential for DNA damage-induced regeneration of germline stem cells in the *Drosophila* testis niche **Jasmine Grey**, Johns Hopkins University School of Medicine

360 5:00 An actomyosin network organizes niche morphology and responds to feedback from recruited stem cells **Bailey Warder**, University of Pennsylvania

361 5:15 Autophagy in Meiotic Fidelity and Genome Integrity **Alicia Melendez**, Queens College/City University of NY

362 5:30 Epithelial migration speed modulates basement membrane mechanics to control the degree of tissue elongation **Mitch Anderson**, University of Chicago

363 5:45 The function of Bucky ball and the Balbiani body in oocyte polarity and germ cell development **Manami Kobayashi**, University of Pennsylvania

364 6:00 Dysfusion suppresses border cell recruitment and migration by attenuating Stat nuclear import **Anna Jang**, National Cheng Kung University

365 6:15 Elucidating the molecular mechanisms of midbody reorganization during ring canal biogenesis **Kari Price**, Yale School of Medicine

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Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Potomac AB

Host-pathogen and Host-commensal Interactions

Session Chairs:
Helene Andrews-Polymenis, Texas A&M University; and David Tobin, Duke University, United States

Sponsored by Disease Models and Mechanisms

366 4:30 TGF-β Ligand Cross-Subfamily Interactions in the Response of *Caenorhabditis elegans* to Bacterial Pathogen **Cathy Savage-Dunn**, Queens College and the Graduate Center, CUNY

367 4:45 *Drosophila* gut microbiome colonization specificity is driven by selective adhesion **Kevin Aumiller**, Johns Hopkins University

368 5:00 Metabolic consequences of chronic bacterial infection increase susceptibility to starvation in *Drosophila melanogaster* **Andrea Darby**, Cornell University

369 5:15 Deep homolog scanning of proteins involved in host-pathogen conflict **Meru Sadhu**, National Institutes of Health

370 5:30 Parasite-driven mitochondrial remodeling reprograms the host metabolic state to support parasite propagation and vertical transmission **Shenlu Qin**, UT Southwestern Medical Center

371 5:45 Alternative splicing of conserved lipase alters endocannabinoid production and host innate immune response upon bacterial infection **Arjumand Ghazi**, University of Pittsburgh School of Medicine

372 6:00 The gut microbiome is a significant contributor to mouse model phenotypes contributing to a lack of reproducibility and masking of genetic drift **James Amos-Landgraf**, University of Missouri

6:15 General Discussion

Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Maryland B

Intracellular Dynamics 2

Session Chair:
Derek Applewhite, Reed College, United States

373 4:30 Nurse cell lipid droplets regulate actin remodeling by multiple prostaglandin-dependent pathways **Michael Welte**, University of Rochester

374 4:45 ESCRTs mediate Notch signaling in the testis stem cell niche **Mara Grace**, Johns Hopkins University

375 5:00 Distinct regulators of lipid asymmetry regulate extracellular vesicle budding **Ann Wehman**, University of Denver

376 5:15 Lipids from a yeast-based diet mediate adaptation of *Drosophila melanogaster* to cold temperatures: a polyunsaturated plasmalogen tail. **Claudia Espinoza**, UCSD

377 5:30 Fascin controls nucleolar function and morphology during *Drosophila* oogenesis **Danielle Talbot**, University of Iowa

378 5:45 Oligomerization and feedback on membrane recruitment stabilize PAR-3 asymmetries in *C. elegans* zygotes. **Charles Lang**, Stanford University

379 6:00 Lipase mediated gut-brain communication regulates insulin secretion in *Drosophila* **Usha Acharya**, National Cancer Institute, Frederick

380 6:15 The stress response transcription factor Atf4 interacts with Ecdysone Receptor to maintain fat tissue homeostasis in *Drosophila* **Manuel Michaca**, University of Pittsburgh

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Saturday, March 9, 2024

4:30 p.m.–6:30 p.m.
Potomac C-3

Nervous Systems Disease Models

Session Chairs:
Tamara Stawicki, Lafayette College, United States; and Seth Tomchik, University of Iowa

381 4:30 Glial KCNQ K^+ channels control neuronal output by regulating GABA release from glia in *C. elegans* **Laura Bianchi**, University of Miami

382 4:45 A drug repurposing screen reveals novel biology and potential therapies for the rare disease DPAGT1-CDG **Hans Dalton**, University of Utah

383 5:00 Using *Drosophila* to understand the requirements of Alzheimer's risk genes in the central nervous system **Jennifer Deger**, Baylor College of Medicine

384 5:15 Exploring glial induction of neuronal toxicity via the Draper pathway **Jayden Cyrus**, Duke University

385 5:30 UNC-43/CaMKII regulates presynaptic assembly in *C. elegans* **Mizuki Kurashina**, University of British Columbia

386 5:45 SWI/SNF and PMK-1/p38 regulate the C-type lectin gene *clec-67* to modulate acute responses to alcohol **Laura Mathies**, Virginia Commonwealth University

387 6:00 Neurogenomic profiles of schizophrenia and autism risk mutations defined through large-scale zebrafish phenotyping **Summer Thyme**, UMass Chan Medical School

388 6:15 Behavioral variation in psychomotor and incentive sensitization in Collaborative Cross mice **Lisa Tarantino**, University of North Carolina

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Sunday, March 10, 2024

8:00 a.m.–9:45 a.m.
Maryland A

Behavioral and Sensory Evolution (PEQG)

Session Chair:
Bret Payseur, University of Wisconsin

389 8:00 Chance and genetics shape the diversity of individual cognitive behavior in *Drosophila melanogaster* **Riddha Manna**, École Polytechnique Fédérale de Lausanne

390 8:15 Chromosomal Inversion In(2L)t modulates behavior in a temperature specific manner and could enable *Drosophila's* seasonal adaptation **Benedict Lenhart**, University of Virginia

391 8:30 Glial expression of a hydroxysteroid dehydrogenase underlies natural variation in hitchhiking behavior **Heeseung Yang**, Seoul National University

392 8:45 Cell type differences underlying color vision diversification in *Heliconius* butterflies **Wei Lu**, University of Chicago

393 9:00 Convergent reduction of olfactory genes and olfactory bulb ratio in mammalian species at altitude **Allie Graham**, University of Utah

394 9:15 Sensory receptor expansion and neural accommodation between flies and butterflies **Michael Perry**, University of California, San Diego

395 9:30 Comparative population genomics reveals convergent signatures of adaptation in avian brood parasites **Tim Sackton**, Harvard University

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson A

C. elegans Session 5

Session Chair:
Jessica Tanis, University of Delaware

8:00 Keynote **Geraldine Seydoux**

396 8:30 Identification of regulators of early CEPsh glia development in *Caenorhabditis elegans* by single-cell RNA sequencing **Simin Liu**, The Rockefeller University

397 8:45 The nonsense-mediated decay pathway for RNA surveillance is necessary for the complete hypoxia response by *C. elegans* **Calista Diehl**, MIT/HHMI

9:00 General Discussion

398 9:15 A recessive-by-dominant Dobzhansky Muller incompatibility causes embryonic lethality in *Caenorhabditis* hybrids **Dongying XIE**, Hong Kong Baptist University

399 9:30 All animals are equal, but some tetraploids are more equal than others **Mara Schvarzstein**, Brooklyn College at the City University of New York

400 9:45 Sexual dimorphisms in meiotic chromosome structures drive heat induced male infertility in *C. elegans* and *D. rerio* **Cori Cahoon**, University of Oregon

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Potomac C-3

Ecological Genetics and Genomics/ Chromosome Biology and Genome Integrity (*Drosophila)*

Session Chairs:
Luisa Pallares, MPI Biology, Tubingen; and Alan Bergland, University of Virginia; and Abbey Hayes, University of Virginia; and Jared Nordman, Vanderbilt University; and Nicole Crown, Case Western University

401 8:00 Pervasive sublethal effects of agrochemicals as contributing factors to insect decline **Lautaro Gandara**, EMBL

402 8:15 Single nuclei multiome ATAC and RNA sequencing reveals the molecular basis of thermal acclimation in *Drosophila melanogaster* embryos **Thomas O'Leary**, University of Vermont

403 8:30 Drivers of DNA Damage Tolerance in *Drosophila melanogaster* **Mitch McVey**, Tufts University

404 8:45 Asynchronous DNA synthesis establishes epigenetic asymmetry at sister centromeres and regulates both de-differentiation and re-differentiation in a stem cell lineage **Rajesh Ranjan**, Howard Hughes Medical Institute

405 9:00 Transcriptional coupling of telomeric retrotransposons with the cell cycle **Mengmeng Liu**, Tulane University School of Medicine

406 9:15 A sperm-killing selfish X chromosome in *Drosophila* exhibits female meiotic drive **Graeme Keais**, University of Victoria

407 9:30 The synaptonemal complex plays multiple roles in establishing the recombination landscape across chromosomes **Katie Billmyre**, University of Georgia

408 9:45 Mechanisms of ring chromosome lethality **Kent Golic**, University of Utah

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Maryland D

Evolution and Gene Regulation (PEQG)

Session Chairs:
Brian Ciruna, Hospital for Sick Children, Canada; and Erin Jimenez, Johns Hopkins University

409 8:00 Identification of UTR sequences involved in post-transcriptional gene regulation of vertebrate embryonic development **Jayesh Kumar Sundaram**, University of Pittsburgh

410 8:15 Differential H3K4me2 distinguishes two enhancer classes at zygotic genome activation **Matthew Hurton**, University of Pittsburgh

411 8:30 Conserved enhancers control notochord expression of vertebrate *Brachyury* **Alexa Burger**, University of Colorado

412 8:45 Decoding mitochondrial-nuclear interactions: Unraveling mechanisms of postzygotic isolation in Danionin fish species **Trevor Chamberlain**, UW-Madison

413 9:00 Zebrafish scales: a new model of skin appendage evolution and development **Andrew Aman**, University of Virginia

414 9:15 Unraveling the role of evolutionary capacitors that obscure cryptic genetic variants in fish **Hannah Grunwald**, Harvard Medical School

415 9:30 Functional validation of the albino *OCA2*^{NW273KV} polymorphism identified in a Caribbean Native American population in zebrafish **Thaddeus Harbaugh**, Penn State Hershey College of Medicine

9:45 General Discussion

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Woodrow Wilson B-D

Genomes and Genomics (Yeast)

Session Chairs:
Jing Hou, University of Strasbourg; and Jolanda van Leeuwen, University of Lausanne

8:00 Ira Herskowtiz Award Introduction **Gavin Sherlock**

8:05 Ira Herskowtiz Award **Maitreya Dunham**, University of WA, Seattle

416 8:30 Genomic factors shape metabolic niche breadth across an entire subphylum **Chris Hittinger**, University of Wisconsin-Madison

417 8:45 Genetic network rewiring between distantly related eukaryotes **Vanessa Pereira**, Concordia University

418 9:00 Spindle architecture constrains karyotype in budding yeast **Gavin Sherlock**, Stanford University

419 9:15 Proteome-wide alanine scanning with mistranslating tRNAs to identify functionally important residues across the proteome **Matthew Berg**, University of Washington

420 9:30 Copy number variation alters local and global mutational tolerance **David Gresham**, New York University

421 9:45 Sc2.0: Design and build a synthetic eukaryotic genome in yeast from scratch **Yu Zhao**, NYU Langone Health

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Potomac AB

Intracellular Dynamics (*Drosophila)*

Session Chairs:
Tina Tootle, University of Iowa; and Derek Applewhite, Reed College, United States; and Nicole Green, Cornell College, United States

422 8:00 Visual impairment cell non-autonomously dysregulates canonical integrated stress response brain-wide **Shashank Shekhar**, UT Southwestern Medical center

423 8:15 Splice variants of the actin nucleator Arp2 functionally diverge in fertility and development **Jordan Powell**, UT Southwestern Medical Center

424 8:30 The splicing regulator Acn moonlights as a cytosolic activator of autophagy in a Tor-independent pathway to suppress neurodegeneration **Nilay Nandi**, University of Texas Southwestern Medical Center

425 8:45 Calcium imbalance underlies PS-deficiency induced mitochondrial damage **Yifan Zhou**, Institute of Genetics and Developmental Biology, Chinese Academy of Science

426 9:00 Dual role of PP2A in Hippo signalling and growth regulation **Aashika Sekar**, Barts Cancer Institute, Queen Mary University London

427 9:15 New A.I. behavioral annotation system MAFDA reveals that Fruitless robustly controls interaction social behaviors by guiding lipid metabolism. **Jie Sun**, Tulane University School of Medicine

428 9:30 Glut1 functions in insulin-producing neurons to regulate organismal lipid storage in *Drosophila* **Matthew Kauffman**, Penn State Berks

429 9:45 Polarized recycling of cell-cell adhesion proteins facilitates scarless wound healing **Sofia Mendez Lopez**, University of Toronto

Sunday, March 10, 2024

8:00 a.m.–10:00 a.m.
Maryland C

Technology, Resources, and Tools (Mammalian)

Session Chairs:
Hiroshi Masuya, RIKEN; and Ellen Risemberg, UNC Chapel Hill, United States

430 8:00 Genetic Quality Control for Mouse-Based Research: The Experience of the MMRRC **Matthew Blanchard**, Mutant Mouse Resource and Research Centers, University of North Carolina at Chapel Hill

431 8:15 What's new in Mouse Genome Informatics (MGI)? **Carol Bult**, The Jackson Laboratory

432 8:30 The panoramic view of organismal aging at single-cell resolution **Junyue Cao**, The Rockefeller University

433 8:45 Generation of knock-in rodent models using AAV-mediated DNA delivery with 2-cell embryo CRISPR-Cas9 electroporation **Daniel Davis**, University of Missouri

434 9:00 Algorithmic prioritization of genetic background for improved rare disease model generation **Robyn Ball**, The Jackson Laboratory

435 9:15 The NIH Comparative Genomics Resource (CGR) **Terence Murphy**, NIH

9:30 Business Meeting and Awards

Sunday, March 10, 2024

10:30 a.m.–12:15 p.m.
Potomac AB

Keynote 4 and Gruber Prize in Genetics Lecture

Session Chairs:
Maureen Barr, Rutgers University; and Harmit Malik, Fred Hutchinson Cancer Center

10:30 Opening Remarks from Organizers

10:35 GSA Journals **Lauren McIntyre**, G3 Editor in Chief

10:40 Seeing the Light: Color Vision and Developmental Acclimation **Beronda Montgomery**, Grinnell College

11:15 2024 Gruber Genetics Prize Presentation to Hugo Bellen

11:27 The study of rare pediatric neurological diseases in flies drives discoveries in common diseases **Hugo Bellen**, Baylor College of Medicine

12:12 Closing Remarks

Poster Session Listings

T=Thursday, **F**=Friday, **S**=Saturday, **V**=Online

Intracellular Dynamics

436T Identification and verification of proximity interactors of the polycystin complex in cilia and extracellular vesicles **Elizabeth desRanleau** Rutgers University

437T Getting stressed out – iron induced stress response in *C. elegans* **Anna Gremme** University of Wuppertal

438T Investigating the role of a conserved 14-3-3 protein, FTT-2, in contractility of smooth muscles **Mustafi Raisa Amin** Northeastern University

439T The acyl-CoA dehydrogenase ACDH-11 is required for *C. elegans* lysosomes-related organelle biogenesis **Madeline Daniel** Lewis & Clark College

440T Enzyme kinetic characterization of wild-type *C. elegans* IDH-1 and the G98N & R133H mutants **Melissa Bouchard** New College of Florida

441T Actomyosin fibers in the spermatheca are under tension **Seyedeh-Fereshteh Sadeghian-Kiadehi** Northeastern University

442T Mechanisms of Lamp1 non-cell autonomous regulation of endo-lysosomal acidification **Jonathan Handy** Albert Einstein College of Medicine

443T The Role of the ER Integral Protein Jagunal in Regulating "Stemness" of Neuroblasts During Asymmetric Cell Division. **Judy Abuel** San Francisco State University

444T Non-canonical dFOXO regulation in *Drosophila* larval oenocytes under starvation **Peiduo Liu** Iowa State University

445T Rcp, a regulator of G-protein-coupled receptor signaling, controls the polarized deposition of basement membrane proteins in epithelial cells **Lindsey Price** Northern Illinois University

446T Characterizing the epithelial sheath as a barrier to professional phagocytes during apoptosis in the ovary **Max Wertheimer** Boston University

447T Mutagenesis and characterization of the putative HAD-domain phosphatase CG11291 in *Drosophila melanogaster* **Veronica Gomes** Vassar College

448T Regulation and function of GAGA factor mitotic retention in the early *Drosophila* embryo **Annemarie Branks** University of Wisconsin-Madison

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449T Monitoring fatty acid trafficking in follicles reveals a critical role for the triglyceride synthase DGAT1 in protecting mitochondrial integrity **Roger White** University of Rochester

450T Heat shock alters nucleolar morphology in *Drosophila* nurse cells **Anna Ramsey** University of Iowa

451T Determining the roles of prostaglandins in regulating nuclear architecture during collective cell migration **Ashley Goll** University of Iowa

452T New models to investigate Transportin-2 (TNPO2) function in *Drosophila* and neurodevelopmental disease **Ziyaneh Ghaderpour Taleghani** Baylor College of Medicine

453T Characterization of the regulatory roles of phosphatases in endosomal Microautophagy **Laury Lescat** Albert Einstein College of Medicine

454T Identification and functional analysis of substrates & regulators of starvation-induced endosomal microautophagy in *Drosophila* **Prasoon Jaya** Albert Einstein College of Medicine

455T Talking about Bruno: revealing the code for protein trafficking into nuclear domains **Travis Main** Kennesaw State University

456T Unscheduled endocycles disrupt ovarian structure and function and impair female fertility. **Hunter Herriage** Indiana University Bloomington

457T Regulation of Spermatogenesis by Notch Signaling **Emma OFlaherty** Loyola University Chicago

458T Xport-A functions as a chaperone by stabilizing the first five transmembrane domains of rhodopsin-1 **Pedro Domingos** ITQB-UNL, NIF

459T Fine-tuning of Cell-ECM Assembly by Transglutaminase **Dylan Feist** Kansas State University

460T Defining the contribution of the dendritic cytoskeleton to critical period closure **Dunham Clark** Washington University in St. Louis

461T Role of RRP1B in Regulating Cellular Stress Response in Triple-Negative Breast Cancer Metastasis **Wan-Ning Li** National Cancer Institute

462T Regulation of Cdc42 Protein Levels Impacts a Cell Differentiation Program **Paul Cullen** State University of New York at Buffalo

463T Understanding the Heterogeneity in Gene Regulatory Responses to Misfolded Protein Toxicity **Rachel Eder** Arizona State University

464T Functional Regulation of a SUMO E3 ligase during the SUMO Stress Response **Mariana VanPelt** The College of William & Mary

465T Visualizing and Quantitating Stress-Induced Cytosolic Sumoylation **Bryant Humphries** The College of William & Mary

466T Investigating the function of Tvp18 and its role in AP-1 mediated intra-Golgi recycling **Jade Bowerman** Cornell University

467T Humanization of five proteasome assembly chaperones in *Saccharomyces cerevisiae* suggest orthogonal interactions governing proteasome assembly **Homin Jeong** Concordia University

468T Assembly of Polarity Complexes in *Saccharomyces cerevisiae* Spores **Benjamin Cooperman** University of Colorado Anschutz Medical Center

469F UV-vis spectroscopic analysis of four *C. elegans* globin proteins **Anne McAllister** New College of Florida

470F Co-clustering of nuclear pores and P granules depends on the nucleoporin Nup214 and is not essential in the *C. elegans* germline **Laura Thomas** HHMI / Johns Hopkins University School of Medicine

471F Glucose-induced developmental delay is modulated by insulin signaling in *C. elegans* **Mary Ladage** University of North Texas

472F HUM-7, a type IX unconventional myosin, is a novel regulator of integrin adhesion complexes in *C. elegans* muscle **Hiroshi Qadota** Emory University

473F The CYK4 GAP domain controls contractile ring assembly and dissolution by regulating the cortical targeting of centralspindlin **Aleesa Schlientz** University of California, San Diego

474F Pavarotti and Tumbleweed function in maintaining mitochondrial integrity in post-mitotic muscle tissue **Yungui Guo** Kansas State University

475F Structural and Mechanistic Exploration of Wnt Ligand Maturation **Kate Henesey** University of Delaware

476F Transport of centrioles as cargo ensure proper neural stem cell asymmetric division **Matthew Hannaford** National Heart Lung and Blood institute

477F Dysregulation of the ER blocks recruitment of centrosome associated proteins resulting in mitotic failure **Katherine Rollins** University of Denver

478F Alternate roles for the actin formin Cappuccino during *Drosophila* oogenesis. **Hannah Bailey** University of California Los Angeles

479F The Rho GAP *crossveinless-c* (*cv-c*) plays an important role in caudal visceral mesoderm (CVM) migration during *Drosophila* embryogenesis **Shiva Ahmadi** University of St. Thomas

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480F The conserved protein phosphatase inhibitor, Inhibitor-2, regulates the collective cell migration of border cells **Yujun Chen** Kansas State University

481F An intestinal G Protein-Coupled Receptor regulates metabolism and immunity in *Drosophila* melanogaster **Daniela Barraza** Harvard Medical School/Boston Children's Hospital

482F ArfGAP1 regulates the endosomal sorting of guidance receptors to promote directed collective cell migration in vivo **Alison Boutet** Institut de recherche en immunologie et en cancérologie (IRIC)

483F Investigations into the role of ER in Wolbachia distribution in host somatic tissue. **I'frica Norman** San Francisco State University

484F Neuronal triglyceride metabolism regulates sex differences in fat breakdown **Colin Miller** University of British Columbia

485F ALS8-related endoplasmic reticulum protein Vap33/VAPB is extracellularly secreted via the topological inversion and MMP1/2-mediated cleavage **Mizuki Tando** Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University

486F The role of the SR protein 9G8 in the *Drosophila* intestine to regulate lipid metabolism **Roman Voskoboynikov** Penn State Berks

487F Differential expression analysis in *9G8-RNAi* fat tissue reveals upregulation of acyl-CoA synthetase genes in *Drosophila* **Erick Astacio** Penn State Berks

488F The Intrinsically disordered region of *Drosophila* Canoe plays a critical role in linking adherens junctions to the cytoskeleton during embryonic morphogenesis **Corbin Jensen** University of North Carolina - Chapel Hill

489F Identifying neurons in which Glut1 acts to regulate nutrient storage in *Drosophila* **Prem Patel** Penn State Berks

490F Effects of alterations in vesicular acetylcholine transporter expression on acetylcholine homeostasis in the central nervous system **Rohina Nemat** Delaware State University

491F Cell-specific genetic manipulation of *Drosophila* sallimus severely impacts muscle and motor-neuron morphology and physiology. **Andrew Michael** Middle Tennessee State University

492F Addressing the role of endosomal Microautophagy in health and diseases **Satya Surabhi** Albert Einstein College of Medicine

493F The effect of loss of ER membrane complex subunit 4 (EMC 4) on life history traits in *Drosophila melanogaster* is cell type-dependent **Otoha Tatami** Lake Forest College

494F Trehalose accumulation rescues altered Ca^{2+} homeostasis phenotypes of the *S. cerevisiae pgm2Δ* mutant **Micaiah Wetzold** Austin College

495F Altered reserve carbohydrate metabolism rescues altered growth phenotypes of the *S. cerevisiae pgm2Δ* mutant **Niki Hamraei** Austin College

496F In vivo Proximity Labeling Identifies New Functions for the Lifespan and Autophagy-regulating Kinase Pef1, an Ortholog of Human Cdk5 **Kurt Runge** Cleveland Clinic Lerner Research Institute

497F Characterizing the role of *YDL206W* in *Saccharomyces cerevisiae* **Leah Ding** Austin College

498F Molecular Logic of TORC1 regulation through Gtr1/2 and Pib2 **Andrew Capaldi** University of Arizona

499F Studying the Mechanism for Ribosome-Inactivating Protein-Induced Apoptosis **Daniel Judge** West Virginia University

500F Maternal Regulation of Microtubule Organizing Centers in the Egg and Oocyte **Allison Marvin** University of Pennsylvania

501F Reactive oxygen species (ROS) relax wounds to allow healing and regrowth. **Chang Ding** Purdue University

502S RAB-10 Antagonizes the AP-1 Clathrin Adaptor to Promote EGFR Signaling in *C. elegans* **Clare FitzPatrick** McGill

503S Securin Regulates the Spatiotemporal Dynamics of Separase **Joshua Bembenek** Wayne State University

504S Temperature effects on proteostasis in *C. elegans* **Walter Novak** Wabash College

505S Molecular and genetic interactions between the DBL-1/BMP signaling pathway and BLMP-1/BLIMP1 regulate organismal traits **Tina Gumienny** Texas Woman's University

506S Regulation of *C. elegans* germline stem and progenitor cell mitosis by developmental and environmental signaling networks. **Eric Cheng** McGill University

507S A novel molecular mechanism underlying the attachment of myosin A in *C. elegans* striated muscle with the M-line component UNC-89/obscurin **Pamela Hoppe** Western Michigan University

508S Dual transcriptional programs coordinate lipogenic and UPR^{Golgi} programs in *C. elegans* and human cells **Amy Walker** UMASS Medical School

509S Dosage sensitive screen for maternal factors that effect Cytoplasmic Incompatibility in *Drosophila melanogaster* **Jillian Porter** UCSC

510S Decreased muscle performance correlated with increased carbon dioxide exposure in *D. melanogaster* lacking *CG5577* **Abigail Tramell** Vassar College

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511S Insights into the role of the acute myeloid leukemia protein, the "LIM-only protein, LMO" in myeloid cells development and function **Sakshi Jain** Indian Institute of Science

512S Intentionally left blank

513S A targeted genetic screen for proteins involved in trafficking of neuropeptides in the nervous systems of *Drosophila* **Hardik Bansal** Middle Tennessee State University

514S Examining the role of evolutionary changes in *Esterase 6* protein function in *Drosophila sechellia* toxin resistance **Idenya Bala-Mehta** Wesleyan University

515S Sorting of Neuropeptides into Dense Core Vesicles. **Veronika Mousa** Middle Tennessee State University

516S Interweaving Autophagy and Exosome Functions: Unraveling CryAB **Ziwei Zhao** Kansas State University

517S Developmental periodic oscillations of JAK/STAT signaling serve as a switch for maturation-inducing steroid pulse by regulating lipid droplet pool. **Jie Sun** Tulane University School of Medicine

518S An EMS screen for neuropeptide biology in the nervous system of *Drosophila* **Amber Washington** Middle Tennessee State University

519S TGFβ/Activin signaling positively regulates mitochondrial genome maintenance and glycogen homeostasis **Heidi Bretscher** University of Minnesota- Twin Cities

520S Investigating the interaction between Uif, Mmp1 and PNPase with insulin signaling in tissue-specific growth of the larval trachea **Zihao Yu** Case Western Reserve University

521S FoxO is necessary for heat-induced fat loss. **Jin Seo** Rogers State University

522S X-ray Radiation Induced Cellular Plasticity in the *Drosophila* Wing Imaginal Disc **Michael Shiferaw** University of Colorado, Boulder

523S Local nuclear to cytoplasmic ratio regulates chaperone-dependent H3 variant incorporation during zygotic genome activation **Amanda Amodeo** Dartmouth College

524S Atypical FGF ligand Pyramus, a Type I transmembrane protein, undergoes intracellular cleavage that affects mesodermal cell fate **Chen Zhang** California Institute of Technology

525S The Role of Myosin in Pupal Wing Expansion **Anni Yi** Rutgers University New Brunswick

526S The role of ubiquitin and multivesicular body formation in the stem cell niche of the *Drosophila melanogaster* testis **Sheetal Kooduvalli** Johns Hopkins University

527S Large secretory vesicles employ a unique mechanism of exocytosis **Eyal Schejter** Weizmann Inst Sci

528S Role and Regulation of Polarity Proteins during Mitosis **Sarah Robinson** University of Toronto

529S Developing Single-Cell Mass Spectrometry Methods to Identify Candidate Actin Mesh Regulatory Proteins **Merin Rixen** UCLA

530S Disrupted endosomal trafficking of polarity proteins causes congenital trachea-esophageal separation anomalies **Nicole Edwards** Cincinnati Children's Hospital Medical Center

531S Modeling single-cell phenotypes in wild-type and regulatory mutant yeast to explore growth control and stress defense **Rachel Kocik** University of Wisconsin-Madison

532S Characterization of the developmentally important disaggregation activities of Abcf proteins **Sydney Skuodas** University of Iowa

533S Modulatory inputs into the MAPK pathway that controls filamentous growth in yeast **Atindra Pujari** State University of New York at Buffalo

534S Analysis of the functional role of the microtubule-associated [*PUB1/SUP35*] prion-like assembly and regulation of its formation **Irina Derkatch** University of Nevada, Reno

535S Fluorogen Activating Proteins are a powerful new imaging tool for quantitative protein trafficking studies in *S. cerevisiae* **Allyson ODonnell** University of Pittsburgh

536S Deformation of the cell nucleus after high-speed stretching. **Maia Garcia** Bemidji State University

537V Balance of recycling and degradative endosomal microdomains is controlled by the oligomerization of Hsc70 co-chaperone RME-8 **Anne Norris** Rutgers

538V Multidimensional study of exosome biogenesis in human A375 melanoma cells in response to Doxorubicin **Laura Fernandez** Universidad Nacional de Colombia

539V Select mitochondrial toxicants induce an enhanced RNA interference response in *C. elegans* **Clare Sparling** Duke University

540V Analysis of calcium-regulated phosphorylation changes in fly and mouse egg activation **Jonathon Thomalla** Cornell University

Technology, Resources, and Tools

541T WormAtlas: New Chapters, New Data, New Worms **David Hall** Albert Einstein College of Medicine

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542T A robotic platform for fully automated developmental and ageing studies in *C. elegans*: application to the genetic mapping of lifespan and mitochondrial stress response **Laurent Mouchiroud** Nagi Bioscience SA

543T Fourth Chromosome Resource Project: a comprehensive resource for genetic analysis in *Drosophila* that includes humanized stocks **Stuart Newfeld** Arizona State Univ

544T Deciphering the contribution of 3D interactions between cis-regulatory elements and promoters to regulate gene expression using graph neural networks **Yang Chen** NIH

545T Nitroreductase Assay: A new method of cell ablation in *Drosophila* **Gary Teeters** University of Virginia

546T A recombination system to assemble an integrated genetic circuit at a single locus in animals **Junjie Luo** Stanford University

547T GIVIAR: GRN Inference and Visualization from Independent scATAC-seq and scRNA-seq Data **Justin Currie** Brown University

548T Generating gene-specific-split-GAL4 lines from coding intronic MiMIC lines via *in vivo* crosses for *Drosophila* **Siqi April Li** New York University

549T Video Analysis System for Behavior and Activity Assessment of Fruit Flies in High Throughput Studies **Ibraheem Farooq** National Institutes of Health (NIH)

550T Rat Resource and Research Center **Elizabeth Bryda** University of Missouri

551T Updating Uninformative Mouse Gene Symbols **Monica McAndrews** The Jackson Laboratory

552T Online databases and data integration in the RIKEN BioResource Research Center **Hiroshi Masuya** RIKEN

553T Update of MoG+: a database of mouse genomic variations connecting bioresource and biomedical research **Toyoyuki Takada** RIKEN BioResource Research Center

554T Spatial statistical tools applied to genome landscapes of mutations help to refine the mutational signature concept and uncover new mutational mechanisms **Kathleen Hill** Western University

555T A statistical model for inferring rates of meiotic and mitotic chromosome segregation using data from preimplantation human embryos **Qingya Yang** Johns Hopkins University

556T The European Variation Archive: Genetic variation archiving and accessioning for all species **Thomas Keane** EMBL-EBI

557T Improving Laboratory Animal Genetic Reporting **Lydia Teboul** MRC-UKRI

558T Differential and conditional elimination of marked homomorphic sex chromosomes in *Aedes aegypti* for disease vector population control **Melanie Hempel** Virginia Tech

559T Developing a molecular toolkit for ecological, evolutionary, and functional genomics in *Daphnia* **Megan Maar** Indiana University Bloomington

560T Applying machine learning to elucidate environmental components of microbial extremophilic genomic signatures **Joseph Butler** University of Western Ontario

561T Reliable estimation of tree branch lengths using deep neural networks **Anton Suvorov** Virginia Tech

562T An Improved Methodology for Sperm Cryopreservation in *Xenopus* **Carl Anderson** Marine Biological Laboratory

563T Intra-FCY1: a novel system to identify mutations that cause protein misfolding **Natalie Quan** Arizona State University

564T Data Integration Through Allele Curation at SGD **Edith Wong** Stanford University

565T Determining the functional domains of the anti-CRISPR protein AcrIIA4 using a high-throughput deletion scan **Annette Iturralde** National Institutes of Health

566T Single cell ribosome profiling of yeast on whole populations using localized tag RNA **Ishan Maduka Gammadde Hewa** Washington University in St Louis

567T Homology and Disease curation at *Saccharomyces* Genome Database: Budding yeast as a model for eukaryotic biology **Stacia Engel** Stanford University

568T Optogenetic activation of hypothalamic AgRP neurons in transgenic zebrafish larvae increased food intake **Pushkar Bansal** University of Illinois at Chicago

569T A fluorescence integrated Zebrafish Larvae screening platform for whole body imaging **Yongwoon Kim** Union Biometrica, Inc.

570T The International Mouse Phenotyping Consortium: a catalogue of mammalian gene function **Kalliopi Kostelidou** IMPC

571T A synthetic biology approach for optimizing insulin production in yeast **Anna Rico** Loyola University Maryland

572T Shining Light on Calcium-Mediated Morphogenesis: Forward Engineering Organ Development with Optogenetics and Mechanosensation **Jeremiah Zartman** University of Notre Dame

573F TrakBox: An automated nematode tracking and analysis system **Christopher James** EMbody Biosignals Ltd.

574F A high-throughput method for testing the impact of chemical exposure on *Drosophila* fecundity **Andreana Gomez** UC San Francisco

575F Nickases and anti-CRISPR boost mosaic analysis in *Drosophila* by MAGIC **Yifan Shen** Cornell University

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576F New technologies and resources from the *Drosophila* Research & Screening Center-Biomedical Technology Research Resource (DRSC-BTRR) **Stephanie Mohr** Harvard Medical School

577F Building Cell-type-specific Split-GAL4 Genetic Reagents Targeting *doublesex+* Neurons in *Drosophila* Central Nervous System **Hongzhou Gustave Li** New York University Shanghai

578F MLDAAPP: Machine Learning Data Acquisition for Assessing Population Phenotypes **Amir Gabidulin** Washington State University

579F Optical system with blue LED light for multiple studies in *Drosophila melanogaster* cultures **Monica Andrea Lopez Bautista** Universidad de Guadalajara

580F New CRISPR-induced, loss-of-function mutations from the Fourth Chromosome Resource Project enabling clonal analysis of fourth chromosome protein-coding genes **Bonnie Weasner** Indiana University

581F Predicting gene expression dynamics in *D. melanogaster* through super resolution live imaging and computational modeling system **Priyanshi Borad** University of Texas at Arlington

582F Balancing competing effects of tissue growth and cytoskeletal regulation during *Drosophila* wing disc development **Jeremiah Zartman** University of Notre Dame

583F Homeostatic behavior quantification of mice in a social context using machine vision **Jessica Choi** The Jackson Laboratory

584F Long-read sequencing with adaptive sampling for characterization of CRISPR/Cas9-generated transgenic mice **Zachary Freeman** University of Michigan

585F Update of the Collaborative Cross Population in the UNC Systems Genetics Core Facility **Michelle Allen** University of North Carolina at Chapel Hill

586F The mouse Gene Expression Database (GXD): a tool for accelerating insights into the molecular mechanisms of development and disease **Constance Smith** The Jackson Laboratory

587F Crispant founder mice display recessive visible phenotypes **Rebekah Tillotson** University of Edinburgh

588F Sequencing for Dummies: Using Nextflow Pipelines to Increase RNAseq Analysis Accessibility **Katy Martinson** Bucknell University

589F NCBI GEO's GEO2R tool increases access to public genomics data with new visualization features and incorporation of RNA-seq studies **Emily Clough** NLM, NIH

590F Error-Free Single Molecule Nanopore Sequencing to Observe Evolving Viral Quasi-Species **Justin English** University of Utah

591F Predicting Antibiotic Resistance in E. coli Using Machine Learning Models **Melika Teimouri** San Francisco State University

592F Using JBrowse 2 for multi-species genome browsing for the Alliance of Genome Resources **Scott Cain** Ontario Institute for Cancer Research

593F Predicting Escherichia coli Drug Resistance through Different Deep Learning-Based Approaches using a Comprehensive Pan-genome Assembly **Estefanos Kebebew** San Francisco State University

594F Xenbase: latest support for genomics and disease models. **Malcolm Fisher** Cincinnati Children's Hospital Medical Center

595F CRIS-cross: Efficient Generation of Combinatorial Genetic Variant Libraries **Han-Ying Jhuang** Lehigh University

596F Yeast Pathways at Saccharomyces Genome Database: Transitioning to Noctua & Alliance Pathways **Suzanne Aleksander** Stanford University

597F Single-cell DNA Sequencing via *in situ* Genomic Amplification & Combinatorial Barcoding **Parker Crossland** Arizona State University

598F Extending the GRNsight application for visualizing small-to-medium gene regulatory networks to incorporate physical protein-protein interaction data from SGD **Kam Dahlquist** Loyola Marymount Univ

599F Generating a transgenic fish for in vivo cell cycle studies in glial cells **Cas Sturdivant** Goucher College

600F Integrative 3D Zebrafish Microanatomical Atlas **Khai Ang** Penn State College of Medicine

601F Improving toxicology data compatibility within and across species and advancing a community-led zebrafish toxicology phenotype atlas. **Sabrina Toro** University of Colorado, Anschutz

602S Assessing behaviour across organisms through patterns in multi-variate data **Christopher James** EMbody Biosignals Ltd.

603S High-Efficiency Integration of Large DNA Fragments by Cas9 Cleavage and Single-Strand Annealing in *Drosophila* **Jeff Sekelsky** University of North Carolina

604S New from the TRiP: large scale resources for gene perturbation, gene expression, and protein detection **Jonathan Zirin** Harvard Medical School

605S Optogenetics for All: NinaB Cleavage of *Beta*-Carotene as a Source of *all-trans* Retinal **Karen Hibbard** HHMI Janelia Research Campus

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606S Selective depletion of histone transcripts to interrogate histone residue function **Oscar Arroyo** University of North Carolina - Chapel Hill

607S Repurposing synthesized homology donor intermediates to generate novel genetic reagents **Oguz Kanca** Baylor College of Medicine

608S Higher-resolution pooled genome-wide CRISPR knockout screening in insect cell lines using integration and anti-CRISPR (IntAC) **Raghuvir Viswanatha** Harvard Medical School

609S *Drosophila* Community Strains Pangenome: A Pangenome Resource Built From Highly Contiguous Genome Assemblies Of *Drosophila melanogaster* Community Strains **Mahul Chakraborty** Texas A&M University

610S Characterization of shock wave effects using nanoparticles in syncytial embryos of *Drosophila melanogaster* **Juan Rafael Riesgo Escovar** Universidad Nacional Autonoma de Mexico

611S Single-embryo 'omics to monitor gene expression and metabolite changes in a sex-specific manner during early *Drosophila* development **J. Eduardo Pérez-Mojica** Van Andel Institute

612S Upgraded genome browsers at the Rat Genome Database support comparative and translational studies **Jennifer Smith** Medical College of Wisconsin

613S Pseudorabies virus upregulates low-density lipoprotein receptors to facilitate viral entry **ming shengli** Henan Agricultural University

614S RNA-Seq Technologies Identify Causal Mutations in Mice with Mendelian Disorders **David Bergstrom** The Jackson Laboratory

615S Can AI Outperform Well-Established Antimicrobial Resistance Gene Databases such as ResFinder and CARD? **Kristiene Recto** San Francisco State University

616S Clustering Single-cell DNA Sequencing Data from Mixed Microbial Communities Using Overlapping Reads **Isabella Valli-Doherty** Arizona State University

617S Empowering disease knowledge representation with the Disease Ontology Knowledge (DO-KB) **J. Allen Baron** University of Maryland School of Medicine

618S Employing tRNA Mutations for Enhanced Non-canonical Amino Acid Incorporation **Berenice Guerra** Universidad del Sagrado Corazón

619S Genome-wide CRISPR screening in a non-model Anopheles mosquito cell line **Enzo Mameli** Harvard Medical School

620S Gene-language are whole-genome representation learners **Charles Chen** Oklahoma State University

621S Identification of Phytochemicals from Medicinal Plants as Strong Binders to SARS-CoV-2 Proteases ($3CL^{Pro}$ and PL^{Pro}) and RNA-dependent RNA polymerase (RdRp) by Molecular Docking and Dynamic Simulation Studies **Quaiser Saquib** King Saud University

622S Development of a Computational Pipeline for Identifying Haplotype-Aware Genomic Variation in *Saccharomyces cerevisiae* **Joy Love** Colorado State University

623S Finding a function for Aim33 in *Saccharomyces cerevisiae* **Julia Iacovella** Saint Joseph's University

624S Development of a yeast platform for expression and optimization of PET plastic degrading enzymes **Raphael Loll-Krippleber** University of Toronto

625S Accelerated assembly of synthetic yeast chromosomes *in vivo* using DNA fragments with extensive synonymous recoding **Cara Hull** University of Southern California

626S What You Probably Didn't Learn When You Began Your Research Career – The Logic and Other Thoughts About How To Do Successful Research - Cliffnotes for Graduate Students and Post-Docs **Terrance Cooper** University of Tennessee Health Science Center

627S A zebrafish model for whole-organism quantitative phenotyping of pleiotropy **Alex Lin** Pennsylvania State University College of Medicine

628S Process for developing optimized siRNA conjugates for *in vivo* delivery. **Sean McCauley** ADViRNA

629S The Monarch Initiative: An analytic platform integrating phenotypes, genes, and diseases across species **Monica Munoz-Torres** University of Colorado Anschutz Medical Campus

630S Positional cloning of a chemically induced zebrafish mutant line with altered yolk lipid export **Nainika Pansari** Johns Hopkins University

631V REDfly: Uses of the Regulatory Element Database for *Drosophila* and other insects **Soile Keränen** None

632V split-intein Gal4: a potent intersectional genetic labeling system which can be controlled temporally via Gal80 **Benjamin Ewen-Campen** Harvard Medical School

633V A Simple Assay for the Detection of Late-Stage Apoptosis Features in *Saccharomyces cerevisiae* **Narendra Bairwa** Shri Mata Vaishno Devi University

634V AVITI nucleic acid sequencing and its application **Jianhua Luo** University of Pittsburgh

635V Rareinsight: a collaborative rare disease report generator empowering clinicians and patients **Kimberly Coetzer** Stellenbosch University

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Genomes and Genomics

637T Metabolic-based Polyclonality in Genetically-induced Intestinal Tumors **Pierre Delamotte** CNRS - I2BC

638T Characterization of bacterial dynamics within the *Caenorhabditis elegans* intestine **Andrew Moore** Colorado State University

639T WormCat 2.0 defines characteristics and conservation of poorly annotated genes in *Caenorhabditis elegans* **Amy Walker** UMASS Medical School

640T A comparative study of piRNA evolution in *Drosophila simulans*. **Prakash Narayanan** North Dakota State University

641T *m6A* patterns are consistent across different *Drosophila* datasets and regulates alternate splicing **George Boateng-Sarfo** North Dakota States University

642T The *Drosophila melanogaster* microbiome is modified by parasitic nematode infection **Raymond Yau** George Washington University

643T R-loop formation at transposable and repetitive elements in *Drosophila melanogaster* ovaries **Timothy Stanek** Rutgers University

644T Transcriptome Analysis of the Effects of Loss of ft and Deletion of Conserved Domains in Imaginal Wing Disc **Nattapon Thanintorn** Washington University School of Medicine

645T Roles of Transposable Elements in rewiring 3D genome architecture **Harsh Girish Shukla** University of California, Irvine

646T Activity of a *Drosophila teissieri* I-element retrotransposon in *D. melanogaster* **Denise Clark** Univ New Brunswick

647T High-throughput transposition analysis of hybrid dysgenesis in *Drosophila virilis* using Oxford nanopore sequencing **Ekta Mohanty** University of Kansas

648T Live Imaging Analysis of Akirin/NuRD Complex Interactions During Cardiac Development **Ariana Craft** Kennesaw State University

649T Long-range spatial interactions of transposable elements impose trans epigenetic effects **Yi Gao** University of California, Irvine

650T Extending the GENCODE long non-coding RNA catalogue in human and mouse **Adam Frankish** EMBL-EBI

651T Mouse Regulatory Regions and Their Alleles and Sequence Variants at MGI and The Alliance **Laurens Wilming** The Jackson Laboratory

652T Improving annotation of introgressions in the laboratory mouse using the Collaborative Cross **Sam Ardery** University of North Carolina-Chapel Hill

653T Molecular Characteristics and Computational Analysis to Investigate Genetic Diversity and its impact on Post Translational Modifications **Muhammad Saleem** University of the Punjab

654T Genome-wide overexpression screens in *Saccharomyces cerevisiae* identify novel antifungal drug-resistance mechanisms **Akriti Agrawal** NYU

655T How repeats rearrange chromosomes in deer mice **Landen Gozashti** Harvard University

656T Assembly and characterization of W chromosome in monarch butterfly (*Danaus plexippus*) **Martina Dalikova** University of Kansas

657T Altered hydroxymethylation of imprinted genes in male infertility **Rajender Singh** Central Drug Research Institute

658T A chromosome scale reference genome of house fly *Musca domestica* **Yesbol Manat** University of Houston

659T Horizontal Gene Transfer in Staphylococcus Epidermis shows evidence of function of phage proteins in the bacteria **Gaurav Arora** Gallaudet University

660T Long-read *de novo* assembly and comparative analysis of six howler monkey genomes within genus *Alouatta* **Bide Chen** Duke University

661T Characterization of the Structure and Stability of Wild-Type FGF2 and Mutant Design of Wild-Type FGF2 to Enhance Wild-Type FGF2 Stability **Aisha Al-Rizzo** University of Arkansas

662T Unexpectedly simple and powerful relationships exist between genome composition and DNA Methylation, mRNA and Protein Expression in *Arabidopsis thaliana* rosettes **Richard Mott** University College London

663T Comparative genome analysis of *Quercus rubra* and *Q. ellipsoidalis* **Swapan Chakrabarty** Michigan Technological University

664T Improvements of *Xenopus* genome annotations for the Alliance of Genomic Resources and other Amphibian genomes **Taejoon Kwon** Ulsan National Institute of Science and Technology (UNIST)

665T Genetic analysis of the yeast DNA damage response with a genome-wide inducible degron library **Eduardo Gameiro** Institute of Molecular Biology gGmbH

666T Characterization of Type II-A Anti-CRISPR Genes **Dinie Zheng** National Human Genome Research Institute, NIH

667T Unveiling the spectrum of potential hosts for SAR-CoV-2 using a high-throughput yeast display screen. **Mudabir Abdullah** National Institute of Health

668T Chromatin Structure in the *Ogataea polymorpha* Species Complex **Sara Hanson** Colorado College

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669T Educational Resources Hosted at the *Saccharomyces* Genome Database **Rob Nash** Stanford University

670T Transcription associated mutations in haploid and diploid yeast **Rutuja Gupte** University of Wisconsin-Madison

671F Genetic Interactions Between the Gut Microbiota and *C. elegans* Intestinal Cells **Jessica Hill** Colorado State University

672F Elucidating the population genetics of structural variants with 79 chromosome-level long-read genomes of *Drosophila* melanogaster **James Hemker** Stanford University

673F Effects of Nickel on the Gut Microbiome of *Drosophila melanogaster* in multiple genetic backgrounds **Jesse Petahtegoose** Laurentian University

674F Epigenetic Control of DNA Replication During Early *Drosophila* Development **Karla Troncoso** University of North Carolina at Chapel Hill

675F What Role Does Brain Tumor Gene, brat, in *Drosophila* melanogaster Play In Hybrid Dysgenesis from P-element Transposition **An Bui** University of Houston

676F Histone 4 Lysine 20 mutation Increases Mitotic Recombination in *Drosophila* **Priscila Santa Rosa** University of North Carolina at Chapel Hill

677F Microbiome dynamics across life stages and generations, and the impact of host metabolic genotype on the resulting gut microbial community in *Drosophila melanogaster* **Nitin Bansal** University of Nebraska-Lincoln

678F *Drosophila* as a model for precision toxicology **Shannon Smoot** Indiana University

679F Functional analysis of candidate *Drosophila* genes involved in aged host responses to Flock House virus infection **Madelyn Buhl** The University of Alabama

680F Annotation and Phylogenetic Analysis of STUB1 and Sdr Across *Drosophila* Species **Reese Saho** Ohio Northern University

681F Integrating multi-omics datasets across diverse species to characterize the effects of genetic variation **Heidi Fisher** The Jackson Laboratory

682F GenomeMUSter: A uniformly dense comprehensive mouse variation analytical resource for genomic analyses **Robyn Ball** The Jackson Laboratory

683F Affordable short-read genome assembly allows diverse downstream genetic analyses on non-model fishes **Eric Garcia** Texas A&M University-Corpus Christi

684F Modified Mechanisms of Chromosome inheritance in the Trioecious Nematode *Auanema rhodensis* **Liesl Strand** Stanford University

685F Optimal thresholds for variant impact prediction in human genes appear to depend on selection **Brynja Matthiasardottir** University of Maryland

686F Pharmacogenomic Profiling of the Mu Opioid Receptor Reveals Mechanisms of Opioid Resistance in Human Patients **Ping Guo** University of Utah

687F Evolutionary Origins and Mechanisms of Fish Antifreeze Protein in Unrelated Taxa: Insights into New Gene Birth **Xuan Zhuang** University of Arkansas

688F Identification of Genetic Biomarkers for Response to Proton Radiation Therapy in PCa Patients **Ayse Cemek** New College of Florida

689F A fresh look at germline mutation rates at repetitive loci with AVITI sequencing and multi-generational CEPH pedigrees **Hannah Happ** University of Utah

690F Genome assembly of an expanding forest pest: Dendroctonus frontalis (southern pine beetle) **Megan Copeland** Texas A&M University

691F A Chromosome-Scale Reference Genome to Study the Unusual Chromosome Biology and Gene Amplification in the Dark-Winged Fungus Gnat, Bradysia (Sciara) coprophila **John Urban** HHMI Research Laboratories

692F PERCEPTIVE: a (Pipeline for the pRediCtion of EPigenetic modulaTors in noVel spEcies) **Eric Small** Los Alamos National Laboratory

693F Xenbase: Improvements in *Xenopus* gene nomenclature annotations **Andrew Bell** Cincinnati Children's Hospital Medical Center

694F Potential Role in Cell Wall Integrity of a Gene of Unknown Function in *Saccharomyces cerevisiae* **Claire Magill** Juniata College

695F Specific high effect mutations in clinical and experimentally evolved *Saccharomyces 'boulardii'* isolates show that genes involved in chemical response might have a role during the adaptation to the human host **Alexandra Imre** North Carolina State University

696F A minimal *Saccharomyces cerevisiae* chromosome **Zachary Krieger** University of Southern California

697F Effect of host genotype on the genetics of fungal persistence in mice **Yunsun Eoh** USC

698F Characterizing mechanisms of yeast persistence in mice using fine-scale genetic mapping and high resolution microscopy **Brandon Bernardo** University of Southern California

699S Investigating the role of H3K9 tri-methylation in regulating heat-induced transposon excision **Hannah Wilson** University of Oregon

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700S Investigating the impact of seasonality on the gut microbiome in *Drosophila melanogaster* **Harjit Khaira** Johns Hopkins University

701S Pinpointing the impact of a commonly used *nanos-Gal4* driver on *I-R* hybrid dysgenesis **Mia Willingham** University of Kansas

702S Annotation of Thor in *Drosophila* albomicans: Detangling the Insulin Signaling Pathway of *Drosophila* **Laury A. Valentin Rodriguez** University of Puerto Rico-Mayaguez

703S Adaptive TE insertions in a long non-coding RNA: a novel class of transcriptional repressors? **Erin Kelleher** University of Houston

704S New biological insights of the 3D nuclear architecture using WaveTAD, a probabilistic, resolution-free, and hierarchical TAD caller **Ryan Pellow** University of Iowa

705S The role of *Lactiplantibacillus plantarum* in the gut microbiota-brain axis - implications for aging **Melanie Reinoso** University of Puerto Rico Rio Piedras

706S The impact of Piwi overexpression on *I-R* hybrid dysgenesis **Sean Nash** University of Kansas

707S Starting to Remember: Initiation of Polycomb target gene regulation in the Early *Drosophila* Embryo **Sean Johnsen** University of North Carolina at Chapel Hill

708S The Relationship Between Thiamine and *Drosophila* Melanogaster Preference for Dietary Yeast **Dean Peterson** Brigham Young University

709S Diet reveals tissue-specific gene expression of an uncharacterized gene in *Drosophila melanogaster* **Meri Nehlsen** Friedrich Miescher Laboratory, Max Planck Society

710S The role of Polycomb group proteins in animal activity **rachel ferris** university of alabama at brimingham

711S Cas9 electroporation and AAV templates efficiently generate knock-in and conditional alleles in mice **Lauri Lintott** The Hospital for Sick Children

712S Adding the missing tiles to the puzzle: reconstruction of KRAB-ZFP gene clusters sequence and evolution in mice **Melania Bruno** The Eunice Kennedy Shriver National Institute of Child Health and Human Development, The National Institutes of Health

713S Time-series transcriptomic analysis reveals selfish B chromosome, PSR, may regulate wasp development through testis-biased gene expression **Xinmi Zhang** W.M. Keck Science Center

714S Differential adenine methylation analysis reveals 6mA variability after experimental evolution. **Carl Stone** Vanderbilt University

715S Genome assembly of three rhabditid species **Juan Pablo Aguilar Cabezas** Florida International University

716S Achieving epigenetic precision: The complete human diploid reference genome of RPE-1 identifies the phased epigenetic landscapes from multi-omics data **Emilia Volpe** University of Rome Sapienza

717S Next-generation map of constrained coding regions from hundreds of thousands of humans **Suchita Lulla** University of Utah

718S Establishing baseline transcriptome profiling of ATCC's human and mouse cell lines **Ajeet Singh** ATCC

719S Diversity of cow transposable elements and developmental expression in early embryos **Guangsheng Li** Cornell University

720S The first two chromosome-scale genome assemblies of American hazelnut enable comparative genomic analysis of the genus *Corylus* **Scott Brainard** University of Wisconsin-Madison

721S Qploidy: ploidy and aneuploid determination for polyploid species **Cristiane Taniguti** Texas A&M University

722S Fine-scale genetic mapping using synthetically recombined chromosomes **Christopher Ne Ville** University of Southern California

723S Determining Gene Function of *YBR220C* in *Saccharomyces cerevisiae* **Hailey Hendricks** Juniata College

724S Characterizing and cataloging *Saccharomyces cerevisiae* isolates from ancient metagenome samples **Megan Brown** Loras College

725S Examination of the genome of the species *Saccharomyces cerevisiae* **Fred Dietrich** Duke University

726S Investigating the effects of yeast deletion mutations under a resource partitioning model of the cell **Michael Overton** University of California, San Diego

727S High-throughput Screening for Aflatoxin B1 Resistance Genes in Budding Yeast and VERO-E6 Cells Identifies Genes That Confer Resistance to Replication Stress **Michael Fasullo** University at Albany

728V NCBI's RefSeq Select dataset for mouse genome **Anjana Vatsan** National Center for Biotechnology Information of the National Library of Medicine, National Institutes of Health

729V Genotype vs environment effect on housefly *(Musca domestica)* microbiome **Sohana Al Sanjee** University of Houston

730V Sequence Analysis of Heat Resistant Gene in Naked Neck Nigerian Indigenous Chicken **Hannah Etta** University of Cross River State

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731V Three-dimensional genome organization in the mosquito central nervous system **Christopher Catalano** Princeton University

732V 5-Nitroimidazole-resistance in *Mycoplasma genitalium* strains is associated with mutations in an NAD(P)H-dependent FMN reductase gene. **Abhi Kancherla** Seattle Pacific University

733V Investigating the Role of Transposable Element-Derived Promoters in Tissue-Specific Gene Expression and Phenotype in Zebrafish Testis **Irene Wang** Washington University School of Medicine in St. Louis

734V Health assessment of Resident Killer Whale populations via whole genome analysis **Adam Warner** Raincoast Conservation Foundation

Population and Evolutionary Genetics

735T Extreme allelic diversity likely underlies adaptation to environmental heterogeneity **Erik Andersen** Johns Hopkins University

736T High-throughput Fitness Estimates of Epistatic Contributions to Ivermectin Resistance in *Caenorhabditis elegans* **Eleanor Laufer** University of Oregon

737T Rapid evolutionary diversification of the *flamenco* locus across simulans clade *Drosophila* species **Sarah Signor** North Dakota State University

738T An Evolutionary Puzzle: Examining the High Insertion Bias of P-Elements into X-TAS **Shashank Pritam** North Dakota State University

739T Evolutionary rate covariation is pervasive between unrelated glycosylation pathways and points to potential disease modifiers **Holly Thorpe** University of Utah

740T Population genomics of *Drosophila pseudoobscura* **Richard Meisel** University of Houston

741T Accelerated evolution in the protein components of the genomic dark matter, heterochromatin **Leila Lin** UC Irvine

742T Breaking mating barriers between *Drosophila melanogaster* and *D. simulans* **Tianzhu Xiong** Cornell University

743T *Drosophila* tripunctata: Is sympatric speciation occurring due to host preference and toxin tolerance ? **Grace Kropelin** Appalachian State University

744T Integrating genomes and legacy marker data to estimate the Drosophilidae Tree of Life **Anton Suvorov** Virginia Tech

745T The co-evolutionary network of 155 species of *Drosophila* **Andrius Jonas Dagilis** University of Connecticut

746T Clade-scale genomic data reveal heterogeneity in natural selection across the drosophilid protein-coding genome **Bernard Kim** Stanford University

747T Fitness consequences of sex chromosome non-disjunction in *Drosophila melanogaster* **Nathaniel Sharp** University of Wisconsin-Madison

748T Origination and function of a newly identified female sexual behavior in *Drosophila santomea* **Shengxi Chen** University of Pennsylvania

749T Adaptive Evolutionary Responses to Heavy Metal Toxicity in Organisms **Geetanjali Sageena** Indian Council of Medical Research

750T Duplicative transposition of the male fertility gene *kl-2* to the Y chromosome triggers gene subfunctionalization in *Drosophila* **Eduardo Dupim** Universidade de São Paulo

751T A cryptic evolutionary arms race with an unsuppressed selfish chromosome in *Drosophila* **Jackson Bladen** University of Utah

752T Divergence in thermal sensitivity of meiosis in related cold tolerant and thermotolerant species **Caiti Smukowski Heil** North Carolina State University

753T Investigating Murine Y Chromosome Diversity and its Functional Consequences **Alexa Michaels** Jackson Lab

754T Karyotype Analysis and Quantification of Male Fertility Metrics in a Novel Wild-Derived Inbred Mouse Strain Panel **Hilda Opoku Frempong** The Jackson Laboratory and University of Maine

755T Effects of the Breeding Sex Ratio on Genomic Patterns of Variation **William Spurley** University of Wisconsin-Madison

756T Gene-by-environment interactions, gene expression, and body size in house mice from the Americas **Megan Phifer-Rixey** Drexel University

757T Parent-of-origin disruption of growth and metabolism in hybrid mice **Emily Moore** University of Denver

758T Intentionally left blank

759T Investigating the drivers of interspecific variation in antibody immunity using comparative genomic and phylogenetic approaches **Yana Safonova** Penn State University

760T HIV rapid intra-host evolution allows evasion from VRC01 infusion via positive selection **Frida Belinky** National Institute of Allergy and Infectious Diseases

761T How mammals lost their vision, according to genetics **Sarah Lucas** University of Utah

762T A polygenic explanation for Haldane's Rule in butterflies **Tianzhu Xiong** Cornell University

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763T Innovation, constraint, and the evolution of genetic networks in major eukaryotic lineages **Jacob Steenwyk** UC-Berkeley / HHMI

764T Large genotype frequency fluctuations are linked to decorrelated offspring number stochasticity **Joao Ascensao** University of California, Berkeley

765T Recombination mitigates selection against Neanderthal introgression in shaping introgression landscape **David Lu** Cornell University

766T Evaluating cluster-based transmissibility measures under a phylodynamic framework with the structured coalescent **Peiyu (Perry) Xu** Cornell University

767V Genetic diversity and population structure of creole goats from northern Peru revealed by genome-wide SNP markers **Flor-Anita Corredor** Instituto Nacional de Innovación Agraria - INIA

768T Utilizing Fractional Calculus to Investigate the Impact of Heterogeneity in Population Genetics **Somayeh Mashayekhi** Kennesaw State University

769T Non-heritable yet evolvable: increased developmental noise can be selected for despite average negative effect **Csenge Petak** University of Vermont

770T The Population Genetics of Biological Noise **Daniel Weinreich** Brown University

771T Modelling Human Population Growth with an Integrated Archeological-Genetic Framework **Gabriel Kennedy** Duke University

772T The effect of heterogeneous recombination landscapes on the probability of sex chromosome turnover **Mark Hibbins** University of Toronto

773T Solving the Arizona search problem by imputation **Egor Lappo** Stanford University

774T LD and other between-LOCUS associations under drift, population structure, and tight linkage: A likelihood-based approach **Marcy Uyenoyama** Duke University

775T Ancient gene duplication and recent non-coding structural variation underpin pigmentation diversification in swordtail (*Xiphophorus*) fishes **Tristram Dodge** Stanford University

776T Integrating epidemiological and population genetic models of *Plasmodium vivax* genomic variation **Shyamalika Gopalan** Duke University

777T Adaption to repeated long-term starvation illustrates how microbes navigate complex stress **Megan Behringer** Vanderbilt University

778T Using ancient genomes to analyze the history of Neanderthal DNA in Europeans and East Asians **Abigail Kuntzleman** Brown University

779T Characterization of the *Pristionchus pacificus* "epigenetic toolkit" reveals the evolutionary loss of the histone methyltransferase complex PRC2 **Audrey Brown** University of Utah

780T Population genomics of unusually large white-footed mice in the Boston Harbor archipelago **Emma Howell** University of Wisconsin-Madison

781T Natural selection and random genetic drift in the evolution of genomic regulatory traits: application to epigenetic marks **Leandros Boukas** Johns Hopkins University/Children's National Hospital

782T Genetics of color variation in a pair of sympatric butterflies. **Joe Hanly** Duke University

783T Detecting genomic adaptations to freezing environment in right-eye flounder **Prabodh Bajpai** University of Arkansas

784T Evolutionary genomics of trans-specific polymorphisms between cryptic species **Connor Murray** University of Virginia

785T Mathematical properties of allele-sharing dissimilarities **Xiran Liu** Brown University

786T The mechanisms of correlated evolution: Aposematism in Phyllobates poison-dart frogs **Roberto Márquez** University of Michigan

787T Computational advances in inference from allele frequency spectra **Ryan Gutenkunst** University of Arizona

788T The effect of proto-sex Chromosomes on the reproductive behavior of male house flies (*Musca domestica*) **Farnam Ghaemmaghami** University of Houston

789T Genetic diversity loss continues long after habitat destruction ends **Kristy Mualim** Stanford University

790T Biases in ARG-based inference of historical population size in populations experiencing background selection and recurrent sweeps **Jacob Marsh** University of North Carolina

791T A diffusion theory approach to model the allele frequency distribution during selective sweeps **Sachin Kaushik** University of North Carolina at Chapel Hill

792T Female mate choice, sexual selection and linkage disequilibrium **Michael Wade** Indiana Univ

793T Population genetics consequences of fragmentation processes on migration networks **Ryan Chaffee** Cornell University

794T Investigating Recombination Rate Variation Through Population-Level Genetic Variation **LyAndra Lujan** University of Oregon

795T Using long reads to characterize structural variation across diverse species **Danielle Khost** Harvard University

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796T Identifying long-lived balanced polymorphisms in humans **Hannah Munby** Columbia University

797T Trouble in paradox: k-mer diversity scales with population size more than SNP diversity **Miles Roberts** Michigan State University

798T Asymmetric patterns of postzygotic reproductive isolation within *Mimulus guttatus* species complex **Hagar Soliman** Yale University

799T Investigation of cooperation-cheater games for public-goods driven resources in yeast. **Supreet Saini** Indian Institute of Technology Bombay

800T Utilizing a "deep homolog scan" approach to evaluate the theoretical host range of poxviruses **Sophie Scobell** National Human Genome Research Institute, NIH

801T What is the role of epistasis in dictating the evolution of a gene? **Pavithra Venkataraman** Indian Institute of Technology Bombay

802T Using experimental evolution of hybrid genomes to identify genetic incompatibilities in yeast **Artemiza Martinez** Lehigh University

803T Reversion dynamics of copy number variants: fitness costs versus benefits in the absence of selection pressure **Titir De** New York University

804T Defining quiescence in Candida albicans **Ozan Imir** New York University

805F Quantification of Environmentally-Dependent Selection via Barcoded Animal Lineage Tracking **Zachary Stevenson** University of Oregon, Institute of Ecology and Evolution

806F Multiple distinct evolutionary mechanisms achieve stable coexistence of selfish and cooperative mitochondrial genomes **Bryan Gitschlag** Cold Spring Harbor Laboratory

807F Limitations of the inference of the distribution of fitness effects of new mutations in partially-selfing populations with linkage **Austin Daigle** UNC Chapel Hill

808F Intra-genomic coevolution between a DNA satellite and Topoisomerase II triggers a cross-species incompatibility in *Drosophila* **Cara Brand** University of Pennsylvania

809F Characterizing allelic changes in *Drosophila* melanogaster due to selected pressures using various statistical models **Carmen Martin** University of Missouri

810F Evolved Changes in the Insulin/IGF Signaling Pathway in Response to Diet Regime in *Drosophila* melanogaster **Elliett Baca** University of Missouri

811F Functional diversification of duplicate genes in *Drosophila* **Nathan Duda** Temple University

812F How prevalent are the effects of associative overdominance under realistic evolutionary scenarios? **Parul Johri** University of North Carolina at Chapel Hill

813F *Wolbachia* abundance and localization in *Drosophila* hosts diverged up to 50 million years **John Statz** The University of Montana

814F Internationally left blank

815F The Evolution Trends of Structural Variants at A Large Population Scale **Jen-Yu Wang** Department of Ecology and Evolutionary Biology, University of California Irvine

816F Machine learning identifies species differences in *Drosophila* female aggressive behavior that is correlated with reproductive traits **Jennifer Gleason** University of Kansas

817F Selection for improved flight performance in laboratory populations of *Drosophila melanogaster*: phenotypic and genomic consequences **Srikant Venkitachalam** University of Missouri

818F DEST 2.0: an expanded genomic resource reveals new insights on fly phylogeography and adaptation **Alan Bergland** University of Virginia

819F Backyard Evolution – a citizen science project to track seasonal evolution and metapopulation structure in fly communities in backyard compost piles **Megan Stephenson** University of Virgina

820F Intraspecific variation in heat-shock transcriptional response in *Drosophila melanogaster* **Nikale Pettie** University of Iowa

821F Segregation Distorter requires Overdrive for gamete elimination **Jackson Ridges** University of Utah

822F Egg laying behavior in response to CO_2 exposure in *D. suzukii* subgroup **Sasha Mills** The Rockefeller University

823F Investigating ZAD Gene Evolution on Muller D **Anthony Cole** Bemidji State University

824F Molecular evolution of a maize hybrid barrier over 12 million years **Elli Cryan** UC Davis

825F Inferring Distributions of Fitness Effects of Wild House Mice from Allele Frequency Spectra **Olivia Fernflores** University of Arizona

826F On the demographic history of the Western European house mouse, *Mus musculus domesticus* **Kennedy Agwamba** UC Berkeley

827F Differential evolution of gene sequences, expression profiles, and protein structures **Antara Anika Piya** Florida Atlantic University

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828F Effect of chloroplast size and abundance on photosynthesis in diploid vs. polyploid wheat **Damilola Odumade** New Mexico Institute of Mining and Technology

829F Genomics of Brazilian howler monkeys reveals adaptation to malaria **Katherine McVay** Duke University

830F Multilocus phylogenetic tree estimation using topic modeling **Marzieh (Tara) Khodaei** Florida State University

831F Inference of the structured coalescence in the fractional coalescent framework. **Peter Beerli** Florida State Univ

832F Differentiating mechanism from outcome for ancestry-assortative mating in admixed populations **Dashiell Massey** Duke University

833F Inferring Demographic History in the Presence of Low-Coverage Sequencing **Ryan Gutenkunst** University of Arizona

834F Co-existing strains drive rapid and reversible genetic turnover in antibiotic treated human gut microbiomes **Sophie Walton** Stanford University

835F Enrichment of sex-biased genes associates with the origins of multiple neo-sex chromosomes in Danaini butterflies **James Walters** University of Kansas

836F The unreasonable effectiveness of Graph Convolutional Networks in population genetic inference **Daniel Schrider** University of North Carolina

837F Inference of the demographic histories and selective effects of human gut commensal microbiota over the course of human history **Jonathan Mah** University of California, Los Angeles

838F Phylogenetic Approach to Understand the Evolution of Drug Resistance in Mycobacterium Tuberculosis in Russia, China and South Africa **Marisol Fermin Flores** San Francisco State University

839F The effects of demographic history and linked selection on patterns of genomic diversity in the globally invasive mosquito *Aedes aegypti* **Tyler Kent** University of North Carolina at Chapel Hill

840F Fat-tailed dispersal facilitate local adaptation in some habitats **Sherif Negm** The University of Chicago

841F Wild bines to beer steins: Exploring the evolutionary genomics of hops domestication **Alexandra McElwee-Adame** San Diego State University

842F The effect of long-range linkage disequilibrium on allele frequency dynamics under stabilizing selection **Sherif Negm** The University of Chicago

843F Genetic incompatibility increases meiotic nondisjunction in intra-species *C. briggsae* hybrids **Joseph Ross** California State University, Fresno

844F Molecular evolution of genes underlying toothed whale acoustic behavior **Leticia Magpali Moura Estevao** Dalhousie University

845F The Impact of Treatment Timing on the Probability of Cure in Two-strike Therapy Protocols **Amjad Dabi** University of North Carolina at Chapel Hill

846F Pervasive paternal mitochondrial transmission in *C. briggsae* hybrids **Joshua Proctor** California State University, Fresno

847F Signatures of selective sweeps in continuous-space populations **Meera Chotai** Cornell University

848F A genealogical interpretation of LD at a small locus **Mariadaria Ianni-Ravn** University of Chicago

849F Investigation of putative parthenogenesis in the vulnerable Jamaican Boa (*Chilabothrus subflavus*) **David Graber** University of Southern Indiana

850F When does adaptation arise from a polygenic response versus few large effect changes **William Milligan** Columbia University

851F Genetic variation in prey size and movement interacts to affect predation risk in *Paramecium caudatum* **Kristi Montooth** University of Nebraska-Lincoln

852F Investigating the effects of voltinism polymorphism on the rate of molecular evolution in the European corn borer (*Ostrinia nubilalis)* **Alejandro Calderon** Tufts University

853F Constraining models of dominance of deleterious mutations in the human genome **Kirk Lohmueller** UCLA

854F Whole genome sequence data elucidates signatures of cattle domestication and global bovid migration patterns **John Miraszek** University of Missouri

855F Associating Genes with Diet through Convergent Evolution **Michael Tene** Lehigh University

856F Inferring the distribution of fitness effects from genetic variation with convolutional neural network **Linh Tran** University of Arizona

857F Inter-chromosomal linkage disequilibrium in rice populations **Anthony Greenberg** Bayesic Research

858F Non-coding Variant Discovery with Evolutionarily-Informed Probabilistic Machine Learning Models **Courtney Shearer** Harvard

859F The contribution of transposable element insertions to genetic diversity and recent adaptation in *Aedes aegypti* populations **Gabriela Valente-Almeida** University of North Carolina Chapel Hill

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860F Non-adaptive mechanisms of metabolic evolution of *Escherichia coli* in a complex environment **Wei-Chin Ho** University of Texas at Tyler

861F The cellular evolution underlying variation in innate social behavior across *Peromyscus* deer mice **Jenny Chen** Harvard University

862F balselr - Balancing Selection Tests in R **Barbara Domingues Bitarello** Bryn Mawr College

863F Adaptive significance of amphicarpy as a bet-hedging strategy in American hog-peanut **Neal Yin** Brown University

864F Scaling the fitness effects of mutations with respect to differentially adapted *Arabidopsis thaliana* accessions under natural conditions **Frank Stearns** Stevenson University

865F Identifying candidate loci for hybrid seed inviability within *Mimulus* interspecific crosses **Natalie Gonzalez** University of Georgia

866F Genome architecture influences copy number variant dynamics in adapting populations **Julie Chuong** New York University

867F The histone deacetylase Hos2 regulates protein expression noise by modulating protein translation machinery **Jun-Yi Leu** Academia Sinica, Taiwan

868F Unraveling the complex world of drug resistance tradeoffs **Kara Schmidlin** Arizona State University

869F From macro- to microevolution in the yeast *S. cerevisiae* **Walter Pfliegler** University of Debrecen

870F Predicting population evolution in response to fluctuating environmental conditions **Esdras Tuyishimire** University of Missouri

871F Developing a model for predicting the fitness of yeast mutants in antifungal drugs by utilizing Singular Value Decomposition
Mohammad Hossein Donyavi Arizona State University

872F The Histone Deacetylase Hos2 Regulates Protein Expression Noise by Modulating Protein Translation Machinery **Wei-Han Lin** Institute of Molecular Biology, Academia Sinica

873F Functional validation of reported genes associated with skin pigmentation in a Native American Caribbean population **Kathryn Early** Penn State College of Medicine

874S Inherently having more males makes difference in the response of strains to different mutagens in *C. elegans.* **Sayran Saber** Florida International University

875S Selection on the length of *C. elegans* giant ankyrin (UNC-44) **Matthew Rich** University of Utah

876S Functional consequences of the rapid evolution of a putative *de novo* evolved gene required for male fertility in *D. melanogaster* **Alexander Thurber** College of the Holy Cross

877S Genomic diversity illuminates the environmental adaptation of *Drosophila suzukii* **Siyuan Feng** University of Wisconsin Madison

878S Investigating post-transcriptional regulatory mechanisms of putative *de novo* evolved genes required for *Drosophila* male fertility **Ishanpepe Jagusah** College of the Holy Cross

879S It's all in good taste: Premating Isolation in the *Drosophila virilis* subgroup **Amisha Agarwala** Syracuse University

880S Discovery of adaptive structural genetic variation in repetitive genome using a pangenome graph of *Drosophila melanogaster* **Alejandra Samano** Texas A&M University

881S Genomics of postponed reproduction in *Drosophila melanogaster* **Giovanni Crestani** Oregon State University

882S Whole fly 16s microbiome profiles following long-term dietary selection of an outbred genetically diverse population of *Drosophila melanogaster* **Peyton Warren** University of Missouri

883S A screen for modifiers in the sex determination pathway of *Drosophila melanogaster* **Frederick Xu** Cornell University

884S Gene regulatory targets of selection for enhanced heat tolerance in *Drosophila melanogaster* embryos **Kylie Finnegan** University of Vermont

885S GxGxE for performance traits across 90 mitonuclear genotypes under mitochondrial stress in *Drosophila* **David Rand** Brown University

886S Mechanisms of adaptation to oral infection in *D. melanogaster* upon experimental evolution **Tânia Paulo** Boston Children's Hospital. Harvard Medical School

887S Rapid evolution of piRNA clusters in *Drosophila melanogaster* ovary **Satyam Srivastav** Cornell University

888S Flight, Form, and Fitness: Unveiling the Robustness of Adaptation **Saudat Alishayeva** Friedrich Miescher Laboratory, Max Planck Society

889S Isofemale lines, genomic environment and evolution **Guy Barbato** Stockton University

890S Mixed Wolbachia infections resolve rapidly during in vitro evolution **Shelbi Russell** University of California Santa Cruz

891S Experimental evolutionary genomics of herbivore adaptation to toxic host plants **Diler Haji** University of California, Berkeley

892S Exploring the Genetic Basis of the *Tan Streak* Mutation in Deer Mice **Isabel Carino-Bazan** Lehigh University

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893S Genetic and non-genetic effects on transcriptional and post-transcriptional gene regulation **Mallory Ballinger** Utah State University

894S Convergent evolution in response to hypoxia in *Peromyscus* mice **Peter Nimlos** University of Denver

895S Cross-Species Comparative Transcriptomic Analysis of Embryonic Stem Cells (ESCs) **Yifei Fang** Cornell University

896S Ancient human genomic data and linear mixed models identify pervasive polygenic selection in the human genome **Jared Decker** University of Missouri

897S Extent and effects of changes in gene dosage on the neo-sex chromosomes of parasitic nematodes **Kevin Hackbarth** University of Maryland

898S Exploring the distribution of ultra-rare mutations under exponential population growth **Deepjyoti Ghosh** University of Chicago

899S Ancient DNA confirms crossbreeding of domestic South American Camelids in two Pre-Conquest archaeological sites **Alondra Diaz-Lameiro** University of Puerto Rico at Mayaguez

900S Genetic and Molecular Bases of Hybrid Dysgenesis in Deer Mice **Wyatt Toure** Columbia University

901S Genomic Evolution of Phi-6 Cystovirus under Heat Shock Treatments **Sara Nayeem** San Jose State University

902S Best practices for identifying fast evolving non-coding elements using PhyloAcc-GT: A cases study using echolocating mammals **Gregg Thomas** Harvard University

903S Inference of selection coefficients while controlling for gene flow using ancient DNA **Xinyi Li** University of Chicago

904S Connections between topological data analysis and identity-by-descent in biobank data **Alex Diaz-Papkovich** Brown University

905S History repeats itself: Genetic changes underlying convergent phenotypes are revealed by comparative genomics **Nathan Clark** University of Pittsburgh

906S Expression and Evolution of Alt-ORFs in the Human Genome **Naiqi Zhang** Cornell University

907S In space no one can hear you sweep: Investigating the dynamics and outcomes of selective sweeps in continuous geographic space **Clara Rehmann** University of Oregon

908S Interpreting differences in DNA base composition at polymorphic sites across populations **Sheel Chandra** University of Pennsylvania

909S Adaptive Evolution In *TAS2R14* and *TAS2R38* Bitter Taste Receptor Genes In Primates **Jiajia Chen** Bryn Mawr College

910S A scalable approach to estimating a genome-wide gene-conversion map from the UK Biobank data **Siddharth Avadhanam** Cornell University

911S A phylogenetic approach to understand evolution and transmission of drug-resistant mutations of Human Immunodeficiency Virus Type 1 infections in a large US Kaiser Permanente Northern California clinic population **Marisol Contreras** San Francisco State University

912S Reimagining the data structures and algorithms for scalable whole-genome analyses **April Wei** Cornell University

913S Two-Locus Genealogies under Isolation-by-Distance and Time **Arjun Biddanda** Johns Hopkins University

914S Manipulating sex determination in *Caenorhabditis* tetraploids to evaluate Haldane's rule **Jonathan Harbin** Rowan-Virtua SOM

915S The Spatial Speedup Effect of Evolutionary and Ecological Dynamics **Anush Devadhasan** Carnegie Mellon University

916S `diplo-locus`: A lightweight toolkit for inference and simulation of time-series genetic data under general diploid selection **Xiaoheng Cheng** University of Chicago

917S Spatial structure alters the site frequency spectrum produced by hitchhiking **Jiseon Min** University of Oregon

918S Within-patient evolution of the HIV-1, subtype B, *Envelope (Env)* gene in humans **Sarah Renee Phillips** Yale University

919S Impacts of demographic history on inter-chromosomal haplotype phasing **Cole Williams** Brown University

920S A population genetic model for effect size correlations in GWAS **Mikhail Moldovan** Harvard Medical School

921S NovelTree: Highly parallelized phylogenomic inference **Austin Patton** Arcadia Science

922S Cis-regulatory evolution of Wnt-family genes underlies morphological evolution in the domesticated silkworm **Peter Andolfatto** Columbia University

923S Selection and introgression at sea urchin gamete recognition proteins **Matthew Glasenapp** University of California, Santa Cruz

924S DNA of lizards with introgressed mtDNA shows reduced damage from Reactive Oxygen Species **Greg Haenel** Elon University

925S Do Immune Genes Contribute to Genetic Diversity in Natural Populations? A Case Study in European Daphnia pulex **Madison Doceti** University of Virginia

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926S High-resolution mapping of recombination events in a vertebrate species lacking PRDM9, the zebra finch (*Taeniopygia guttata*) **Djivan Prentout** Columbia University

927S Beyond Resistance: Tracing the Ancient Threads of Antibiotic Evolution and Their Impact on Microbial Genomes **Alejandro Gil Gomez** Stony Brook University

928S Gene and Dental Morphology Association **Julia Aloi** Lehigh University

929S Developing a speciation model derived from polygenic epistasis **Emmanuel D'Agostino** Princeton University

930S Variation Graph Pangenomes Improve Read Mapping and SNP Calling Accuracy in Divergent Diploid And Allopolyploid Populations **Justin Conover** University of Arizona

931S Common segregation of clonal seed production and polyploidy in diploid wild plants **Yvonne Willi** University of Basel

932S Novel mechanisms and evolutionary dynamics of metacaspase-dependent apoptosis **Darren Lam** Stanford University

933S The evolution of recombination rate modifiers during selection for complex traits **Enrique Schwarzkopf** North Carolina State University

934S Comparing Carnivorous and Herbivorous Mammalian Serine Dehydratases by Growth Rate in Saccharomyces cerevisiae **Julia Adamowicz** Lehigh University

935S Experimental evolution of biofilms in environmental isolates of the budding yeast *Saccharomyces cerevisiae* **Jennifer Lin** William & Mary

936S Hybrid genetic analysis reveals large chromosomal effects on thermal divergence in the *Saccharomyces* species **Nilima Walunjkar** University of Rochester

937S Mutation rate and spectrum evolution in *Saccharomyces* **Pengyao Jiang** Arizona State University

938S Living with a killer: how coevolved *Saccharomyces cerevisiae* become toxin resistant **Michelle Hays** Stanford University

939V Navigating the genomic diversity landscape of the hyper-polymorphic nematode *Caenorhabditis brenneri*: insights and challenges **Anastasia Teterina** University of Oregon

940V Evolutionary graph theory beyond single mutation dynamics: on how network structured populations cross fitness landscapes **Yang Kuo** Carnegie Mellon

941V Rapid changes in the recombination landscape shape patterns of genetic diversity and molecular evolution in *Drosophila* **Mitra Kardestuncer** The University of Chicago

942V Long-Term Stability in Genomic Clines in Natural North American Populations of *Drosophila* melanogaster **Vitoria Horvath Miranda** University of Sao Paulo - Institute of Biosciences (IB-USP)

Quantitative Genetics

943T Natural variation in *C. elegans* responses to per- and polyfluoroalkyl substance (PFAS) pollutants **Tess Leuthner** Duke University

944T The genetic architecture of transposable element-mediated heterochromatin formation in *Drosophila melanogaster* **Kayla Ly** University of California, Irvine

945T Dissecting the genetic basis of zinc toxicity resistance in *Drosophila melanogaster* using an extreme QTL (XQTL) mapping approach **Katherine Hanson** University of Kansas

946T Comparing Methods and Strategies for Complex Trait Prediction from Gene Expression **Noah Klimkowski Arango** Clemson University

947T Mediation analysis of key hepatic drug metabolizing enzymes and transporters in collaborative cross mice to characterize causal pathways of genetic regulation of drug metabolism as a resource for pharmacogenetics **Teresa McGee** University of North Carolina at Chapel Hill

948T Chromosome 15 hotspot robustly associated with CAST/EiJ tuberculosis resistance **Rachel Meade** Duke University

949T Mutational biases contribute to the neutral complexification of protein interaction networks following gene duplication **Angel Cisneros Caballero** Université Laval

950T Interpreting SNP heritability in admixed populations **Jinguo Huang** Penn State University

951T A Litmus Test for Confounding in Polygenic Scores **Samuel Pattillo Smith** University of Texas at Austin

952T F_{ST} based marker prioritization within QTL regions and its impact on genomic selection accuracy: Insights from a simulation study with high-density marker panels **Sajjad Toghiani** USDA

953T Childhood sleep duration modifies the cumulative effects of fat mass-associated variants on BMI among preschool children **Mengna Zhang** University of Mississippi Medical Center

954T MAGE: Sources of gene expression in a globally diverse human cohort **Dylan Taylor** Johns Hopkins University

955T A Bayesian model selection framework for categorizing gene-by-treatment effects for molecular count phenotypes **Yuriko Harigaya** University of North Carolina at Chapel Hill

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956T Genomic regulation of pedicel characteristics of apple **Jairam Danao** Purdue University

957T The strength of weird ties: positive genetic interactions are impactful yet overlooked **Mengyi Sun** Cold Spring Harbor Laboratory

958T To be or not to be an auxotroph - The curious case of MET15 **Nelson Castilho Coelho** University of Pittsburgh School of Medicine

959T Quantifying gene by environment interactions in the activity of protein degradation pathways **Randi Avery** University of Minnesota

960T Environment-specific hubs of genetic interaction modify the phenotypic effects of genetic perturbations **Ilan Goldstein** University of Southern California

961T A neural network based framework for systematically modeling genotype-phenotype relationships **David Mets** Arcadia Science

962F Master regulators of biological systems in higher dimensions **Will Ludington** Carnegie Institution for Science

963F Stable genotype-to-phenotype mapping in an evolving population **Jessica Rhodes** Stanford University

964F Let's talk about bruno: Uncovering genetic variants causative of differences in dysgenic sterility in *Drosophila* melanogaster. **Lorissa Saiz** University of Houston

965F Genetic correlations associated with body coloration, aggression, and activity levels in *Drosophila melanogaster* **Paulina Montes Mendez** Florida State University

966F Genetic and morphological contributions to natural variation in pup isolation calls in deer mice **Maya Woolfolk** Harvard University

967F Haplotype reconstruction using low-pass whole-genome sequencing in genetically diverse mouse populations **Samuel Widmayer** The Jackson Laboratory

968F Trophic-level gut length divergence evolved under sexual conflict in Lake Malawi cichlids **Aldo Carmona Baez** North Carolina State University

969F Toward whole-organism genetic mapping: The Arcadia Chlamydomonas Diversity Collection **Ryan York** Arcadia Science

970F Error rates in Q_{ST} vs. F_{ST} comparisons depend on genetic architecture **Junjian Liu** University of Southern California

971F Like mother, like daughter? Phenotypic plasticity, environmental covariation, and heritability of size in a parthenogenetic wasp **Scott Monahan** San Diego State University

972F Co-mutation based genetic networks to infer temporal mutation dynamics in ancient human mitochondrial genomes **Rahul Verma** Florida International University

973F The gall of an aphid : Novel secreted proteins hijack plant gene expression **Aishwarya Korgaonkar** HHMI Janelia Research Campus

974F Leveraging old data and new methods to illustrate the critical role of epistasis in genetics and evolution **Jorja Elliott** Texas A&M University

975F Coheritability and Coenvironmentability as Concepts for Partitioning the Phenotypic Correlation **Jorge Vasquez-Kool** Shaw University

976F Exploiting natural variation in wild *Saccharomyces cerevisiae* strains to understand why certain individuals are more susceptible to alpha-synuclein (a-syn) toxicity **Julio Molina Pineda** University of Arkansas

977F QTL Mapping of Yeast Mating Efficiency and Cell Cycle Progression **Dominick Costanzo** Lehigh University

978F Dissecting complex traits in yeast by saturation genome editing **Kevin Roy** Stanford University

979F Selection to combined antifungal drug stressors produces non-additive genomic responses in experimentally-evolved *Saccharomyces cerevisiae* populations **Megan Sandoval-Powers** Oregon State University

980S Mapping the Genetic Underpinnings of Natural Variation in Mutagen Tolerance in *Drosophila melanogaster* **Llewellyn Green** The University of Houston

981S The genetic basis of the non-monotonic response to atrazine in *Drosophila melanogaster* **Pamela Lovejoy** St. Joseph's University New York

982S Evolutionary Constraints Associated with Color and Aggression in *Drosophila melanogaster* and *D. simulans* **Sarah Ruckman** Florida State University

983S Genetic dissection of variation in heavy metal susceptibility in *Drosophila melanogaster* **Stuart Macdonald** University of Kansas

984S Increasing power in inbred strain association mapping by recognizing variance heterogeneity **William Valdar** University of North Carolina at Chapel Hill

985S Exploring evolutionary forces shaping the genetic architecture of complex disease **Kellen Riall** The University of Chicago

986S Contemporary evolution of complex traits in the plant fungal pathogen Zymoseptoria tritici **Anne Genissel** INRAE

987S The effect of Neanderthal introgression on human complex traits **Leqi Tian** Cornell University

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988S A novel method for computing population summary statistics **Ziqing Pan** Cornell University

989S Testing for differences in polygenic scores in the presence of confounding **Jennifer Blanc** University of Chicago

990S QTL-mapping using the ancestral recombination graph **Vivian Link** University of Southern California

991S Muskox genetics: How does genotype affect complex wool fiber phenotypes? **Dominique Wagner** Air Force Research Laboratory

992S Experimental evolution of mating system in M. guttatus **John Kelly** KU

993S The genetic architecture of adherence in a clinical isolate of the budding yeast *Saccharomyces cerevisiae* **Hita Yalla** William & Mary

994S (co)Evolution of GAPDH genes following duplication in yeast **Mohammad Siddiq** University of Michigan

995S Investigating the Evolution of Duplicated Genes Using Conditional Complex Genetic Interaction Analysis **Brittany Greco** Concordia University

996S Fine-mapping causal polymorphisms underlying differential protein expression in *Saccharomyces cerevisiae* **Minh Phan** Western Washington University

Developmental Genetics

997T *egg-7,* an ortholog of human phosphoglucomutase 3 is required for fertility in *C. elegans* **Katherine Maniates** Rutgers University

998T Investigating the role of optimal apoptosis levels in maintaining progeny fitness and fertility under temperature stress **Kristen Quaglia** Marquette University

999T The role of SPE-21, a palmitoyltransferase in sperm activation. **Saai Anugraha Tiruchendurai Suryanarayanan** Rutgers, The State University of New Jersey

1000T SPE-13 is a sperm membrane protein involved in the fertilization synapse complex function during fertilization in *C. elegans* **Yamei Zuo** Rutgers University

1001T The role of NUC-1 in apoptotic cell corpse clearance **Jonathan Pickett** Baylor College of Medicine

1002T VAB-3/PAX6 regulates gonad morphogenesis in *C. elegans* **Victor Stolzenbach** Northeastern University

1003T Genetic evidence that the Pumilio-family proteins PUF-3 and PUF-11 repress SPN-4 translation in oocytes to prevent premature CCR4-NOT-mediated maternal RNA destabilization in *C. elegans* **Erika Tsukamoto** University of Minnesota

1004T A Sperm–Oocyte Protein Complex as an Actin Regulator Required for Egg Activation in *Caenorhabditis elegans* **Tatsuya Tsukamoto** University of Minnesota

1005T The role of the HSP-90 co-chaperone SUGT-1 in GLP-1/Notch signaling and germline development in *C. elegans* **James Lissemore** John Carroll University

1006T The EBAX-type Cullin-RING E3 ligase promotes Linker Cell-type Death, a conserved non-apoptotic developmental cell death program. **Lauren Bayer Horowitz** Rockefeller University

1007T Role of Dicer methylation during oocyte-to-embryo transition in *C. elegans* **Nick Newkirk** MD Anderson UTHealth Graduate School of Biomedical Sciences

1008T PP1cβ associated with two myosin phosphatase-targeting subunits protects against rupture during embryo elongation **Neha Varshney** University of California, San Diego

1009T Understanding the roles of a sperm-oocyte protein complex (SPE-11-OOPS-1) in *C. elegans* egg activation **Ji Kent Kwah** University of Delaware

1010T A sensory cilium mediates specific neuron-glia attachment **Leland Wexler** Boston Childrens Hospital

1011T The genetic interaction between *unc-33* and *hmp-2* in embryonic epidermal morphogenesis of *Caenorhabditis elegans* **Grace Gottschamer** Truman State University

1012T The role of phosphorylation of ZIPT-7.1 on *Caenorhabditis elegans* sperm maturation **Trace Ackley** Truman State University

1013T Epidermal protein synthesis inhibition cell non-autonomously triggers organism-wide growth quiescence in *C. elegans* **Qiuxia Zhao** The University of Texas at Austin

1014T SPE-54 is required for proper pseudopod shape and function in *C. elegans* sperm **Jack Howell** William & Mary

1015T Exploring the role of SCF ubiquitin ligase in synaptonemal complex disassembly **Ailin Zhou** Johns Hopkins University

1016T Germline versus somatic stem cells: metabolism of distinct lineages composing the *Drosophila* ovary **Emily Wessel** University of Wisconsin- Madison

1017T Looking for stress pathways modulated by heat stress during *Drosophila melanogaster* oogenesis **Ana Caroline Gandara** University of Wisconsin-Madison

1018T Innexins proteins regulate the breaking and making cell-cell interactions during collective cell migration **Guangxia Miao** Florida State University

1019T Investigating the roles of kinases and phosphatases in meiotic biorientation and spindle assembly **Madeline Terry** Waksman Institute of Microbiology

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1020T The helicase activity of Me31B/DDX6 in *Drosophila* germline development **Ming Gao** Indiana University Northwest

1021T Functional Role of Molecular Regulators in Determining Neuronal Morphology and Neurotransmitter Identity of TmY14 Subtypes in the Developing *Drosophila* Visual System **Maisha Jacy** New York University

1022T ex-vivo cultivation of *Drosophila* imaginal wing discs to study the mechanisms that determine whether cells live or die after radiation-induced caspase activation **Sarah Colon** University of Colorado

1023T Investigating the role of the Ecdysone Receptor in germline to somatic cell communication **Lindsay Swain** East Carolina University

1024T Tnpo-SR promotes microtubule dynamics and fusome morphogenesis in *Drosophila* germline stem cells **Amanda Powell** East Carolina University

1025T Coordination of cell cycle and morphogenesis during organ formation **Jeffrey Matthew** Louisiana State University, LSU

1026T Chondroitin sulfate is required for proper control of *Drosophila* intestinal stem cells **Collin Knudsen** University of Minnesota

1027T *Sar1*, a GTPase involved in COPII vesicle trafficking, is critical for *Drosophila* oogenesis **Makayla Gomperts** University of Evansville

1028T Nucleoporin107 is a critical determinant of soma-germline communication, essential for ovarian development and function **Offer Gerlitz** The Hebrew University

1029T The T-box transcription factor Org-1 is required to establish the *Drosophila* testis niche. **Lauren Anllo** East Carolina University

1030T Over-expression of the Ecdysone Receptor promotes an undifferentiated transitional state during germline stem cell differentiation **Lauren Jung** East Carolina University

1031T Cytokine Dynamics in Polyploidization During *Drosophila* Hindgut Regeneration **Paulo Belato** Duke University

1032T Dilp8 functions as a mature follicle sensor to prevent excessive accumulation of mature follicles in *Drosophila* ovaries. **Rebecca Oramas** University of Connecticut

1033T Determining the requirement for PIP2 in *Drosophila melanogaster* sperm head-tail coupling **Marynelle Icmat** University of Toronto

1034T Asperous, an EGF-Repeat Protein, Orchestrates Compartment-Specific Regenerative Growth in *Drosophila* Wing Discs **Si Cave** Arizona State University

1035T Role of Malvolio, the *Drosophila* ortholog of human NRAMP2 metal ion transporter, in salivary gland morphogenesis **Rajprasad Loganathan** Wichita State University

1036T Effects of Developmental Alcohol Exposure on Parkinson's Disease models in *Drosophila* melanogaster **Navneet Sanghera** San Jose State Univeristy

1037T Distant wound mediates gut homeostasis through blood cells in flies **Sveta Chakrabarti** Indian Institute of Science

1038T Investigating the effects of RNA binding protein interactions and RNAi knockdown phenotypes on *Drosophila* sperm development and mRNA localisation **Dana Jackson** School of Biosciences, Cardiff University

1039T The Role of GATA Transcription Factor Serpent in Programmed Cell Death in *Drosophila* Ovaries **Baosheng Zeng** University of Connecticut

1040T Interactions between *akirin* and *simjoang* during cardiac development **Armeta Hadjimirzaei** KSU

1041T *eEF1a2* has essential roles for a cytoskeleton homeostasis in aged fly muscles, which is independent from protein translations **Hidetaka Katow** New York University

1042T Investigating the nuclear requirement for Tnpo-SR in *Drosophila* germline stem cell self-renewal **Lovens Paul** East Carolina University

1043T Satellite DNA Regulation and the Mechanism of Segregation Distorter **Logan Edvalson** University of Rochester

1044T Growth-critical Adipokines and their Role in Adipocyte to Ovary Signaling in *Drosophila melanogaster* **Chad Simmons** University of South Carolina

1045T Investigating the role of *SRPK* in *Drosophila* germline stem cells **William Outlaw** East Carolina University

1046T The *Drosophila* TENT5 homology is required for spermatid individualization **Abdulqater Al-nouman** New Mexico State University

1047T Exercise effects on the female germline stem cell lineage in *Drosophila melanogaster* **Emily Wessel** University of Wisconsin Madison

1048T CG14767: a novel regulator of the Hippo/Yki tumor suppressor pathway **Swastik Mukherjee** University of Massachusetts at Boston

1049T Roles of the insulin producing cells and the fat body in nutrient-dependent neuroblast reactivation from quiescence **Susan Doyle** University of Virginia

1050T Zrf1 regulates the genome integrity of adult intestinal stem cells crucial for midgut regeneration **Joshua Li** Harvard Medical School

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1051T Molecular insights from RNA-Seq analyses on the mechanisms governing shape and cohesion of collectively migrating border cells **Rehan Khan** Kansas State University

1052T The conserved RNA binding protein Orb2 regulates cell-type-specific responses to rare codon enriched transcripts within two distinct stem cell lineages **Rebeccah Stewart** Duke University

1053T Function of *CG11180/Chigno* in adult and developing *Drosophila* ovaries **Cheng Yang** College of William & Mary

1054T Organization of apical-cortical Actin in the primary pigment cells of the *Drosophila* pupal eye **Abhi Bhattarai** Wesleyan University

1055T The serine-like protease *masquerade* (*mas*) plays an important role in tracheal tube formation **Victoria Kurdyumov** University of St. Thomas

1056T Bourbon and Mycbp function with Otu to promote the expression of Sxl in the *Drosophila* female germline **Marianne Mercer** UT Southwestern

1057T Detailing the functions of Cytokine/JAK/STAT signaling during *Drosophila* midgut regeneration **Xiaoyu Kang** Huntsman Cancer Institute, University of Utah

1058T Regulating Hippo signaling, planar cell polarity, and metabolism through the Fat intracellular domain **Cole Julick** Washington University School of Medicine in St. Louis

1059T Synergistic activation by Glass and Pointed promotes neuronal identity in the *Drosophila* eye **Jessica Treisman** NYU Grossman School of Medicine

1060T Investigating the role of the *Drosophila* PI 4-kinase Four wheel drive during spermatocyte cytokinesis **Catherine Q.F. Zhang** University of Toronto

1061T Identifying polarity factors of Crumbs-induced neoplastic tissue growth **Max Shcherbina** University of Toronto

1062T Function of the RhoGEF Cysts in imaginal disc morphogenesis and tumorigenesis **Ming Cao** University of Toronto

1063T Preliminary characterization of *surfeit-4* gene in *Drosophila melanogaster* **Jada Scott** Western Kentucky University

1064T Identifying GPCR genes that affect salivary gland and germ cell migration **Kailey Boyle** Quinnipiac University

1065T Genetic and Molecular Mapping of two cell growth mutations, d.2.2 and a.2.1 in conjunction with the Fly-CURE **Jennifer Cifranic** Ohio Northern University

1066T Examining the function of *Dchs1* and *Dchs2* in Mammalian Eye Development **Jennysue Kasiah** Washington University-St. Louis

1067T Adams Oliver Syndrome-associated RBPJ variants act as dominant negative proteins that cause developmental defects due to compromised Notch signaling in the vasculature **Alyssa Solano** University of Cincinnati College of Medicine

1068T *In Silico* analysis of two novel variants in voltage gated sodium channel encoding gene SCN1A linked to Epilepsy **Chetan Ghati Kasturi Rangan** National Institute of Mental Health and Neurosciences

1069T Spatio-Temporal Control of RNAi in Tribolium castaneum **Muhammad Salim Hakeemi** University of Maryland

1070T Solubility phase transition of maternal RNAs during vertebrate oocyte-toembryo transition **Jing Yang** University of Illinois

1071T Regulation of meiotic cytokinesis in *S. cerevisiae* **Matt Durant** University of Massachusetts Boston

1072T Multiple Prostaglandins Play a Role in the Early Heart Development of Zebrafish (*Danio rerio*) **Jill Parsons** Williams College

1073T Characterizing Hybrid Cell Fate and Formation in Zebrafish Axial Mesoderm Development **Avani Modak** National Institute of Child Health and Human Development

1074T Generating transgenic zebrafish for optogenetic control of signaling pathways **William Anderson** National Institutes of Health

1075T Wnt-signaling dependent mechanisms of zebrafish spinal cord regeneration **Sam Alper** University of Utah

1076T Investigating the Role of Cold-Inducible RNA-Binding Proteins A and B (Cirbpa/b) in Balbiani Body Assembly and Translational Repression of Maternal RNAs **Megan Guerin** University of Pennsylvania

1077T A zebrafish gill model of mammalian lung endothelium **Jong Park** NICHD/NIH

1078T Investigating the role of cytoskeletal dynamics during epiboly morphogenesis in the zebrafish **Bakary Samasa** Perelman School of Medicine at the University of Pennsylvania

1079T Investigating Fer Kinase expression during brain development in zebrafish **Madison Korkeakoski** Whitworth University

1080F Characterizing the role of a novel sperm-supplied protein, SPSP-1, during spermatogenesis and early development in Caenorhabditis elegans **Darline Murat** University of Delaware

1081F Parallel roles of PAR-1 and UBA-2 in the *C. elegans* intestine **Zoe Upham** San Jose State University

1082F A bacterial genetic screen to identify how diet regulates *C. elegans* germline stem cells **Katherine Norton** NYU Grossman School of Medicine

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1083F The Secreted Protein SPE-36 is Dependent on Multiple Other Proteins for Proper Localization in *C. elegans* Sperm **A'Maya Looper** University of Delaware

1084F The role of spectrin-mediated mechanotransduction in the morphogenesis of a large extracellular structure in *C. elegans* **Prioty Sarwar** University of Pennsylvania

1085F The role of different PAR-3 domains in establishing and remodeling apico-basolateral polarity across the intestine **Mariam Mortada** San Jose State University

1086F Establishing an auxin-inducible degron system to dissect spatiotemporal function of GLD-2 **Karl-Frederic Vieux** National Institute of Health

1087F Identifying genes involved in the *kin-20* developmental pathway in *C. elegans* through a forward genetic screen **Jadan Hand** Colgate University

1088F Expanded roles for LOTR-1 in the *C. elegans* germline **Noah Lind** Mount Desert Island Biological Laboratory

1089F Dissecting the gene regulatory networks controlling temporal dynamics of post-embryonic *C. elegans* somatic gonad development **Brian Kinney** University of North Carolina

1090F MLT-11 is necessary for *C. elegans* embryogenesis and apical extracellular matrix structure **Jordan Ward** UC Santa Cruz

1091F *Sperm-specific sterility conferred by XND-1 paralogs in* Caenorhabditis elegans **Sharon Li** University of Pittsburgh

1092F CED-5/CED-12 (DOCK/ELMO) can promote and inhibit F-actin formation via distinct motifs that target different GTPases **Yeshaswi Pulijala** Rutgers (RWJMS)

1093F From Migration to Mature Elaboration: Exploring *C. elegans* Stem Cell Niche Transformation via Morphology and Transcriptomics **Xin Li** University of North Carolina, Chapel Hill

1094F Identification of the spatial requirement for the DAF-2 insulin receptor in food type-dependent oogenesis onset and fertilization in *C. elegans* **Asra Akhlaq** Wayne State University

1095F *C. elegans* ALFA-1^{C9orf72}/SMCR-8 functions via ARF-6 to Negatively Regulate LET-23 EGFR via its C-terminal PDZ interaction motif. **Ahmed Sabbir** McGill University

1096F Exploration of the roles for essential genes in C.elegans male tail tip morphogenesis using the Auxin inducible degron system **Zarifa Akbary** New York University

1097F The evolution of sexually dimorphic morphogenesis. **Raya Jallad** New York University

1098F TORC2 in *C. elegans* Germline Development **Anke Kloock** NYU Grossman School of Medicine

1099F Characterization of the *C. elegans* intestinal transcriptome with spatiotemporal resolution **Justin Ellis** Colorado State University

1100F Assessment of heterogeneity within the *Drosophila* germline stem cell niche **Jennifer Viveiros** Johns Hopkins School of Medicine

1101F The *Drosophila* ovary as a model to identify transcriptional targets of the Frazzled receptor **Kaitlin Laws** Randolph-Macon College

1102F Bruno1 Isoforms have distinct functions during IFM Myogenesis in *D. melanogaster* **Jenna DeCata** University of Missouri- Kansas City

1103F A Conserved Cardiomyocyte-Specific Endocycle Program Underlies Heart Development **Archan Chakraborty** Duke University

1104F Exploring the impact of germ granule diversity on germline development in *Drosophila* **Gisselle Hidalgo** Kean University

1105F Regulation of Stem Cell Lineage Behavior in *Drosophila* Testes by the Novel Gene, *CG11180/Chigno* **Claire Aminuddin** College of William and Mary

1106F Controlling BMP Pathway with Optogenetic Receptors in *Drosophila* Embryos and Germline Stem Cells Niche **Hung-Yuan (Zeke) Chen** Texas A&M University

1107F Myosin II is required for seamless tubulogenesis and unicellular branching morphogenesis in *Drosophila* tracheal terminal cells **Jodi Schottenfeld-Roames** Princeton University

1108F Fox transcription factor-mediated morphogenesis of the alary muscles associated with the *Drosophila* heart **Kuncha Shashidhar** Indiana State University

1109F *Drosophila pseudoobscura* sperm heteromorphism: Genetic and cellular processes regulating sperm length **Fiona Messer** Cardiff University

1110F Distinct roles for COMPASS core subunits Set1, Trx, and Trr in the epigenetic regulation of *Drosophila* heart development **Junyi Zhu** University of Maryland Baltimore

1111F Dissecting the temporal dynamics of histone inheritance through *Drosophila* neural development **Jason Palladino** Johns Hopkins University

1112F Deciphering the function of CNK during thorax closure in *Drosophila* **Eloïse Duramé** Université de Montréal

1113F Investigation of gene functions in secretory granule formation in *Drosophila* salivary glands **Navid Tahan Zadeh** National Institute of Health

1114F Invagination in the *Drosophila* Salivary Gland is Mediated by Huckebein Through Regulated Secretion of the GPCR-Pathway

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Ligand Folded gastrulation (Fog) **Ashleigh Shoemaker** Johns Hopkins School of Medicine

1115F Dissecting Fox transcription factor-mediated regulation of Polo kinase activity essential for cardiac progenitor cell divisions **Rajnandani Katariya** Indiana State University

1116F Shocking development: Heat shock factor functions through Hsp83 to regulate *Drosophila* development **Noah Reger** University of Rochester

1117F Rho kinase regulates spermatogenesis in *Drosophila* germline **Carihann Dominicci-Cotto** Albert Einstein College of Medicine

1118F Fox transcription factors mediate proper positioning of cardiac cells by restricting the expression of ECM genes **Rajnandani Katariya** Indiana State University

1119F The Role of Drop on Salivary Gland Morphogenesis **Matthew Elliott** Johns Hopkins University

1120F *trithorax (trx)* and *trx* group (*trxG*) regulation of cardiac *Hox* gene expression and patterning of the *Drosophila* dorsal vessel **Sumaiya Islam** Indiana State University

1121F Investigating the role of C(2)M dynamics in Cohesin Protein Loading and Formation of the Synaptonemal Complex During meiosis in Female *Drosophila melanogaster* **Margaret Howland** Rutgers University - New Brunswick

1122F A cell death sensitivity and injury resistance switch in long-lived intestinal enterocytes **Jessica Sawyer** Duke University

1123F Understanding *Drosophila* neurogenesis at the niche level **Sagar Kasar** University of Virginia

1124F Tube dimensional control by apical extracellular matrix modification **Se-Yeon Chung** Louisiana State University

1125F Homothorax is enriched in the adult *Drosophila* testis stem cell niche and is essential for its maintenance **Margaret de Cuevas** Johns Hopkins Sch Med

1126F Characterization of test-specific sugar transport and glycolysis genes in *Drosophila melanogaster* **Bryanne Manley** Goucher College

1127F The Regulation of Cell Fate Determinants by miR-190 During Asymmetric Cell Division in *Drosophila* Neuroblasts **Laura Galvan** San Francisco State University

1128F The Mechanism of Histone Exchange between Lipid Droplets **Alicia Shipley** University of Rochester

1129F Hinge-Specific Cell Fate Plasticity and Ribosome Biogenesis in *Drosophila* After Radiation Damage **Caitlin Clark** CU Boulder

1130F METTL3 is required for Germline Function During *Drosophila* Spermatogenesis **Alannah Morse** Susquehanna University

1131F The stress response transcription factor Atf4 regulates wing development **Kenza Lahbabi** University of Pittsburgh

1132F The anilin Scraps, the kinesins Nebbish and Pavarotti, the citron kinase Sticky, and the Rho GTPase Tumbleweed are downstream effectors of Fox transcription factor-mediated cardiac progenitor cell divisions **Md Rezaul Hasan** Indiana State University

1133F Spargel/dPGC-1 is involved in chorion gene amplification and endoreplication **Mohammed Shah Jalal** Howard University

1134F The deletion of *midline/H15* ventral leg enhancer causes pleiotropic abnormalities across tissues **Helen Stott** Rutgers University - Camden

1135F Somatic gonadal precursors are transcriptionally related to the dorsal vessel **Megan Butler** Johns Hopkins University School of Medicine

1136F Phosducin-like Protein 3 is a critical regulator of spermatogenesis **Jennifer Mierisch** Loyola University Chicago

1137F Determining how Doublesex and sex-specific steroid hormone signaling control gonad development **Samantha Goetting** Johns Hopkins University

1138F Peroxisome Proliferator Activated Receptor Gamma Co-activator-1 (PGC-1): Functional convergence and divergence between vertebrates and invertebrates **Swagota Roy** The Howard University

1139F Regulation of growth and patterning in the developing eye of *Drosophila melanogaster* by the Hippo pathway coactivator *yorkie* and dorsal selector *defective proventriculus* **Rohith BN** University of Dayton

1140F Transcriptional co-repressor Atrophin regulates Hippo pathway target genes in *Drosophila* **Deimante Mikalauskaite** Waksman Institute, Rutgers University

1141F Functional analysis of a *Drosophila* Hox gene enhancer essential for segment-specific sense organ development **Xinyuan Liu** University of Illinois at Chicago

1142F Characterization of novel *Drosophila* Egf receptor signaling targets with roles in eggshell morphogenesis **Kayla Eckrote** Wilkes University

1143F Transcriptional pausing mechanism: A common link for two independent homeostatic pathways of apoptosis and autophagy **Anuradha Chimata** University of Dayton

1144F Unraveling adherens junction signaling complexity in the oral epithelia during palatogenesis **Juliet King** University of North Carolina at Chapel Hill

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1145F Understanding the aberrations in male reproduction caused by the mouse t-haplotype. **Ana Velasquez** Texas A&M University

1146F Temporality and Mechanisms of Retinogenesis in Human Retinal Organoids **Benvindo Chicha** Johns Hopkins University

1147F Evidence for essentiality of 1-aminocyclopropane-1-carboxylic acid (ACC), a precursor of phytohormone ethylene in Arabidopsis thaliana **Husan Turdiev** University of Maryland

1148F Wnt4 and ephrinB2 instruct apical constriction via Dishevelled and non-canonical Wnt signaling **Jaeho Yoon** NCI

1149F Meiosis II Spindle disassembly requires two distinct pathways **Xheni Mucelli** University of Massachusetts Boston

1150F Control of Yeast Cell Fusion by Regulated Secretion **Ursula Machi** Georgetown University

1151F Zebrafish as a new model to analyze tooth development and homeostasis **Kanako Inoue** NIH

1152F Vgll3 as a Transcriptional Regulator in Embryonic Hindbrain Cell Fate Pathways **Cameron Bennett** University of Colorado Anschutz Medical Campus

1153F *Dpp9* regulates lower jaw bone development and inflammasome activation in zebrafish **Sarah LaPotin** University of Utah

1154F Cornea morphogenesis in normal development and in a model of Axenfeld-Rieger Syndrome **Emily Woodruff** University of Utah

1155F Thyroid hormone regulates cell migration via PDGF signaling during post-embryonic zebrafish dermal development **August Carr** University of Virginia

1156F Elucidating the Role of *Iroquois Transcription Factor 4a* in Kidney Development **Aisling Kruger** University of Notre Dame

1157F Mural cells in an injured zebrafish heart change their identity to fibroblast-like cells and promote regeneration. **Subir Kapuria** Children's Hospital Los Angeles

1158S Tissue-specific RNA-seq identifies genes governing male tail tip morphogenesis in *C. elegans* **Karin Kiontke** New York University

1159S Integrating temporal, positional, and sex-specifying cues in *C. elegans* neurogenesis **Andrea Kalis** St. Catherine University

1160S EGL-38/Pax controls cell type-specific matrix identity in the *C. elegans* vulva **Helen Schmidt** University of Pennsylvania

1161S SPN-4 promotes 3'UTR-dependent *lin-41* mRNA clearance during the oocyte-to-embryo transition in *Caenorhabditis elegans* **Karissa Coleman** Colorado State University

1162S Understanding the Machinery of *erm-1* mRNA Localization in *C. elegans* embryos: Implications for Local Translation and Cellular Regulation **Naly Torres** Colorado State University

1163S Sexually dimorphic regulation of the PIWI/piRNA pathway impacts heat-induced male infertility in *C. elegans* **Nicole Kurhanewicz** University of Oregon

1164S Roles for fate specifying transcription factors in collective cell migrations and fate transformations in *C. elegans* embryogenesis **Amanda Zacharias** Cincinnati Children's Research Foundation

1165S Exploring the role of *C. elegans* furin proteases in the cleavage of ZP proteins **Chelsea Darwin** University of Pennsylvania

1166S tab-1, a *C. elegans* ortholog of BSX, is required for the normal development of the ABalaaa lineage **William Marchese** University of Pennsylvania

1167S Sense organ glia secrete extracellular matrix proteins customized for different types of sensory cilia **Maxwell Heiman** Boston Children's Hospital, Harvard Medical School

1168S Understanding how cell fate coordinates localization of myosin activating machinery to drive cell shape changes **Taylor Medwig-Kinney** UNC Chapel Hill

1169S The molecular interactions within the fertilization synapse in *C. elegans* **Xue Mei** St. John's University

1170S Mutations affecting the genetic regulation of sperm activation give rise to infertility in the nematode *C. elegans* **Emily Mincher** St. John's University

1171S LIN-35, the DREAM complex, and inactivation of CED-9 function to promote germline apoptosis under moderate temperature stress in *C. elegans* **Margaret Davidson** Marquette University

1172S Functional study of an alternative protein encoded by the dual coding gene *ZYX/zyx-1* with implications for dystrophinopathies **Noémie Frébault** CERMO-FC Research Center, Université du Québec à Montréal

1173S Regulated endoplasmic reticulum remodeling inhibits ectopic RNP condensates in oocytes **Jennifer Schisa** Central Michigan University

1174S Novel quasi-living cell morphology in the absence of EOR-1/PLZF, Chromatin Regulators, and WAH-1/AIF1 in a cell that dies via a non-canonical apoptotic program **Nathan Rather** University of Texas at Arlington

1175S The regulation of PP1 phosphatase in *C. elegans* sperm development and post-fertilization signalling **Shreyosi Bose** University of Alberta

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1176S An EMS screen for suppressors of *C. elegans memi-1(sb41)* reveals oocyte and sperm-specific pathways required for proper post-fertilization events **Martin Srayko** University of Alberta

1177S The Transcription Factors PAL-1 and SEX-1 drive Ventral Nerve Cord Assembly in *C. elegans* **Nathaniel Noblett** University of Ottawa

1178S DUO-1 plays multiple roles in meiotic prophase chromosome dynamics **Charlotte Choi** Stanford University School of Medicine

1179S Exploring the Complexity of the *kayak* Locus in Development **Juan Riesgo-Escovar** Universidad Nacional Autónoma de México

1180S Understanding the relationship between soluble histone supply and gene regulation in the early embryo **Reyhaneh Tirgar** Vanderbilt

1181S Homeostatic control of intestinal stem cell renewal by two transcriptional regulators **Victoria Placentra** Emory University

1182S Roles for *CG5755* in the testis and nervous system, and possible interactions with *Ant2* and cardiolipin **Linden Patterson** Davidson College

1183S Epithelial cell fusion is required for wound healing following UV-A irradiation **Minqi Shen** Boston College

1184S Intentionally left blank

1185S Live imaging reveals stepwise signaling and cytoskeletal changes underlying de-differentiation in the *Drosophila* testis **Carlie Relyea** Drexel University

1186S The *Drosophila* testis compensates for catastrophic germ cell loss by altering stem cell cytokinesis **Christie Campbell** Drexel University

1187S Misregulation of germ cell cytokinesis drives tumorigenesis in the *Drosophila* testis **Beth Kern** Drexel University

1188S Exploring the complex signaling between a transcription factor, *dve* and a morphogen involved in establishing eye vs head fate. **Soumya Bajpai** University of Dayton

1189S Real-time brain lineage modulation in pregastrulation neural primordium *in vivo* **Kelli Fenelon** University of Texas at Arlington

1190S Exploring Myoblasts and Muscle Development: The Impact of MEF2 Overexpression **Elizabeth Trujillo** San Diego State University

1191S Nemp, a conserved IDR containing nuclear transmembrane protein, is essential for oogenesis **Ruichen Cao** Washington University in St. Louis

1192S Systematic rectification of planar orientation angle leads to interface behavior switching and replenishment during epithelial remodeling **Liam Russell** University of Denver

1193S Competing for survival: Taiman controls fitness status by a mechanism involving glypican-dependent diffusion and capture of the Wg morphogen **Colby Schweibenz** Emory University School of Medicine

1194S Investigation of the genes and gene regulatory networks activated during regeneration **Noah Fryling** University of Virginia

1195S The long chain fatty-acyl CoA reductase *waterproof* is required for eye and head development **Ashleigh Ogg** Sam Houston State University

1196S Subcellular Mechanisms of Programmed Cell Death in *Drosophila* Ovarian Nurse Cells **Georgette-Vanelle Wandji** Boston University

1197S *cupid*, a spontaneous mutation affecting proximodistal patterning in *Drosophila* **Cory Evans** Loyola Marymount University

1198S Stem cell mitophagy-dependent quiescence involves regulation of CycE levels and its localization at the mitochondria **Anne-Marie Pret** Institute of Integrative Biology of the Cell Gif-sur-Yvette/ University of Versailles

1199S The Gut-Brain Axis Unveiled: Aging and Tauopathy Models Reveal a Novel Impact of the Brain on Intestinal Stem Cell Differentiation **Tyler Jackson** Baylor College of Medicine

1200S Having a Heart: Biological and Mechanistic Roles for Slit Fragments in *Drosophila* Heart Development **Sahara Harrington** University of Nevada, Reno

1201S Antagonistic interactions between Dpp signaling and defective proventriculus determines eye versus head fate. **Anjali Sangeeth** University of Dayton

1202S Characterizing anterior somatic muscle specification in the *Drosophila* embryo **Krista Dobi** Baruch College

1203S Ets21C-dependent gene regulatory network shared between regeneration and tumorigenesis **Keisha Roldan Baez** University of Virginia

1204S Investigating the role of ecdysone signaling in dorsal closure using Halloween genes. **Jae Ho Lee** Case Western Reserve University

1205S Lipid accumulation promotes loss of homeostasis in the male germline stem cell niche through differentiation **Rafael Demarco** University of Louisville

1206S Molecular genetic dissection of a transcription factor Defective proventriculus in growth versus cell fate decisions **Anuradha Chimata** University of Dayton

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1207S Dorsal fate selector gene *defective proventriculus (dve)* interacts with JNK pathway to determine dorsal eye fate **Sunanda Yogi** University of Dayton

1208S Glucose 6 phosphatase is required for male fertility and sperm-induced activation of embryonic development **Sheida Hedjazi** Texas A&M Uinversity

1209S Novel role of miRNA-137 in *Drosophila* eye development **Radhika Padma** University of Dayton

1210S Me31B function is required during adult muscle myogenesis in *Drosophila* **Harry Manning** University of Missouri Kansas City

1211S Dose-dependent Effects of Lead Exposure on Development and Behavior in *Drosophila* melanogaster **Rhea Datta** Hamilton College

1212S Different Bru1 isoforms play functionally distinct roles during IFM myogenesis in *Drosophila* **Maria Spletter** University of Missouri Kansas City

1213S The transcription factor Xrp1 regulates organ size in Minute (Ribosomal Protein heterozygous mutant) flies **Amit Kumar** Alber Einstein College of Medicine

1214S Shared and divergent roles for Bithorax-Complex miRNAs in regulating reproductive behavior across *Drosophila* species **Binglong Zhang** MSKCC

1215S Investigating the development of key somatic cells in the *Drosophila* ovary **Joanna Portillo** Johns Hopkins University

1216S Elucidating the non-autonomous role of macrophages in tumor growth regulation in *Drosophila* **Eri Hirooka** Graduate school of Science, Nagoya University

1217S Direct and indirect regulation of EGFR target genes by opposing gradients of BMP and JAK/STAT signaling patterns the follicular epithelium of the *Drosophila* ovary. **Laura Nilson** McGill Univ

1218S A conserved Immunoglobulin cell adhesion junction module maintains epithelial integrity **Tara Finegan** University of Missouri

1219S Investigating how niche shape coordinates stem cell behavior **Gabriela Vida** University of Pennsylvania

1220S FMRP is a target of TDP-43 and mitigates morphological and functional phenotypes in striated muscle **Brijesh Chauhan** Penn State College of Medicine

1221S The *Drosophila* DPP/BMP-4 gradient formation in the embryo is dependent on cell constriction mediated by Frazzled and E-Cadherin **Claudia Mizutani** Case Western Reserve University

1222S Characterization of Juvenile hormone esterase and Juvenile hormone epoxide hydrolase mutants **Rebecca Spokony** Baruch College

1223S Grainyhead regulates wound-induced polyploidization in *Drosophila* **Lydia Bischoff** Boston College

1224S Complementary Volume Electron Microscopy-based approaches reveal ultrastructural changes in germline intercellular bridges **Lindsay Lewellyn** Butler University

1225S Yorkie Activation Restores Epithelial Integrity in Neoplastic Tumors in *Drosophila* Wing Discs **Vanessa Ghorayeb** University of Toronto

1226S Characterization of muscle survival induced by nutrient modulation after traumatic injury in *Drosophila* **Yutian Li** California Institute of Technology

1227S Mechanistic basis of germ-layer emergence by Polycomb Repressive Complex 1 in stem-cell derived embryonic organoids. **Shreyasi Mukherjee** Massachusetts General Hospital

1228S Non-ciliary roles for the cilia-motility associated gene *Cfap298*(*Kurly*) in zebrafish and mouse **Marvin Cortez** Princeton University

1229S The MOZ-TIF2 fusion protein drives aberrant gene expression in a mouse model of Acute Myeloid Leukemia (AML) **Daniel Sullivan** Brigham and Women's Hospital

1230S Role of miR-290-295 and miR-302/367 Clusters in Testicular Germ Cell Tumor Development **Harlie Cope** Baylor College of Medicine

1231S CRISPR Induced Overexpression of Placental *Igf-1* Causes Sex Specific Changes in Placental and Fetal Development in Mice **Annemarie Carver** University of Iowa

1232S Pumilio proteins interact with Upf1 to promote degradation of a subset of Pumilio-target mRNAs in mouse embryonic stem cells **Yuedong Huang** Yale University

1233S Genetics and genomics in planarians and geckos **Longhua Guo** University of Michigan

1234S Regulation of the earliest genetic programs in the eye by *pax6* and *six3* **Robert Grainger** University of Virginia

1235S Defining a role for Hedgehog signaling in zebrafish left-right patterning **Cullen Young** Princeton University

1236S Investigating the Role of the Adaptor Protein Enkurin in Zebrafish Left-Right Patterning **Billie Reneker** Princeton University

1237S Urotensin Signaling Controls Development of Muscle and Spine Morphology **Johnathan O'Hara-Smith** University of Oregon

1238S Optic Fissure Morphogenesis and the Mechanisms Driving Coloboma **Ryan Clough** University of Utah

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1239S The role of chemokine signaling in the projection of habenular axons in zebrafish **Sara Roberson** Bluefield State University

1240S The Role of *tango6* in Embryonic Zebrafish Development **Kelli Carroll** Wofford College

1241S Maternal Osbpl7 factor controls cleavage furrow formation during the embryonic first cell division **Ingrid Pinto-Borguero** Universidad de Concepcion

1242S Systematic analysis of temperature-sensitive alleles uncovers new functions for essential genes in yeast filamentous growth **Atindra Pujari** State University of New York at Buffalo

1243V The AP-1 clathrin adaptor complex differentially regulates Notch signaling **Tatsuya Kato** Research Institute of the McGill University Health Center

1244V Understanding the development and function of *Drosophila* descending neuron controlling motor programs **Alex Le** Bucknell University

1245V Arrowhead, a LIM homeodomain protein plays critical role in Notch mediated wing and neuron development in *Drosophila* **Jyoti Singh** Banaras Hindu University

1246V Epigenetic Avoidance of *Drosophila* Egg Chambers with an Excessive Number of Oocytes **Rui Gonçalo Martinho** University of Aveiro

1247V *ztf-16* is a novel heterochronic modulator that opposes adult cell fate in dauer and non-dauer life histories in *Caenorhabditis elegans* **Xantha Karp** Central Michigan University

1248V *Drosophila* REV7 Promotes Genome Stability Independently of Pol ζ **Lara Maggs** Tufts University

1249V Intentionally left blank

1250V The mechanism of of head-tail connection in sperm formation **Danielle Buglak** National Institutes of Health

1251V Sensory neurons and insulin signaling modulate oogenesis and fertilization in *C. elegans* **Mohamed Dabaja** Wayne State University

Gene Regulation

1252T New models of transcriptional adaptation in *C. elegans* **Yuntao Charlie Song** Max Planck Institute for Heart and Lung Research

1253T Analyzing chromatin accessibility using ATAC-seq in *C. elegans* **Nadia Sadri** New York University

1254T Poly (U) polymerase activity in *C. elegans* regulates expression and tailing of sRNA and mRNA **Leanne Kelley** Syracuse University

1255T Transcriptional analysis of *xol-1* mutant hermaphrodites reveals changes in developmental plasticity during embryogenesis **Eshna Jash** University of Michigan - Ann Arbor

1256T GPCR Signaling, ACY-4, and acto-myosin contractility in *Caenorhabditis elegans* spermatheca **Maria Khalid** Northeastern university

1257T ATPase Function of SMC proteins in Chromosome-wide Gene Regulation **Bahaar Chawla** University of Michigan

1258T Loss of the H3K4 methyltransferase subunit *wdr-5* in *C. elegans* results in a transgenerational decrease in chemotaxis **Mackenzie Roberson** Oglethorpe University

1259T H4K20 Methylation Regulation in Dosage Compensation and Cell Cycle of *C. elegans* **Anati Alyaa Azhar** University of Michigan, Ann Arbor

1260T Starvation changes the pre-rRNA accumulation in *C. elegans* **Shahriar Rahman Shovon** Iwate University

1261T Exploring Novel Intracellular Pathogen Response (IPR) Triggers in *Caenorhabditis elegans*: Analyzing the Impact of Ethanol on Intestinal Permeability and its implications for Innate Immunity in Humans **Iris Kazzi** West Chester University of Pennsylvania

1262T Targeted mutations of miRNA duplexes reveal asymmetries important for proper strand selection *in vivo* **Jeffrey Medley** Kansas State University

1263T Cohesin mediated loop extrusion from active enhancers form chromatin jets in *C. elegans* **Sevinc Ercan** New York University

1264T S-adenosylmethionine synthases specify distinct H3K4me3 populations and gene expression patterns during heat stress **Amy Walker** UMASS Medical School

1265T Optimization of CUT&RUN for lowly expressed transcription factors in *C. elegans*' larval stages **Jada Coffey** Davidson College

1266T Prophage proteins modulate eukaryotic long non-coding RNA and DNA to spread *Wolbachia* symbiont **Rupinder Kaur** Pennsylvania State University

1267T Targeting an Active Chromatin Domain to the *Drosophila* X-chromosome **Melissa Aldana** Brown University

1268T The single-cell transcriptome and chromatin landscape analysis elucidates synaptic gene regulation during *Drosophila* embryonic development **Tuan Pham** Brown University

1269T Impacts of Heat Shock on Transcriptional Noise Driven by Developmental Shadow Enhancers **Julia Gibbs** Boston University

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1270T Characterization of Bedwarfed in genome organization and transcription in *Drosophila* **Dagyeong Yang** NIDDK/NIH

1271T Genome organization mediated by a MADF-BESS protein is critical for nuclear pore complex production and cell fate transition during *Drosophila* oogenesis **Noor Kotb** Icahn School of Medicine at Mount Sinai, New York, NY 10029, USA/ University of Albany, Albany,NY 12207,USA

1272T KDM5-mediated transcriptional activation of ribosomal protein genes alters translation efficiency to regulate mitochondrial metabolism in neurons **Matanel Yheskel** Albert Einstein College of Medicine

1273T Role of different protein domains in context dependent function of transcription factors **Victoria Chen** Brown University

1274T SUMO inhibits Scm polymerization and association with developmentally-silenced target genes **Steven DeLuca** Montana State University

1275T Histone H3 lysine 4 is required for proper activation of Polycomb target genes **Cyril Anyetei-Anum** University of North Carolina Chapel Hill

1276T Transcriptomic analyses of Set2 and $H3^{K36R}$ mutants reveal heterogeneous regulation of X chromosome gene expression **Harmony Salzler** UNC Chapel Hill

1277T Defining Activities of KDM5 Essential to Development and Viability **Melissa Castiglione** Albert Einstein College of Medicine

1278T Determining essential, pioneering features of the conserved transcription factor Grainy head **Meghan Freund** University of Wisconsin-Madison

1279T Interactions Between the Histone Variant H2Av and Insulators in *Drosophila* Influence the DNA Damage Response and Lymph Gland Development **Mariano Labrador** University of Chicago Alumni

1280T Altering phosphorylation of HP1a induces sterility and excites early cell death in *Drosophila melanogaster* **James Walts** University of Alabama at Birmingham

1281T The effects of *draper* gene knockdown in different tissues on ovarian function in *Drosophila melanogaster* **Pamela Yang** Boston University

1282T *Drosophila* Amus and Bin3 methylases functionally replace mammalian MePCE for capping and the stabilization of U6 and 7SK snRNAs **Yikang Rong** university of south china

1283T Predicting evolutionary targets and parameters of gene deletion from expression data **Andre Luiz Campelo dos Santos** Florida Atlantic University

1284T The *Drosophila* histone variant H2Av associates with insulator proteins to mediate an immuno-metabolic response **Bright Amankwaa** University of Tennessee, Knoxville

1285T Investigating mechanisms of gene expression as a function of dosage using multiple *Drosophila* species **Sierra Falcone** Emory University

1286T Insights into sequential enhancer action through study of chromatin conformation dynamics at a single locus **Minh Tam Le** California Institute of Technology

1287T Identification of a candidate *akirin* enhancer sequence **Miranda Forman-Grimm** Kennesaw State University

1288T Investigating mechanisms of *D. melanogaster* histone locus body initiation and maintenance. **Nicole Roos** Emory University

1289T Transcription factor localization to the *D. melanogaster* histone genes **Connor Smith** Emory

1290T Functional clusters of the *even-skipped* stripe 2 enhancer in Drosophilidae and Sepsidae **Alan Sabino** Universidade de Sao Paulo

1291T Regulation of Oogenesis by JNK Signaling **Sakhee Thakkar** Loyola University Chicago

1292T Functional Characterization of ZAD Gene Family in *Drosophila* melanogaster. **Riley Reed** Bemidji State University

1293T Repetitive DNA triggers *cis* and *trans* gene inactivation in *Drosophila* **Han Rhee** Bemidji State University

1294T Topoisomerase 3B-TDRD3 Complex Regulates Metabolism and Development in *Drosophila melanogaster* **Anantha Korrapati** National Institute on Aging

1295T Investigating the role of Hippo signaling in *Drosophila melanogaster* cuticle pigmentation and dopamine metabolism **Shelley Gibson** Baylor College of Medicine

1296T A model system to study Kabuki syndrome utilizing KMT2D histone H3 lysine 4 methylase proteomics during cranial neural crest osteoblast differentiation **Sara Vardabasso** University of North Carolina at Chapel Hill

1297T Determining the cause of hemimethylation at secondary DMRs associated with imprinted genes **Tamara Davis** Bryn Mawr College

1298T Molecular basis of seasonal adaptation in mammals **liang Ren** Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University

1299T Intentionally left blank

1300T Intentionally left blank

1301T Specific genes regulated by histone deacetylase Hst1 contribute to *Candida glabrata* survival under stress **Bowen Liu** University at Buffalo, SUNY

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1302T Genes affected by NaCl during root development in *Arabidopsis thaliana* **Leonard Pysh** Roanoke College

1303T The effects of mutations on gene expression and alternative splicing **Marelize Snyman** UT Southwestern Medical Center

1304T Directionality of transcriptional regulatory elements reveals architectural, evolutionary and functional dynamics **You Chen** Cornell University

1305T Investigating the genomic, transcriptomic, and metabolic changes in response to DNA replication stress in the telomeres of *Saccharomyces cerevisiae* **Taizina Momtareen** West Virginia University

1306T New insights into the regulation of gene expression by the SAGA/NuA4 co-activator complexes in *Candida albicans* **Patrick Lajoie** The University of Western Ontario

1307T Unveiling a Novel Role for a Transcription Factor in Yeast RNA Splicing **Siddhant Kalra** Wesleyan University

1308T Understanding the function of the C-terminus of Mms21 in genome stability **Cheung Li** Colby College

1309T Transvection at MAL6 in yeast **Richard Needleman** retired

1310T Why do transcription factors work together **Lindsey Snyder** University of Iowa

1311T Reprogramming stress responses in yeast via mutation of mediator subunit Med8 **William Park** Texas A&M University

1312T Identification of Enhancers Pertinent to Eye Development **Dwon Jordana** University of Pittsburgh

1313T The contributions of DNA accessibility and transcription factor occupancy to enhancer activity during cellular differentiation **Trevor Long** University of North Dakota

1314F Genetic analysis of *lon-1, lon-2* and *sma-9*, three genes in the bone morphogenetic protein (BMP) signaling pathway in *C. elegans* **Sergio Moreira-Antepara** Cornell

1315F A Forward Genetic Screen in *Caenorhabditis elegans* Identifies Factors Regulating Transcriptional adaptation-like Ectopic Expression **Kuan-Lun Hsu** Max Plank Institute for Heart and Lung Research

1316F The post-transcriptional regulation mechanism and functional importance of a key maternal mRNA, *glp-1* **Peren Coskun** UMass Chan Medical School

1317F RNAi-mediated regulation of *alg-3* and *alg-4* coordinates the spermatogenesis developmental program in *C. elegans* **Alicia Rogers** University of Texas Arlington

1318F Investigating how heterochromatin impacts aging and larval development in *C. elegans* **Arthur Colunga** University of Massachusetts Lowell

1319F Mapping regulatory element evolution in nematodes **Thomas King** University of Utah

1320F A new noncanonical biogenesis pathway generates a germline enriched miRNA family in *C. elegans* **Rima Sakhawala** National Institute of Diabetes and Digestive and Kidney Diseases

1321F Investigating HPV-E7 protein mediated disruption of the DREAM transcriptional repressor complex **Emily Washeleski** Michigan Technological University

1322F *SPR-5; MET-2 maternal reprogramming cooperates with the Dream and MEC Complexes to regulate developmental cell fates* **Brandon Carpenter** Kennesaw State University

1323F Inactivation of SPR-2, a histone acetyltransferase inhibitor, results in transgenerational germline mortality phenotype in *C. elegans* **Thalia Boston** Oglethorpe University

1324F Guiding mRNA to nuclear periphery: Lessons from imb-2 in C elegans **Ambika Basu** Colorado State University

1325F Histone methylation readers *cec-3* and *cec-6* regulate germ granule integrity and small RNA pathways **Tammy Lee** University of Toronto

1326F Control of spermatogenesis developmental program via RNAi-mediated regulation of ALG-3/4 small RNA pathway in *C. elegans* **Trilotma Sen** The University of Texas at Arlington

1327F Genome-wide studies of natural variation reveal putative members of the Gap Gene Regulatory Network **Lossie (Elle) Rooney** North Carolina State University

1328F Determining Jagunal as a Regulator in the Development of the *Drosophila* larval brain **Stephanie Uzordinma Awuzie** San Francisco State University

1329F Mapping the relationship between transcription factor concentration and gene expression using scanning Fluorescence Correlation Spectroscopy **Sadia Siddika Dima** Texas A&M University

1330F *Cis*-element bypass (redundancy) in *Drosophila melanogaster* **Anthony Percival-Smith** Univ Western Ontario

1331F Interrogating mitochondria-nuclear crosstalk: A novel perspective to Single nuclei RNA Sequencing **Snigdha Gupta** National Heart Lung and Blood Institute, NIH

1332F Genetic and bioinformatic analyses reveal novel transcriptional regulation of mitochondrial ETC biogenesis in *Drosophila* **Fan Zhang** National Institutes of Health

1333F Decoding the regulatory role of CrebA in secretory output during salivary gland development in *Drosophila* melanogaster **Dorian Jackson** Johns Hopkins University

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1334F Elucidating the roles of ecdysone signaling in adult *Drosophila melanogaster* **Katherine Fhu** Wesleyan University

1335F A proximity labeling approach to discover novel members of the *Drosophila* histone locus body **Casey Schmidt** Emory University

1336F Amino Acid Transporter Expression Screen Across Distinct Tissues in *Drosophila melanogaster* Adults **Ymani Wright** University of South Carolina

1337F Investigating the Role of Histone Chaperones in Coordinating H3 and H3.3 Function in *Drosophila melanogaster* **Lucy Grossmann** University of North Carolina at Chapel Hill

1338F Contextual cures drive locus specific function of a context-dependent transcription factor **Lauren Hodkinson** Emory University

1339F Investigation of Distinct Adipose Tissue Classes in Adult *Drosophila melanogaster* **Isaiah Williams** University of South Carolina

1340F The role of chromatin-binding proteins on the trans-regulatory impact of variation in Y-linked heterochromatin **Shane Warland** Cornell University

1341F Transcriptional Regulation of Stochastic Cell Fate Specification in the *Drosophila* eye **Emma Steinson** Johns Hopkins University

1342F Coordinating stereotyped and stochastic patterns in the *Drosophila* eye **Alison Ordway** Johns Hopkins University

1343F BRWD3 promotes KDM5 degradation to maintain H3K4 methylation levels **Dongsheng Han** Vanderbilt Univeristy

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1345F It's ***abo***ut time: an investigation into the role of *abnormal oocyte* (*abo*) localization, function, and interaction in embryonic histone gene regulation **Eric Albanese** Emory University

1346F Regulation of Spermatogenesis by the BTB Transcription Factor Ribbon **Madeline Hakala** Loyola University Chicago

1347F Exploring the function of Kelch stop codon readthrough protein in the *Drosophila* brain **Yaqing Cheng** Yale University

1348F Transcriptomic Analysis of Phenotypic Non-Specificity in *Drosophila melanogaster* **Gabriella Sidhu** University of Western Ontario

1349F RNA-binding Protein Nocte Regulates mRNA translation and decay during *Drosophila* Development **Tianyi Zhang** National Institute on Aging

1350F Lysine 36 of *Drosophila* histone H3.3 supports adult longevity **Benjamin McMichael** University of North Carolina at Chapel Hill

1351F The requirement of Dosage Compensation in *Drosophila* development and aging **Kaitlyn Cortez** Brown University

1352F Ectopic heterochromatin triggered by insertion of repetitive DNA is temperature-sensitive **Melissa Sawyer** Bemidji State University

1353F Determining the Regulatory Effects of Wolbachia on Heterochromatin in *Drosophila* Melanogaster **Nkechi Aman** Bemidji State University

1354F Brain specific microRNA mediated regulation of fat storage via Neuropeptide like Precursor 1 in *Drosophila melanogaster* **Pushpa Sharma** Harvard Medical School

1355F Antisense transcription within the *histone* locus feeds into small RNA pathways and contributes to regulating *histone* mRNA expression during embryogenesis **Samantha Russell** IRCM

1356F Murine genetic reference population reveals the regulation and function of *Rpl3l* in the heart **Lu Lu** University of Tennessee Health Science Center

1357F Increased hemimethylation levels correlate with methylation reductions in DNA methyltransferase mutant mouse embryos **Chloe Tang** Bryn Mawr College

1358F Evolution of programmed DNA elimination in parasitic nematodes **James Simmons** The University of Tennessee

1359F Sulforaphane disrupts lepidopteran epigenetic systems **Dana Somers** Dickinson College

1360F Revealing early cell cycle dynamics in epithelial ovarian cancer cells with CDK4/6 inhibition **Karl Schneider** Michigan Technological University

1361F Small RNAs in Nematode Programmed DNA Elimination **Maxim Zagoskin** The University of Tennessee, Knoxville

1362F Function and regulation of the Mediator complex kinase subunit Cdk8 **Sara McPherson** Queen's University

1363F The exonic promoter of *Saccharomyces cerevisiae HKR1*, which encodes a mucin-like multidomain protein, makes for divers expression patterns **Shin Kasahara** Miyagi University

1364F ChIP'ing away at Set1 regulation during meiosis **Johanna Maioriello** Stockton University

1365F Characterization of histone mutants associated with recently described human neurodevelopmental disorders using the yeast model system **Agustin Kalinowski** Hendrix College

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1366F Laboratory evolutions lead to reproducible mutations in *PDR3* conferring resistance to MCHM **Jen Gallagher** West Virginia University

1367F Flipping the script: How meiotic transcription controls the Set1 histone methyltransferase **Yasmin Mourad** Stockton University

1368F Using Budding Yeast to Model and Characterize Human Oncohistone Mutants **Celina Jones** Emory University

1369F Investigating the function for the yeast lysine methyltransferase Set6 in proteostasis **Luke Mason** University of Maryland Baltimore County

1370F Genetic analysis of the epigenetic regulation of liver development using a novel transgenic zebrafish epigenetic reporter line **Miranda Marvel** NICHD/NIH

1371S A SID-1-dependent gene within a retrotransposon enhances heritable RNA silencing **Aishwarya Sathya** University of Maryland

1372S Functional Characterization of systemic RNA interference in *C. elegans* **Faith Akoachere** Syracuse University

1373S A major regulator of germline transcription, LSL-1, contributes to developmental defects when histone methylation is inappropriately inherited **Benjamin Nguyen** Kennesaw State University

1374S Selecting genes for analysis using historically contingent progress: RNA silencing in *C. elegans* as a case study **Antony Jose** University of Maryland

1375S The relationship between period protein homolog LIN-42 and the conserved kinase KIN-20 **Eileen McCleary** Colgate University

1376S The effect of environmental factors on core circadian clock genes in *C. elegans* **Carson Hobler** Colgate University

1377S HIF-1c, an oxygen-insensitive HIF-1 isoform in *C. elegans,* is expressed tissue-specifically via an internal promoter. **Amir Aghabozorgi** University of Saskatchewan

1378S Chemotaxis defect and developmental delay phenotypes in *spr-5;met-2* mutants may be caused by the ectopic expression of meiosis genes in somatic tissues. **Rhea Rastogi** Emory University

1379S Characterization of NHR-25 genome-wide binding reveals role for combinatorial transcription factor action **Deborah Thurtle-Schmidt** Davidson College

1380S Characterizing the regulation of piRNA expression by the CSR-1 Argonaute **Victoria Murphy** Johns Hopkins University

1381S Identification of transcriptional regulators impacted by a glucose-supplemented diet in *C. elegans* **Jose Robledo** University of North Texas

1382S Imprinting in *C. elegans*: maternal *sid-1* expression alleviates silencing of paternal *sid-1*. **Andrey Shubin** Harvard University

1383S Characterizing the miRNA Argonaute isoforms in *C. elegans* **James Davis** NIH

1384S Identification of the EOR-1 and NHR-25 shared transcriptome **Amanda Fuenzalida** Davidson College

1385S Exploring How Cells Randomly Choose Between Fates in the Fly Eye **Christina Im** Johns Hopkins University

1386S Modulation of tumor growth by Yorkie and Wingless **arushi rai** University of Dayton

1387S Understanding the role of Embargoed in the specification of muscle fiber fates in *Drosophila* **Alexis Guzman** San Diego State University

1388S Effects of mutation in the P38 docking domain of MEF2 on its function **Bhumika Gode** San Diego State University

1389S Analysis of chromatin modifications at *Dmef-2* enhancer during myogenesis **Sara Khadraoui** Kennesaw State University

1390S Unveiling the role of Hippo Interactors in Glioma Progression in *Drosophila* glioma model **Venkata Satya Devi Burugupalli** University of Dayton

1391S Establishing the Role of the Conserved TN Domain in Tinman **Cayleen Bileckyj** San Diego State University

1392S The role of epigenetic regulators in muscle specification during development **Elizabeth Barajas Alonso** San Diego State University

1393S Dude, where's my locus? Alternative methods of genomic targeting for specialized transcription factors. **Thomas OHaren** Emory University

1394S Teasing apart a bi-level neuronal function for Tip60 HAT at the chromatin and RNA level. **Christina Thomas** Drexel University

1395S Dissecting the functions of the RNA-binding, LCD-containing protein Rbfox1 in *Drosophila* ovaries **Ona Marija Singh** Mount Desert Island Biological Laboratory

1396S Transvection and analysis of allele-specific expression as a pairwise contest **Andrew Clark** Cornell Univ

1397S Using proximity labeling with TurboID to study Polycomb Repressive Complexes in *Drosophila*. **Enya Selders** Emmauel College

1398S The Role of the *Drosophila* Muscle Gene CG42319 in Muscle Development and Function **Ebru Robinson** San Diego State University

1399S Genome-wide screening of miRNA's involved in birth defects in eye **Manivannan Subramanian** University of Dayton

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1400S Fat cadherin cleavage releases a transcriptionally active nuclear fragment to regulate target gene expression **Jannette Rusch** Washington University St Louis School of Medicine

1401S Head-specific gene dynamics during embryonic development **Priyanshi Borad** University of Texas at Arlington

1402S Analyzing the role of BCOR and RSF1 in variant Polycomb Repressive Complex 1.1 in *Drosophila*. **Janel Cabrera** Emmanuel College

1403S Evolutionary Innovation and Functional Divergence of Variant Histone, H2Av in *Drosophila* Subgroups **Ashlyn Anderson** Fred Hutch Cancer Center

1404S Molecular mechanisms underlying neural-specific splicing and 3'UTRs **Xin Yu Zhu Jiang** Weill Cornell Graduate School

1405S Investigating age-associated histone modification patterns as a regulator of lifespan **Devonique Brissett** University of Maryland Baltimore County

1406S Understanding the gene regulation dynamics in embryonic heart development **Shiva Abbasi** The University of Texas at Arlington

1407S A polycistronic non-coding RNA locus regulates germline differentiation and testis morphology in *Drosophila* **Travis Carney** Mount Desert Island Biological Laboratory

1408S Nucleotide-level distance metrics to quantify alternative splicing implemented in *TranD* **Adalena Nanni** University of Florida

1409S The roles of lncRNAs in the expression and processing of Y chromosome mega-genes **Matthew Jachimowicz** University of Toronto

1410S Study of piRNA clusters, loci involved in genome stability **Zoheir Ziriat** Sorbonne Université

1411S Pilot screen to identify genes that participate with H4K20 methylation in controlling cell proliferation in *Drosophila* **Kelli Jancay** Grove City College

1412S Investigating the *in vivo* functions of Histone 3 (H3) monoaminylation using *Drosophila* **Harim Delgado-Seo** Baylor College of Medicine

1413S Nutrient-dependent regulation of the *Drosophila melanogaster* Estrogen Related-Receptor (ERR) **Sophie Fleck** Indiana University Bloomington

1414S Layered regulation of the *Drosophila* CTLH complex during the maternal-to-zygotic transition controls maternally-deposited RNA binding protein clearance **Chloe Briney** University of Colorado Anschutz Medical Campus

1415S BRD4 binds to active cranial neural crest enhancers to regulate RUNX2 activity during osteoblast differentiation **Karl Shpargel** University of North Carolina

1416S Interrogating the roles of KMT2C and KMT2D in chondrocyte differentiation and endochondral ossification **Gabrielle Quickstad** UNC Chapel Hill

1417S Mechanisms of acute exercise on brain health **Tiffany Chin** UT Southwestern Medical Center

1418S Receptor choice in the olfactory system of ants **Bogdan Sieriebriennikov** New York University

1419S Transcriptomic analysis reveals regulation of adipogenesis via long non-coding RNA, alternative splicing, and alternative polyadenylation **Salwa Mohd Mostafa** Tufts University

1420S Probing nuclear HSATII RNA biomolecular condensates **Thembalami Dube** Swarthmore

1421S Search for proteins with roles in promoting yFACT dissociation from 3’ ends of transcribed genes **Will Griffin** Hendrix College

1422S RNA polymerase II-general transcription factor interfaces function in transcription start site selection in *Saccharomyces cerevisiae* **pratik basnet** University of Pittsburgh

1423S Identifying the network of genes influenced by the NAD+ dependent deacetylase Sir2 to allow adaptation to low NAD+ stress in the yeast *Kluyveromyces lactis* **Mahasweta Acharjee** University at Buffalo

1424S Characterization of Med15-Transcription Factor Interactions and Phase Separation **Shulin Liu** University of Iowa

1425S Induction of budding yeast MFS transporter Tpo1 by anticancer ruthenium complex KP1019 depends on transcription factor Pdr1 **Millena Chirillo** Furman University

1426S Why are the GABA shunt lower and upper pathway genes regulated differently in *Saccharomyces cerevisiae*? **Terrance Cooper** University of Tennessee Health Science Center

1427S Chromatin-mediated hypoxic stress response by Set4 in *S. cerevisiae* **Winny Sun** University of Maryland, Baltimore County

1428S A Novel Transgenic Reporter to Study Vertebrate Epigenetic Reprogramming During Wound Healing and Regeneration **Jian Ming Khor** National Institutes of Health

1429V Targeting Regulatory Factors Associated with the *Drosophila Myc cis*-Regulatory Modules (Myc-CRMs) by Reporter Activity Study, Gel Shift Assay, and Mass Spectrometric (MS) Analysis **Jasmine Kharazmi** Reproductive Endocrinology

1430V Interplay between the Bithorax complex and Wnt signaling in regulating lipid homeostasis in *Drosophila* **Rajitha Udakara Sampath Hemba-Waduge** Tulane University School of Medicine

1431V Utilizing Live Cell Imaging in *Drosophila* melanogaster Salivary Glands to Determine if Resveratrol Treatment Activates

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Heat Shock Factor DNA Binding **Martin Buckley** Slippery Rock University of Pennsylvania

1432V Neuroprotective Potential of Hydroalcoholic Extract of Centella asiatica Against 3-Nitropropionic Acid-Induced Huntington's Like Symptoms in Adult Zebrafish **Nitasha Rana** ISF College of Pharmacy, Moga

1433V *puf-9* promotes clearance of miR-35-41 microRNAs and somatic sex determination in *C. elegans* **Amelia Alessi** Johns Hopkins

1434V The loss of SWI/SNF factor ARID1A leads to a cold tumor phenotype via suppression of IFN-g in neuroblastoma **Pamela Watson** University of Tennessee

Disease Models and Aging

1435T Identifying suppressors of stress-induced neurodegeneration in a *C. elegans* knock-in *sod-1 G85R* ALS model **Mika Gallati** Brown University

1436T Inducible deletion of the *Caenorhabditis elegans* Alzheimer's-related gene *apl-1* demonstrates temporal restriction of essential functions **Megan Moerdyk-Schauwecker** University of Oregon

1437T Mutation in F-actin polymerization factor suppresses Distal Arthrogryposis Type 5 (DA5) PIEZO2 pathogenic variant in *Caenorhabditis elegans* **Xiaofei Bai** University of Florida

1438T Age-related changes in the morphology of a single-cell stem cell niche **Nilay Gupta** NYU Department of Biology

1439T Systematic creation and rapid phenotyping of Mendelian disease models in *C. elegans*: towards large-scale high-throughput drug repurposing **Thomas O'Brien** Imperial College London

1440T *Stenotrophomonas indicatrix* promotes innate immune response against intracellular pathogens in *Caenorhabditis elegans* **Jordan West** The George Washington University

1441T Synthetic multivulva (SynMuv) genes and mes-4 antagonistically regulate the Intracellular Pathogen Response (IPR) in Caenorhabditis elegans **Samuel Li** The George Washington University

1442T Impact of Stress on the Notch Signaling Pathway in *C. elegans* **Ismael Curiel** Elmhurst University

1443T *Caenorhabditis* Intervention Testing Program: Updates on robust longevity effects of novel compounds in genetically diverse nematodes **Monica Driscoll** Rutgers, The State University of New Jersey

1444T The impact of over-supplementation with folic acid after hypoxia in *Drosophila melanogaster* **Siddarth Gunnala** Midwestern University

1445T Downregulation of Pten suppresses the Huntington's disease in *Drosophila* model **Maynglambam Dhruba Singh** National Brain Research Centre

1446T The structure of human Orc6 protein – humanized *Drosophila* model of the Meyer-Gorlin syndrome **Igor Chesnokov** University of Alabama at Birmingham

1447T An *in vivo* screen identifies small molecule modulators of the endoplasmic reticulum stress response **Emily Coelho** University of Utah

1448T Intake of Caffeine Containing Diet Remodels Gut Microbiota and Perturbs *Drosophila melanogaster* Immunity and Lifespan **Abeer Qush** Qatar University

1449T A comprehensive assessment of human huntingtin expression in the nervous system of larval and adult *Drosophila* **Tadros Hana** Middle Tennessee State University

1450T *Prominin-like* regulates feeding behavior through the muscle-brain axis in *Drosophila* **Tae Hoon Ryu** Korea Institute of Bioscience and Biotechnology

1451T *Wolbachia* enhances survival of *Drosophila* infected with fungal pathogens **Jessamyn Perlmutter** University of Kansas

1452T Regulation of *Drosophila* intestinal lipid metabolism by the gut microbiota **Joshua Derrick** Johns Hopkins University

1453T The role of Yolk protein 3 (YP3) in aging and development in *Drosophila melanogaster* **Natania Kurien** Johns Hopkins University

1454T Enteric pathogens modulate metabolic homeostasis in the *Drosophila melanogaster* host **Hoda Najjar** Qatar University

1455T Effect of multiple exogenous fecal exposures on Parkinson's-like symptoms in *Drosophila melanogaster* **Sharon Shaju** Juniata College

1456T A novel antidiuretic hormone governs tumor-induced renal dysfunction **Wenhao Xu** Wuhan University

1457T *drop-dead* mutants show early neuronal apoptosis and subsequent glial hyperactivation of innate immune signaling **Unmila Jhuti** Marquette University

1458T Neurofibromin-dependent modulation of metabolic homeostasis via neuronal and molecular mechanisms **Valentina Botero** University of Iowa

1459T The impacts of increasing intestinal barrier function on protein aggregation in *Drosophila melanogaster* **Samantha Le** Christopher Newport University

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1460T Endogenous Retroviruses and TDP-43 Proteinopathy Form a Sustaining Feedback to Drive the Intercellular Spread of Neurodegeneration **Yung-Heng Chang** Stony Brook School of Medicine

1461T Developmental Alcohol Exposure in Alzheimer's Disease Models of *Drosophila melanogaster* **Desiree Filardo** San Jose State University

1462T Investigating the impacts of intestinal Snakeskin knockdown on protein aggregation in *Drosophila* **CeOnna Battle** Christopher Newport University

1463T Ptth regulates lifespan through temporal and spatial activation of STING/NF-κB signaling during *Drosophila* metamorphosis **Ping Kang** Iowa State University

1464T Intestinal serotonin promotes immunity and immune-related metabolism **Xiang Ding** Boston Children's Hospital, Harvard Medical School

1465T A large-scale *in vivo* screen to investigate the roles of human genes in *Drosophila melanogaster* **Dongyu Jia** Kennesaw State University

1466T Interplay between intestinal barrier function, aging, and neurodegeneration **Anna Salazar** Christopher Newport University

1467T Establish a *Drosophila* model to investigate Epidermolysis Bullosa **Yan-Yan Lin** Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University

1468T Building a Prostate Cancer Model: Aging Reduces the Nuclear Size of Virgin Flies and Glycolysis Levels of Mated Flies in *Drosophila melanogaster* Secondary Cells **Mischa Emery** University of Liverpool

1469T Nazo, the *Drosophila* homolog of the NBIA-mutated protein – c19orf12, is required for triglyceride homeostasis in *Drosophila* Gut **Sreejith Perinthottathil** University of Rochester Medical Center

1470T Dihydromotuporamine C acts through Rho1 and diaphanous to inhibit cell migration. **Laurie von Kalm** University of Central Florida

1471T Characterization of seizure susceptibility in a *Drosophila* model of KDM5C-associated X-linked intellectual disability disorder **Bethany Terry** Albert Einstein College of Medicine

1472T A *Drosophila* model for infection-induced loss of intestinal barrier function and homeostasis **Nichole Broderick** Johns Hopkins University

1473T Trigger warning: Do psychological stressors trigger neurodegeneration in a *Drosophila* TDP-43 model? **Narmin Mekawy** Stony Brook University

1474T Gene-by-Environment Analysis of Sleep Deprivation on Diet Choice in *Drosophila* **Jhilam Dasgupta** University of Alabama

1475T Rescue effects of the antimicrobial peptide LL-37 on beta amyloid-induced pathology in a *Drosophila* model of Alzheimer's disease **MaiLan Kasch** UC Santa Cruz

1476T Illuminating the non-genetic factors of immune activation **Yu Yang** Boston University

1477T The impact of timing on the protective effect of chronic infection in *Drosophila melanogaster* **Grace Ginder** Bucknell University

1478T Identifying novel links between cardiovascular disease and insomnia by *Drosophila* modeling of genes from a pleiotropic GWAS locus **Farah Abou Daya** University of Alabama at Birmingham

1479T Hedgehog signaling converges with HAP40 to control intestinal aging and disease **Jennifer Alexander** University of Pennsylvania

1480T A *Drosophila* model of a rare Congenital Disorder of Glycosylation associated with ALG10 **Suraj Math** Massachusetts General Hospital

1481T Metabolomics and lipidomics studies reveal altered metabolism in a *Drosophila melanogaster* disease model of *PLA2G6*-associated Neurodegenerative disease (PLAN) **Shahira Arzoo** Texas Tech University

1482T Toward identification of protective modifiers of perinatal lethality in genetically divergent mice with Cornelia de Lange Syndrome. **Catherine Brunton** The Jackson Laboratory

1483T Multiple genetic loci influence vaccine-induced protection against *Mycobacterium tuberculosis* in genetically diverse mice **Sherry Kurtz** US Food and Drug Administration

1484T Generation, Genetic Characterization and Phenotypic Analysis of a Novel Serpina1 Rat Model **Brooke Bowman** University of Missouri

1485T Mitochondrial phenotypes in BXD models of aging and Alzheimer's disease **Mikhail Tiumentsev** The University of Tennessee Health Science Center

1486T Elucidating candidate genetic mechanisms and underlying modifier genes leading to background-dependent tumor growth in the absence of ERBB3 in colorectal cancer **Kaitlyn Carter** Texas A&M University

1487T Machine learning for quantification of behavior in rodent models of aging and Alzheimer's disease. **Joy Afolabi** University of Tennessee Health Science Center

1488T CCR6 is required to generate an effective host immune response during *Mycobacterium tuberculosis* infection in mice **Summer Harris** Duke University

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1489T Killer toxin K62 of *S. paradoxus* is a novel aerolysin toxin **Jack Creagh** University of Idaho

1490T Characterization of novel disease-linked mutations in the RNA exosome in *Saccharomyces cerevisiae* **Milo Fasken** Emory University

1491T Human disease modeling in *Xenopus laevis* and *Xenopus tropicalis* at the *Xenopus* Mutant Resource **Zoë Reynolds** Marine Biological Laboratory

1492T Functional characterization of the chr1p36.33 *KLHL17*/*NOC2L* pancreatic cancer risk locus suggests effects on the unfolded protein response pathway **Katherine Hullin** National Cancer Institute

1493T A Yeast Phenomic Model for Mitochondrial DNA Release **Tapasya Katta** University of Alabama at Birmingham

1494T Genome-wide association study of extended replicative lifespan in outbred populations of *Saccharomyces cerevisiae* **Katie McHugh** Oregon State University

1495T Mutational mapping using dominant synthetic lethal screening to uncover cohesin structure-function relationships **Elizabeth Stephens** Michael Smith Laboratories, University of British Columbia

1496T Quantifying tolerance and resistance to fluconazole in *Cryptococcus neoformans* **Jessica Keeran** Clemson University

1497T Overexpression screen of chromosome 21 orthologs in larval zebrafish **Anna Moyer** UMass Chan Medical School

1498T Progressive motor and non-motor symptoms in park7 knockout zebrafish **Lakshmi Narasimha Murthy Chavali** University of Bergen

1499F A *C. elegans* Model for Hyperhomocysteinemia: Implications for Disease and Aging **Karli Sunnergren** University of Delaware

1500F Nanodrop method for quantification of Orsay virus particle concentration **Jay Ni** West Chester University of Pennsylvania

1501F The Role of *C. elegans* Metaxins in Mitochondrial Homeostasis **Jonathan Dietz** Rutgers University

1502F The myosin chaperone UNC-45 has an important role in maintaining the structure and function of muscle sarcomeres during adult aging **Guy Benian** Emory University

1503F Serotonin deficiency from constitutive SKN-1 activation drives a pathogen apathy state **Sean Curran** University of Southern California

1504F Mitochondrial stress in GABAergic neurons non-cell-autonomously regulates organismal health and lifespan in *Caenorhabdities elegans* **Laxmi Rathor** University of Florida

1505F Loss of nonsense-mediated mRNA decay and its impact on the *Caenorhabditis elegans* neuromuscular system **Taylor McElroy** University of Florida

1506F Adenylosuccinate Lyase Plays a Role in Neuromuscular Coordination **Mia Peifer** Pennsylvania State University

1507F Transcriptomic Analysis Reveal Modulators of Longevity in an Insulin Growth Factor-1 (IGF-1) "*daf-2"* and Nuclear Hormone Receptor "*daf-12"* Double Mutant in *Caenorhabditis elegans* **Jerald Tan** Yong Loo Lin School of Medicine, National University of Singapore

1508F Reproductive system aging in the canonically "non-aging" *C. elegans* dauer **Fred Koitz** University of North Carolina at Chapel Hill

1509F The Role of MicroRNA-71 in a Model of PolyQ Toxicity **Olivia Dempson** Quinnipiac University

1510F Community connections power health disparities research **Alana O'Reilly** Fox Chase Cancer Center

1511F Investigating Presenilin as a Potential Molecular Target of Opportunity for Exploring Alzheimer's Disease **Christopher Ramirez** San Francisco State University

1512F Optimizing NADPH assay conditions for analysis of a CRISPR screen for *Zwischenferment* (*Zw*)/Glucose-6-Phosphate Dehydrogenase (G6PD) mutations in *Drosophila melanogaster* **Jason Hare** Widener University

1513F Kefir Treatment in a Parkinson's Disease Model of *Drosophila* Melanogaster **Rachael Triglia** Juniata College

1514F Understanding changes to sleep behavior and gene expression caused by glucocerebrosidase deficiency in a *Drosophila melanogaster* model of Parkinson's disease **Jason Brandon** Juniata College

1515F Identifying and characterizing CRISPR/Cas9 medicated mutations in *Zwischenferment* (*Zw*), the *Drosophila* ortholog of Glucose-6-Phosphate Dehydrogenase (G6PD) **Katharyn Mackiewicz** Widener University

1516F Extracellular Vesicle Protein Aggregation Analysis within a *Drosophila melanogaster* Neural Cell Culture Model of Parkinson's Disease **Allison Johnston** Juniata College

1517F Immune-stimulation of *Drosophila* larval hemocytes drives the rapid generation of lipid droplets via an NFkB and DGAT1 dependent pathway **Roger White** University of Rochester

1518F Deciphering the Molecular and Cellular Mechanisms Governing Tissue-Selectivity of *Ras* Oncogenic Mutations **Takuya Akiyama** Indiana State University

1519F Neuronal expression of the P3 peptide (Aβ17-42) in *Drosophila* has deleterious effects on lifespan, behavior, degeneration, and gene expression and exacerbates the

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effects of full-length Aβ1-42 **Jacquelene Hundelt** University of California: Santa Cruz

1520F Role of neuronal tRNA processing enzyme in the formation of mushroom bodies in *Drosophila* **Saathvika Rajamani** Fordham University

1521F Characterizing the effects of obesogenic diets on *Drosophila melanogaster* immune responses across control lines **David Duncan** University of South Carolina

1522F Blue light shortens development and longevity across generations in *Drosophila melanogaster* **Monica Andrea Lopez Bautista** Universidad de Guadalajara

1523F Hippo-activated cells induce non-cell autonomous carcinogenesis in *Drosophila* **Daichi Honda** Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University

1524F Investigating the role of Pvr signaling in myotonic dystrophy type 1 **Delaney Baratka** University of Mary Washington

1525F Assessing progression of muscle phenotypes in an adult-onset model of myotonic dystrophy in *Drosophila* melanogaster **Kayla Rodriguez** University of Mary Washington

1526F Determining the Impact Sweet Taste Receptors and Gut Microbiome have on Feeding Behavior and Glucose Metabolism in *Drosophila melanogaster* **Mikesha Carter** San Francisco State University

1527F The Role of Two isoforms of Fis1 Protein in Pink1/Parkin pathway **CHUNHONG CHEN** National Institute of Infectious diseases and Vaccinology

1528F *Drosophila* models for investigation of mitochondrial dysfunction in gliomagenesis **Tzu-Yang Lin** Academia Sinica

1529F Transcriptional Regulation of Intestinal Stem Cell Ageing **fanila shahzad** Durham University

1530F The effects of Tip60 Histone Acetyltransferase on cellular degeneration and motor dysfunction in *Drosophila* model of Machado-Joseph Disease **Sarah Clark** University of Richmond

1531F Modeling Dentatorubral-pallidoluysian atrophy in *Drosophila* **Matthew Prifti** Wayne State University

1532F Modeling and exploring Spinal and Bulbar Muscular Atrophy in *Drosophila*. **Kristin Richardson** Wayne State University School of Medicine

1533F Protein L-Isoaspartyl Methyltransferase (PCMT) expression levels affect *Drosophila melanogaster* tolerance to certain bacterial infections **Jessica Allen** Roosevelt University

1534F The circular RNA *circ_ATP8B* regulates ROS production and antiviral immunity **Rui Zhou** Johns Hopkins University School of Medicine

1535F Targeted genetic screen for enhancers and suppressors of lifespan in a model of Huntington's Disease in *Drosophila* **Sevinch Kamaridinova** Middle Tennessee State University

1536F Investigating the role of rare genetic variants in BMP signaling genes in neurological diseases using *Drosophila* **Haley Dostalik** Baylor College of Medicine

1537F Functional analysis and classification of rare genetic variants in SATB2 using *Drosophila* **Hirokazu Hashimoto** Baylor College of Medicine

1538F The Effects of Mutated Amyloid Peptide Expression in a *Drosophila* Model of Alzheimer's Disease **Kaliah Wood** University of California Santa Cruz

1539F Tubulin and actin cytoskeletons of *Drosophila* nephrocytes and their roles in maintaining the filtration structure **Megan Delaney** University of Maryland-Baltimore

1540F Investigating the bidirectional relationship between traumatic brain injury and sleep homeostasis in *D. melanogaster* **Rebecca Ray** Lake Forest College

1541F Systemic cardiac dysfunction in tumor models of *D. melanogaster*. **Shubha Gururaja Rao** Ohio Northern University

1542F JAK-STAT pathway activation compromises nephrocyte function in a *Drosophila* high-fat diet model of chronic kidney disease **Yunpo Zhao** University of Maryland

1543F The therapeutic potential of sulforaphane on the cognitive and behavioral impacts of Alzheimer's disease in *Drosophila melanogaster* **Najeeb Marun** Oregon State University

1544F Investigating the role of the *Drosophila* IMD NF-κB pathway in age-dependent immunity following infection with Flock House virus **Victoria Faber** The University of Alabama

1545F Exploring the Function of a Missense Variant in *WWC3* as a Potential Candidate for a Novel Mendelian Disease using *Drosophila* **Jasmine Brown** Baylor College of Medicine

1546F New insights into the role of MECP2 in Rett Syndrome and Autism Spectrum Disorder through functional analysis in yeast, flies and human cell lines **Christopher Loewen** University of British Columbia

1547F Role of SETDB1 in hematopoiesis: A hold on expression of *HOX* genes **Indira Paddibhatla** Johns Hopkins University, School of Medicine

1548F *Drosophila* Modelling Reclassifies VoUS in *EED* and *SUZ12*: Relevance for Clinical Interpretation and Rare Variant Burden Testing in Population Cohorts **Douglas Allan** University of British Columbia

1549F Dissecting the cell-cell communication between senescent cells and the surrounding normal cells *in vivo* **Takao Ito** Stanford University

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1550F Genetic diversity of Collaborative Cross mice reveals highly variable antibody response to seasonal influenza vaccine **Lucie Dupuis** Institut Pasteur, Paris

1551F RESF1 is a tandem G4-associated tumor suppressor in triple negative breast cancer **Megan Majocha** National Cancer Institute

1552F Identification of Homeostatic Predictors of Severe Infection with Machine Learning Methods **Kalika Kamat** University of North Carolina - Chapel Hill

1553F Unraveling the role of mitochondrial and NAD^+ metabolism in acute and chronic kidney disease through a cross of resistant and sensitive mouse strains **Jean-David Morel** EPFL

1554F The Efficiency of Arsenic Metabolism Depends on Genetic Background in Mice Carrying the Same Humanized *AS3MT* Gene **Timothy Bell** UNC-CH

1555F Deficiencies in the mitochondrial associated membrane (MAM) component FAM105A (OTULIN-Like) disrupt innate immune signaling and cause fibrostenotic inflammatory bowel disease (IBD) in mice and very early onset IBD (VEO-IBD) in humans **Brooke Green** Lunenfeld-Tanenbaum Research Institute

1556F Understanding the Mechanisms Mediating Gene-Environment Interactions in Congenital Heart Defects **Irene Zohn** Children's National Hospital

1557F A Machine Learning Approach to Predicting Tumor Status through Telomere Length Variation (TLV) Analysis **Priyanshi Shah** San Diego State University

1558F Functional characterization of a pancreatic cancer GWAS signal at the chr13q12.2/*PLUT*/*PDX1* locus **Trevor Christensen** National Cancer Institute, National Institutes of Health

1559F Phylogenetic Analysis of HIV Antiretroviral Drug Resistance Evolution in Sub-Saharan Africa **Takudzwa Chirenje** San Francisco State University

1560F circRNA Transcriptomic Associations with Parkinson's Disease Severity and Genetic Mutations **Sayan Biswas** Brandeis University

1561F Concurrent Evolution of Antiaging Gene Duplications and Cellular Phenotypes in Long-Lived Turtles **Stephanie Bulls** George Mason University

1562F Genetic background modifies metabolic related outcomes after inorganic arsenic exposure in humanized *As3mt* mice Ginger Shaw University of North Carolina, Chapel Hill

1563F Defining the molecular mechanism of *NARS1*-mediated dominant neurological disease **Sheila Marte** University of Michigan

1564F Excess accumulation of polyphosphate causes a short replicative lifespan in budding yeast **Chiharu Umeda** Nagahama Institute of Bio-Science and Technology

1565F New instrumentation and software for high-resolution, high-throughput yeast fitness profiling to measure genetic interaction globally, discover phenomic modules, and model genetic buffering of disease **John Hartman IV** Univ Alabama, Birmingham

1566F Evolutionary Rescue of Human Disease Mutations **Brooke Dubyna** Lehigh University

1567F Inhibition of NADPH Oxidase 2 Improves Survival in Zebrafish Infected with Influenza A Virus **Benjamin King** University of Maine

1568F Zebrafish as a Translational Model of Chronic Early Life Stress: Insights Along the Oral-Gut-Brain Axis **Christina Graves** UNC- Chapel Hill

1569F Leveraging gametogenesis-specific rejuvenation pathways to counteract cellular aging **Tina Sing** University of California, Berkeley

1570S Lifespan and mitochondrial effects of 6PPD in *Caenorhabditis elegans* **Steven Beck** University of Florida

1571S Roles of purine biosynthesis represented in disease models of perturbed *de novo* and salvage synthesis **Maia Pappadakis** Pennsylvania State University

1572S How do the Orsay virus and its variants affect the Intracellular Pathogen Response in *C. elegans?* **Abigail Reese** West Chester University of Pennsylvania

1573S Variation in Orsay virus affects progeny numbers of *C. elegans* **Solon Aguila** West Chester University

1574S Predictive modeling to define the locus heterogeneity of tRNA synthetase-related peripheral neuropathy **Allison Cale** University of Michigan

1575S TCER promotes embryonic health upon maternal infection **Laura Bahr** University of Pittsburgh School of Medicine

1576S Control of mitochondrial DNA purifying selection by regulators of aging and programmed cell death **Joel Rothman** University of California

1577S Modulating material properties of cargo protein to probe exopher biology **Edward Chuang** Rutgers University

1578S RareResolve - Gene-humanized Animal Models for Discovery of Variant Pathology in Variants of Uncertain Significance (VUS). **Benjamin Jussila** InVivo Biosystems

1579S Multifactorial *C. elegans* depression model **Dianelena Eugenio-Perez** Faculty of Chemistry UNAM

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1580S The broccoli derivative sulforaphane increases lifespan across diverse genetic backgrounds of *C. elegans* and resets the transcriptional aging clock toward a "youthful" state **Patrick Phillips** University of Oregon

1581S Mitochondrial fusion promoter M1 molecule is sufficient to enhance mitochondrial function and organismal lifespan **Julia Bailey** University of Florida

1582S ImR tumor induces kidney damage in adult *Drosophila* hosts Fei Cong, Hong-Cun Bao, Wu-Min Deng. Department of Biochemistry and Molecular Biology, Tulane University School of Medicine, New Orleans, LA **Fei Cong** Tulane University

1583S A *Drosophila* Genetic Screening Platform to Identify Conserved Factors that Influence Biological Outcomes Following Traumatic Brain Injury Exposure **Jesse Rojas** San Diego State University

1584S Dominant *OGDH* variants cause peripheral neuropathy with ataxia and optical atrophy **Wan Hee Yoon** Oklahoma Medical Research Foundation

1585S Utilizing *Drosophila* to Understand Second Heart Field Development **Brenna Blotz** San Diego State University

1586S Temporal effects of endosymbiont Wolbachia on the outcome of RNA viral infection in *Drosophila* melanogaster **Michael Rodwell** University of Alabama

1587S Cellular and behavioral abnormalities in neurodegenerative models suppressed by altering heparan sulfate modifications in *Drosophila* **Nicholas Schultheis** Pennsylvania State University

1588S Parkin-null *Drosophila* vulnerable neuron mitochondrial hydrogen peroxide levels are reduced by manganese porphyrin compound **Lori Buhlman** Midwestern University, Glendale

1589S Roles of Secreted Host Signals in *Drosophila* Tumor-Host Interactions **Kavya Adiga** University of California, Berkeley

1590S Uncovering the mechanism of action of small molecules with neuroprotective potential in ALS using proteomics **Yash Kulkarni** Penn State College of Medicine

1591S A *Drosophila* model of dementia based on C9orf72 hexanucleotide repeat expansion (HRE) exhibits age dependent axonal degeneration and FTD relevant behavioral phenotypes **Megan Brennan** Pennsylvania State University College of Medicine

1592S Uncovering the protective role of glycolysis in ALS using genetic and pharmacological approaches in *Drosophila* models of TDP-43 proteinopathy **Sara Gherardi** The Pennsylvania State University College of Medicine

1593S Neuronal hyperexcitability and tactile hypersensitivity in a *Drosophila* larvae model of Neurofibromatosis 1 **Anneke Knauss** University of Iowa

1594S Molecular Dissection of Non-Olfactory Roles of an Odorant Binding Protein **Benjamin Soto** Johns Hopkins University

1595S Spenito-dependent metabolic sexual dimorphism intrinsic to fat storage cells **Arely Diaz** University of Colorado Anschutz

1596S Understanding the long-term impacts of early-life exercise **Nicole Riddle** University of Alabama at Birmingham

1597S Single-cell analysis reveals immune activation in the tumor-host interaction **Hong-Cun Bao** Tulane University

1598S MICOS Complex Effect on Mitochondrial Dysfunction During Aging **Victor Knowles** San Francisco State University

1599S Metabolomics and Lipidomics Studies reveal altered nutrient metabolism in the non-obese Nepl15 mutant flies **Surya Jyoti Banerjee** Texas Tech University

1600S Progress in Development of an Advanced Cancer Cachexia Model **Sofiane GANA** Sam Houston State University

1601S Increased dopaminergic release confers neuroprotection against a *Drosophila* model of sporadic Parkinson's disease. **Angeline Claudia Atheby** Delaware State University

1602S The *Drosophila* Covid Resource (DCR) is used to reveal key functional interactions between SARS-CoV-2 NSP8 and host factors. **Margot Mel de Fontenay** University of California San Diego

1603S Single-Cell Insights into Aging, Aging-related Disease, and Longevity in *Drosophila* **Tzu-Chiao Lu** Baylor College of Medicine

1604S Identifying Candidate Genes and Genetic Networks that Influence the Age-specific Ability to Clear an Infection Using a Genome Wide Association Study (GWAS) **Shonda Campbell** University of Maryland Baltimore County

1605S The effects of phytocannabinoids on *Drosophila melanogaster* midgut, lifespan and locomotor activity **Sandra Illescas** California State University, Northridge

1606S RNA-Seq analysis starvation selected *Drosophila* melanogaster **Aavash Adhikari** University of Nevada Las Vegas

1607S The autophagic stem cell loss promotes intestinal inflammation **Jun Zhou** Hunan University

1608S Using *Drosophila* to Understand the Role of Polyamine Metabolism in Parkinson's Disease **Bedri Ranxhi** Wayne State University School of Medicine

5129S *Drosophila* model of *de novo PHACTR1* variant demonstrates alterations in bristle structure and synapse function **Jonathan Andrews** Baylor College of Medicine

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1610S Utilizing Trojan Exon Cassettes to observe altered neurodevelopmental and neurodegenerative phenotypes caused by *pex* mutations in *Drosophila*. **Vanessa Gomez** Baylor College of Medicine

1611S The glycoprotein 5 of porcine reproductive and respiratory syndrome virus stimulates mitochondrial ROS to facilitate viral replication **wang jiang** Henan Agricultural University

1612S A potential role of the gut microbiome in promoting age related alcohol tolerance in *Drosophila* **Patricia Pujols** Universidad de Puerto Rico, Rio Piedras

1613S Regulation of intestinal stem cells and longevity by the nuclear envelope protein Klaroid (Koi) **Ithan Cano** California State University, Northridge

1614S The Stumble E3 Ligase Induces Interaction Between the SWI/SNF Component BRG1 and Beta-catenin to Promote Wnt Signaling **Kai Yuan** Dartmouth College

1615S Protective Role of Exercise-responsive Genes against Chronic Muscle Disuse **Mousumee Khan** Wayne State University

1616S Comparative Genomics Reveals DNA Elements that Regulate p38Kb in Aging and Stress **Alysia Vrailas-Mortimer** Oregon State University

1617S Changes in immune signaling may mediate different outcomes between mild, repeated TBI and a single, severe TBI **Jorge Garcia** Lake Forest College

1618S Mutagenesis of *spastin*: a model for Hereditary Spastic Paraplegia and opportunity for a course-based undergraduate research experience (CURE) **Emily Ozdowski** Duke University

1619S The prototypical TUB domain protein Tubby (Tub) regulates RNA trafficking **Tyler Henderson** Lunenfeld-Tanenbaum Research Institute

1620S Glyceraldehyde 3-phosphate dehydrogenase, spermatogenic (GAPDHS) functions as a link between melanoma metabolism and cell morphology **Marelize Snyman** UT Southwestern Medical Center

1621S Relating mouse and human phenotypes for cross-species translational discovery **Cynthia Smith** The Jackson Laboratory

1622S Investigating Tuberculosis Disease Tolerance versus Susceptibility in a Diverse Murine Model **Alwyn Ecker** Duke University

1623S Generating quantitative allelic series in mice by targeting splicing at essential exons. **Bruce Hamilton** UC San Diego

1624S Rodent Model Resource Center (RMRC) - An international repository for novel GM rodent strains **Hsin Chih Sandy Hsu** National Laboratory Animal Center, National Applied Research Laboratories, Taiwan

1625S Combining P301L and S262A tau variants prevents spheroids formation in mice **Camila Zanella** Harvard Medical School and Brigham and Women's Hospital

1626S Genetic mapping and mediation analysis reveal immune phenotypes underlying genetic susceptibility to severe coronavirus disease in mice **Ellen Risemberg** UNC Chapel Hill

1627S Characterizing Dominant Noncoding Suppressor Variants of Lethal Thrombosis in the Mouse **Arina Rodionova** Oakland University

1628S Identification of a major *Actr2* thrombosis suppressor mutation via a sensitized ENU mutagenesis screen **Adrianna Jurek** Oakland University

1629S Identifying Candidate Genes for Neurodegenerative Disorders with Evolutionarily-Informed Generative Models of Protein Sequences **Evan Cofer** Harvard Medical School

1630S Genotype specific microbiome divergence of humanized APOE 2, 3, and 4 mice after microbiome standardization **Michelle Aries** McLaughlin Research Institute

1631S The Canadian Rare Diseases Models and Mechanisms (RDMM) Network: Connecting novel disease gene discoveries to functional characterization research in model organisms **Philip Hieter** University of British Columbia

1632S Multi-drug Cancer Adaptive Therapy with Deep Reinforcement Learning **Zhaozhi Li** Cornell University

1633S A cancer variant functionalization platform using genetic interaction mapping in Saccharomyces Cerevisiae **Seevasant Indran** University of British Columbia

1634S Quorum Sensing Underlies Viability Resurgence in Chronologically Aged Yeast Cells **Kai-Ching Hsiao** Michigan state university

1635S Barcode-sequencing screen for modulators of anticancer ruthenium complex sensitivity in *S. cerevisiae*. **Andrew Chinn** Furman University

1636S Suppressor screening in *S. cerevisiae DGA1*Δ *LRO1*Δ mutant reveals insights into yeast aging mechanism **Hsin-Ying Lin** Michigan State University

1637S Development of a High-Throughput Zebrafish Model of Blood-Brain Barrier Disruption **Sashank Sabbineni** Laboratory of Cell Biology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD, USA

1638V Exploring the impact of *S. mutans* and *L. casei* on cell cycle disruptions: insights from *C. elegans* as a model for microbial dysbiosis **Ana Cedeno Escobar** New College of Florida

1639V Antizyme Inhibitor (AZIN) displays a nuclear localization in human keratinocytes (HaCaTs) **Shannon Nowotarski** Penn State Berks

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1640V the role of MYT1L and Piwil2 genes biomarkers in Medulloblastoma development **Mohammed Alshehri** Najran university

1641V The utilization of *Drosophila melanogaster* as a model organism to investigate the underlying mechanism of Septin11-related axonal sensorimotor polyneuropathy **Farzaneh Larti** Boğaziçi University

1642V Tissue Specific Innate Immune Responses Impact Viral Infection **Steven Miller** University of Pennsylvania

1643V Metabolic Reprogramming in PIK3CA^{H1047R} Mutated Endothelial Cells **Brandee Rockefeller** Utica University

Chromosome Biology and Genome Integrity

1644T The *C. elegans* NuRD chromatin remodeler interacts with the Fanconi Anemia pathway during germline DSB repair **Deepshikha Ananthaswamy** University of Massachusetts Lowell

1645T Characterizing the effects of WEE-1.3 depletion on spermatogenesis in *C. elegans* **Shannon Pfeiffer** University of Delaware

1646T Unveiling the function of a putative IHO-1 homolog in *Caenorhabditis elegans* **Zachary Leydig** MWRI & University of Pittsburgh

1647T Characterization of the double-strand break machinery in *C. elegans* **Marilina Raices** Magee-Womens Research Institute, Pittsburgh

1648T HP1 recruits the chromosomal passenger complex to the chromosome for acentrosomal spindle assembly in meiosis **Siwen Wu** Rutgers University

1649T Effects of B Chromosomal Dosage on Longevity Outcomes in *Drosophila melanogaster* **Tristan Young** University of Alabama at Birmingham

1650T The Role of *Drosophila* Rif1 and CtIP in DNA Double-Strand Break Repair **Makenzie Thomas** Georgetown University

1651T Fanconi Anemia Protein FANCD2 Promotes Homologous Recombination Repair in *Drosophila* **Caroline Worrell** Tufts University

1652T An Extended D-loop or a Migrating Bubble? A DNA Gap Repair Assay Based on APOBEC-Induced Mutational Signature to Assess D-loop Dynamics **Mohamed Mahmoud** University of North Carolina at Chapel Hill

1653T New Insights into the structure and formation of the *D. melanogaster* B chromosome **Shania Kalladanthyil** University of Connecticut

1654T In vivo studies of the *Drosophila melanogaster* AP endonuclease 1 ortholog Rrp1 **Alyssa Persano** Tufts University

1655T Performance, Modifications and Tuning: Post-translational modifications on Corolla, a meiotic synaptonemal complex protein **Adam Bomar** University of Georgia

1656T Not Always Precise: CRISPR/Cas9 Utilizes Multiple Mechanisms of Homology Directed DNA Repair Including Novel Models and Some Detrimental Outcomes **Evan Dewey** University of North Carolina-Chapel Hill

1657T Genomic studies investigate how DNA replication regulates histone incorporation in the *Drosophila* male germline **Jennifer Urban** Johns Hopkins University

1658T Combinatorial effect of environmental heavy metals on genome stability **Tin Tin Su** University of Colorado

1659T Investigating the influence of the *TM3, Sb Ser* balancer chromosome on the female meiotic drive of B chromosomes in *D. melanogaster* **Ryan Gado** University of Connecticut

1660T A Cytological F1 RNAi Screen for Defects in *Drosophila melanogaster* Female Meiosis **William Gilliland** DePaul University

1661T Comprehensive Tissue-Specific Somatic Mutation Profiling via RNA-seq in Diverse Mice **Alexis Garretson** The Jackson Laboratory

1662T Meiotic chromosome segregation in the holocentric pantry moth *Plodia interpunctella* can occurs through multiple mechanisms dictated by crossover position **Leah Rosin** National Institutes of Health, NICHD

1663T The role of dual histone methylation readers ZCWPW1 and ZCWPW2 in PRDM9 dependent meiotic recombination Dawn Watkins-Chow NIH

1664T Characterization of a *RAD23* knock down UV resistance phenotype in *Tetrahymena Thermophila* **Emma Liimatta** Missouri State University

1665T Cytogenomics uncovers novel rearrangements in frogs of the genus *Xenopus* **Martin Knytl** McMaster University

1666T Leveraging deep mutational screening to uncover dominant Rev3 alleles as a novel synthetic lethal therapeutic strategy **Ecaterina Cozma** University of British Columbia

1667T Coevolution of kinetochore protein Cbf2 and budding yeast centromeres **Patrick Hecht** Colorado College

1668T Inner kinetochore compositions across diverse centromere types in budding yeasts **Mai Tien Nguyen** Colorado College

1669T The role of topoisomerases in circularized chromosome strains of *Saccharomyces cerevisiae* **Mara Stout** Morehead State University

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1670T Characterizing the mechanism of mutagenesis in Rad5 variants in *S. cerevisiae* **Kate Jiang** University of Toronto

1671T Discovery of a Novel Gene that Regulates Cohesins **gurvir singh** Lehigh University

1672T Mapping the phenotypes of single amino acid variants of the cytidine deaminase APOBEC3C with deep mutational scanning **Shamitha Aravind** University of Toronto

1673F The sexually dimorphic recombination landscape in *C. elegans* meiosis coordinates with sex-specific germline gene expression **Zachary Bush** University of Oregon

1674F Transgenerational Screening of Intrinsically Disordered Proteins for Genes Involved in Meiosis in the Nematode *C. elegans* **yvan doctorovich** Magee-Womens Research Institute

1675F Natural variation in mutagen tolerance among *C. elegans* wild isolates **Sophia Tintori** New York University

1676F Pink1 represses apoptosis and allows proper morphogenesis after exposure to ionizing radiation in *Drosophila melanogaster* **Lauren Orr** University of Colorado Boulder

1677F An Unbiased Screen for Vulnerabilities of Cells with Centrosome Amplification **Jane Blackmer** Duke University

1678F Unveiling of Meiotic Aneuploidy through Targeted Ovarian Genes **Sarah Abrahem** Millersville University of Pennsylvania

1679F How chromosomal inversions suppress meiotic recombination: Testing the breakpoint interference hypothesis in *Drosophila melanogaster* **Spencer Koury** Auburn University

1680F Meiotic Crossover Designation and Interference in *Drosophila* Involves ATR-Dependent Phosphorylation of Mei-218 **Susan McMahan** University of North Carolina at Chapel Hill

1681F A mutation in the CAL1 binding site of CENP-C shows that CAL1 is not necessary for prometaphase function of CENP-C in meiosis **Jessica Fellmeth** Millersville University

1682F Whole-genome approaches to understanding meiotic recombination mechanism and regulation **Carolyn Turcotte** University of North Carolina at Chapel Hill

1683F Control of D. mel Centromere Effect: Genetic or Spatial? **Nila Pazhayam** UNC Chapel Hill

1684F Elucidating the role of Polo kinase regulation in suppressing drive of the B chromosomes **Kaylah Samuelson** University of Connecticut

1685F Homologous Recombination during CRISPR-Induced DNA Double-Strand Breaks **Reese Perini** UNC Chapel Hill

1686F Usage of Clamps during Homologous Recombination Repair of Large Gaps in *Drosophila* **Daniel Kane** Le Moyne College

1687F Mechanism of Somatic Chromosome Pairing in *Drosophila melanogaster* **Makenna Johnson** University of Utah

1688F Loss of *Nemp1* triggers oocyte loss by activating DNA Damage Pathway **Bilal Hakim** Washington University School of Medicine

1689F Uncovering the effect of ZMPSTE24 deficiency on genome integrity **Alannah DiCintio** University of South Carolina

1690F The DNA structural landscape at the centromere and pericentromere **Lydia Gutema** Emory University

1691F Characterization of the Overexpression of RecA Homologs *DMC1* and *RAD51* in *Tetrahymena thermophila* **Jianna Cox** Missouri State University

1692F DNA double-stranded break and new telomere formation during *Ascaris* programmed DNA elimination **Brandon Estrem** University of Tennessee Knoxville

1693F Understanding the function of the C-terminus of Mms21 in genome stability **Nkechinye Baadi** Colby College

1694F The BUDdy System: investigation of GEF and GTPase function in the mitotic exit network in*S. cerevisiae* **Anupama Seshan** Emmanuel College

1695F Genetic interaction studies to understand the function of the C-terminus of Mms21 in genome stability **Yee Mon Thu** Colby College

1696F Determining the role of lysine residues in the regulation and function of the DNA mismatch repair protein Msh6. **Kalila Daveron** Xavier University of Louisiana

1697F Investigating the origin and nature of half-crossover cascades in *Saccharomyces cerevisiae* **Camryn Schmelzer** Colorado State University

1698F CRISPR is a source of genotoxic stress, even in the absence of gRNA **Stephan Baehr** Arizona State University

1699F Checking Set1 activity to ensure meiotic progression **Jayne Steitz** Stockton University

1700F Investigating the Role of Mismatch Repair in Promoting Trinucleotide Repeat Expansions in *Saccharomyces cerevisiae* **Katherine Casazza** University at Buffalo

1701F Size *Does* Matter: The characterization of telomere function in germ cell development in *Danio rerio* **Jessica MacNeil** University of Massachusetts, Boston

1702S Formation and stabilization of crossover compartments during *C. elegans* meiosis **Celja Uebel** Stanford University

1703S Comparison of meiotic proteins REC-1/HIM-5 in *Caenorhabditis elegans* and *Caenorhabditis briggsae* **Michelle Scuzzarella** Magee-Womens Research Institute

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1704S Characterization of mutations that affect sex-specific thermotolerance of the synaptonemal complex in *C. elegans* germ cells **Nicolas Lee** University of Oregon

1705S The sex specific function of CLS-2 during male sperm meiosis in *Caenorhabditis elegans* **Allen Ramsey** San Francisco State University

1706S Investigating B chromosome dynamics during female meiosis in *Drosophila melanogaster* **Mengjia Lin** University of Connecticut

1707S Maintenance of genomic integrity in the male germline of *Drosophila melanogaster* **Kate Lemons** University of Utah

1708S Mechanism of natural variation in double-strand break repair: **Shahrzad Hajiarbabi** University of Houston

1709S In *Drosophila melanogaster*, survivors of Blm-deficient development exhibit a neurodegenerative phenotype that includes sleep and circadian rhythm disruption **Tesla Presnell** Lewis-Clark State College

1710S Maternal effect of RNASEH2C loss in *Drosophila melanogaster* during embryogenesis **Sara Martin** Tufts University

1711S *Y*-chromosomes create a survival disadvantage in male *Drosophila melanogaster* that lack Blm protein during early development **Jayden Youngren** Lewis-Clark State College

1712S Metabolic dysfunction in survivors of Blm-deficient development in *Drosophila melanogaster* **Sara Hathaway** Lewis-Clark State College

1713S Physiological Response of DGRP lines to hypoxia and cold stress. **Amelia May** Auburn University

1714S Delayed lagging strand synthesis drives asymmetric histone incorporation and promotes progenitor cell reprogramming in the *Drosophila* male germline **Brendon Davis** Johns Hopkins University

1715S Initiation Mechanism of *Drosophila* Interchromosome Effect **Bowen Man** Case Western Reserve University

1716S Cell competition and the fate of segmental aneuploidies of varying size **Nicholas Baker** Albert Einstein College of Medicine

1717S Pumilio-dependent stabilization of Nipped-B mRNA during meiotic prophase is required for cohesion rejuvenation in *Drosophila* oocytes **Muhammad Abdul Haseeb** Dartmouth College

1718S Topoisomerase 3b Facilitates piRNA Biogenesis to Promote Transposon Silencing and Germ Cell Development **weiping shen** NIA

1719S Regulation of mammalian meiosis by the SUMO-conjugating enzyme UBC9 **Sunkyung Lee** University of California Davis

1720S Relationships Between Germline Mutation Rates and Reproductive Success **Alexis Garretson** The Jackson Laboratory

1721S Mechanisms and fitness consequences of human embryonic aneuploidy inferred from 129,479 blastocyst-stage embryos **Sara Carioscia** Johns Hopkins University

1722S Investigating the Role of DNA Secondary Structures in Centromere Specification **Pei Shyuen Ooi** Emory University

1723S Characterizing Mutagenesis Across Developmental Time with sciATAC-seq **Yu-Chen Pan** University of Washington

1724S Genetic interactions between fission yeast Cdc24 and PCNA **Sally Pasion** San Francisco State University

1725S Structural and biochemical basis of retrotransposition by human LINE-1 **Akanksha Thawani** UC Berkeley

1726S Rethinking Mutation Accumulation: Measuring Mutation Bursts in *Saccharomyces cerevisiae* **Joseph Stewart** Colorado State University

1727S Lack of Ung1 increases *S. cerevisiae* sensitivity to anticancer ruthenium complex KP1019 **Rishi Narayan** Furman University

1728S Ccq1 restrains Mre11-mediated degradation to distinguish short telomeres from double-strand breaks **Haitao Zhang** Cleveland Clinic Lerner Research Institute

1729S Chromosomal Crossing Over During Meiosis: crossover-specific resolution of double Holliday Junctions **John mccarthy** UC Davis

1730S Histone Variant H2A.Z and Linker Histone H1 Influence Chromosome Condensation in *Saccharomyces cerevisiae* **Scott Holmes** Wesleyan University

1731S Role of telomeric proteins in the repair of a single double-strand break in an expanded CTG trinucleotide repeat **Cécile Palao** Pasteur Institute

1732V Investigating the function and regulation of the Haspin homolog, HASP-1, in the *C. elegans* germline **David Wynne** University of Portland

1733V RING Finger Proteins in Crossover Designation and Interference **Emerson Frantz** UNC Chapel Hill

1734V Synaptonemal & CO Analyzer: a novel tool for the analysis of immunofluorescence images in meiotic recombination studies **Elena de la Casa-Esperon** University of Castilla-La Mancha

1735V Chromatin remodeling complexes function in chromosome segregation and ploidy maintenance **Ines Pinto** University of Arkansas

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1736V Visualization and Immunoprecipitation of distinctively tagged PCH-2 strains in C.elegans **Micaela Colmenarez** UC Santa Cruz

Neurogenetics

1737T Analyzing the expression of *C. elegans* IGEG-1, a novel EGFR ligand that promotes sleep **Marine Barsegyan** California State University, Northridge (CSUN)

1738T Understanding the Activity of Polycystin-2 in Relation to Its Localization in Cilia and Extracellular Vesicles Using *C. elegans* Model **Carlos Nava Cruz** Rutgers- The State University of New Jersey

1739T EFN-4 and VAB-8 act downstream of MAB-5/Hox to promote QL.a and QL.ap posterior migration. **Vedant Jain** University of Kansas

1740T EGL-1 and CED-4, components of the core programmed cell death pathway, inhibit anterior QL.a and QL.p migration, possibly downstream of MAB-5/Hox **Celeste Gormly** University of Kansas

1741T CED-1 negatively regulates extracellular vesicle release from ciliated sensory neurons into the environment **Tao Ke** University Of Delware

1742T CASY-1 Orchestrates Foraging Dance: Unveiling the Genetic Symphony of Food-Evoked Locomotion in *C. elegans* **Navneet Shahi** Indian Institute of Science

1743T Influence of RasGAP on PXF-1 mediated synaptic development **Reagan Lamb** University of Kentucky

1744T Toward understanding the inherent left-right asymmetric differences in *C. elegans* Q neuroblasts **Felipe Teixeira** University of Kansas

1745T The role of peroxisome mediated glial-neuronal communication during *Drosophila* aging. **Anurag Das** Iowa State University

1746T Investigating the roles of *doublesex* and *dissatisfaction* in neurons contributing to female courtship behavior **Kara Miller** Villanova University

1747T Mapping synaptic partners of female-specific neurons that regulate female receptivity in *Drosophila melanogaster* **Micaela Murphy** Villanova University

1748T Notch signaling regulates temporal patterning for timely neuroblast elimination in a lineage specific manner **Kendall Branham** University of Virginia

1749T Glial-specific knockdown of a subunit of the ER membrane complex (EMC) impacts development and adult survival of *D. melanogaster* **Maria Jose Orozco Fuentes** Lake Forest College

1750T Disruption of the arylalkylamine N-acetyltransferase-like-7 gene*, AANATL-7*, identifies an additional metabolic pathway for histamine inactivation in *Drosophila melanogaster* **Lydia Cruce** Grand Valley State Univ

1751T Exploring the Connection Between Circadian Rhythms and Sex-Specific Behavior in *Drosophila* **Brooke Bascom** Florida State University

1752T The Role of F-box Protein FBXL20/CG9003 in *Drosophila* Synapse Development **Tianlu Wei** University of Nevada,Reno

1753T Life, Death, & Cannibalism **Emily Siff** Yale

1754T Connecting temporal patterning in neural progenitors to neuronal identity in *Drosophila* Visual System **Asif Ahmad Bakshi** New York University Abu Dhabi

1755T Non-ionic GluR signaling remodels DLG to induce rapid retrograde homeostatic plasticity **Chengjie Qiu** University of Southern California

1756T Neural origin of a female-specific sexual behavior in *Drosophila santomea* **Minhao Li** University of Pennsylvania

1757T Clearance of cell corpses in the phagocytosis-deficient *Drosophila* brain **Cheng Yang (Jason) Shi** Boston University

1758T A microRNA screening reveals miR-33 as a modifier of TDP-43 toxicity in flies **Swapnil Pandey** University of Florida

1759T Identifying the genetic basis of olfactory learning and memory skills in *Drosophila melanogaster* **Reiley Heffern** University of Missouri - Columbia

1760T Identification and Characterization of Sleep-Regulating Neuronal Subsets within the Central Complex of *Drosophila melanogaster* **Preeti Sundaramurthi** California State University, East Bay

1761T Are the functions of Netrin and Frazzled conserved among insects? **Piyasi Ghosh** University of Arkansas

1762T Insights into the aging brain through unraveling the development and transcriptional signature of polyploid cells **Deena Damschroder** University of Michigan

1763T Effects of peripheral vs local immune activation on larval neuroblast proliferation **Omina Nazarzoda** University of Virginia

1764T Investigating the Role of the ER Integral Membrane Protein Jagunal in Neural Development in *Drosophila* **Nina Nicole Marcelo** San Francisco State University

1765T Investigating cell type-specific requirements for the RNA exosome within the brain through study of Pontocerebellar Hypoplasia Type 1b disease mutations in *Drosophila* **Lauryn Higginson** University of Southern California

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1766T Investigating the Cross-regulation of DATILÓGRAFO and NOCFLY in Decision Making **Amina Jahan Shammo** Case Western Reserve University

1767T *Pax3* expression within neural crest is essential for differentiation of sacral progenitors that form pelvic autonomic neurons **Michelle Southard-Smith** Vanderbilt University Medical Center

1768T Epistatic mutations in Ssc4d and Kpna3 regulate age dependent hyperactivity in mice. **Yehya Barakat** The Jackson Laboratory

1769T Role Of CRISPR-Cas9 Screens in Elucidating the Gene Functionality in Patients Derived Induced Pluripotent Stem Cells (iPSCs) For Neurodegenerative Disorders **Ammara Talib** Near East university north Cyprus

1770T Investigating the Role of Huwe1 and Fbxo16 in Neurogenesis **Haeli Lomheim** Georgetown University

1771T Retinal neuron regeneration in zebrafish (Danio rerio) when TGFβ signaling is manipulated **Julinette Gines-Garcia** Goucher College

1772T Functional analysis of two alternate Lef1 isoforms that may have distinct roles in regulating hypothalamic neurogenesis and innate stress-response behavior **Guangning Wang** University of Utah

1773F Conserved autism genes regulate GABAergic neuron plasticity in adult male *C. elegans* **Kristi Zoga** University of Pennsylvania

1774F Novel insights from Humanization in *C. elegans*: Functional Rescue of G-alpha(o)-Dependent Behavior **Jacqueline Cho** Brown University

1775F The glutamate receptor *glr-5* regulates stress-induced sleep in *C. elegans* **Caroline Kominick** St. Joseph's University

1776F The neuropeptide receptor *npr-4* and the neuropeptide *nlp-61* regulate stress-induced sleep in *C. elegans* **Quinn Howe** Saint Joseph's University

1777F Identification of transcription factors that bind to novel promoter motif in *C. elegans* **Nadia Gaytan** Syracuse University

1778F Drugging Worms to Study Substance Use Disorder **Shelby Lauzon** The University of Alabama at Birmingham

1779F Investigating the cis-regulatory locus of the *ceh-43* homeobox gene in *Caenorhabditis elegans* neuronal specification **James Lao** Columbia University

1780F Investigating aggregate feeding behavior across Caenorhabditis superfamily **Reina Eugene** Pennsylvania State University

1781F The SCRM-1 Phospholipid Scramblase Regulates Shedding of Extracellular Vesicles from the Ciliary Base **Alexis Semmel** University of Delaware

1782F Astrocyte Regulation of Excitatory Synapse Formation **Hallie Youker** Washington University in St. Louis

1783F Abnormal spindle employs non-cell autonomous mechanisms to promote proper brain growth and development **Shalini Chakraborty** University of Wyoming

1784F Natural variation in behavioral and transcriptional responses to social isolation in *Drosophila melanogaster* **Jesús Sotelo-Fonseca** Duke University

1785F Efficient methods for expanding cell-type-specific genetic tools for studying neuronal development in the *Drosophila* visual system **Elizabeth Abraham** New York University

1786F Effect of social experience on gene expression, circuit function and behaviors **Pelin Volkan** Department of Biology, Duke University

1787F Temporal manipulation of serotonin during development creates persistent behavioral defects in *Drosophila* larvae **Hayden Schneider** Ball State University

1788F Ecdysis Triggering Hormone Both Activates and Suppresses Ecdysis Motor Programs **Niall Dermady** National Institutes of Health

1789F A multi-input optic glomerulus mediates diverse behavioral responses to visual objects. **Ines M.A. Ribeiro** LMU-Munich

1790F *Drosophila* neuronal Glucose-6-Phosphatase regulates glycogen storages via FMRFa signaling in the jump muscle **Tetsuya Miyamoto** Texas A&M University

1791F Neuropeptide mediated changes in synaptic output at individual active zones **Stephen Clifford** Middle Tennessee State University

1792F 5-HT1A regulates axon outgrowth in a subpopulation of *Drosophila* serotonergic neurons **Ava Kinser** Ball State University

1793F Serotonin autoreceptors are differentially and dynamically expressed throughout development in *Drosophila* **Luke Brewer** Ball State University

1794F Neuropeptide Biology in *Drosophila* **Kiel Ormerod** Middle Tennessee State University

1795F The RNA binding protein Nab2 regulates m^6A levels and splicing of the RhoGEF *trio* transcript to govern axon development **Carly Lancaster** Emory University

1796F Neuronal interaction mediated by Dscam1 receptor differentially guides dendrite formation and axon targeting in motoneuron 24 **Kathy Bui** University of Georgia

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1797F Neuropile Ensheathing Glia Modulate Seizure Susceptibility of *Drosophila melanogaster* **Lexis Grandel** College of the Holy Cross

1798F Alterations in Sequential Motor Patterns of a Model of Neurofibromatosis Type 1 **Hannah Brunner** University of Iowa

1799F Natural Variation in Neural Stem Cell Reactivation Offers Opportunity for Novel Insight into Neurogenesis **Taylor L. Nystrom** University of Virginia

1800F Seizure and Motor Phenotypes Caused by Overexpression of *dube3a* in Neuronal and Glial Tissues **Atulya Iyengar** The University of Alabama

1801F Restoring histone acetylation homeostasis in Alzheimer's Disease using Tip60 HAT activators **Aprem Zaya** Drexel University

1802F The genetic basis of neural circuit evolution for *Drosophila* mate preferences **Emily Behrman** HHMI Janelia Research Campus

1803F Metabolic Dysfunction in Frontotemporal Dementia **Angelina Freeman** Providence College

1804F Hemocyte dependent regulation of alcohol induced responses as a function of temperature **Madhavi Kuchibhotla** University of Puerto Rico, Rio Piedras Campus

1805F Contribution of Painless and TrpA1 to *Drosophila melanogaster* nociception **Jacob Jaszczak** New Mexico State University

1806F Spatial transcriptomics reveals region-specific and cell-type-specific gene dysregulation in a *Mecp2* mouse model of Rett syndrome **Young Zhou** The Hospital for Sick Children

1807F Genetic testing in children with developmental delay **Joo Hyun Park** Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea

1808F Multi-omic interactions of multi-generational early life stress in developing zebrafish **Erik Norloff** University of North Carolina at Chapel Hill

1809F Motor Circuit Critical Period Closure in a Highly Regenerative Vertebrate **Jacob Brandt** Washington University School of Medicine

1810F The transcription factors *prdm16* and *prdm3* antagonistically regulate acoustic startle response thresholds **Zackary Marshall** University of Colorado Denver

1811S Understanding the Impact of Superoxide Dismutase on Extracellular Vesicle Biogenesis and Cargo Sorting **Nahin Siara Prova** University of Delaware

1812S EGL-4 Protein Kinase G modulates the Hypoxia Stress Response and GLR-1 glutamate receptor synaptic trafficking **Tatiana Popovitchenko** Rutgers University

1813S The neuropeptide nlp-50 regulates stress-induced sleep in *C. elegans* **Caroline Curtin** Saint Joseph's University

1814S Investigating a simple neural circuit regulating stress responses in *C. elegans* **Mary Frattara** Mary Frattara

1815S Small size correlates with reduced running in response to alternating current in *C. elegans* **Annalise Totten** Mills College at Northeastern University

1816S The role of GPCRs in regulating sleep through Notch signaling in C.elegans **Manuel Lamela** Brown University

1817S A genetic screen for modifiers of stress-induced sleep in *C. elegans* using a worm picking robot **Zihao Li** University of Pennsylvania

1818S Response to two attractive odorants relies on distinct regulators of RNA silencing **Samiha Tasnim** University of Maryland

1819S Neurofibromin deficiency alters the initiation and perseveration of temporally-sequenced behaviors **Seth Tomchik** University of Iowa

1820S Long non-coding RNA Statera regulates synaptic plasticity at the *Drosophila* neuromuscular junction **Shuhao Wang** UMass Chan Medical School

1821S Recurrent spontaneous seizures caused by glial-*Dube3a* overexpression can be suppressed through modulation of 5-HT signaling **Saul Landaverde** The University of Alabama

1822S Distinct growth property of *Drosophila* primary embryonic neurons derived from hyperexcitable K_v and Na_v channel mutants **Yeo Rang Lee** The University of Alabama

1823S Investigating variability in learning and memory phenotypes using the *Drosophila* Synthetic Population Resource **Victoria Hamlin** University of Missouri

1824S The conserved microRNAs *miR-34* and *miR-277* regulate proportional growth of the neuromuscular junction in *Drosophila melanogaster* larvae **Mala Misra** Washington College

1825S Matching transcription factor codes with morphological neuron types by lineage origin, neuron birth order, and spatial transcriptomics **Angelica Previero** University of Michigan

1826S m6A-inhibitory RNA binding protein Nab2 Regulates Lipid Storage and Metabolic Pathways **Jordan Goldy** Emory University

1827S Disruption in calcium conductance of cacophony channels alters VGCC abundance and retention at active zones **Chhavi Sood** Massachusetts Institute of Technology

1828S A conserved gene network enables decisions by regulating the distribution of an excitatory receptor **Kexin Zhang** Case Western Reserve University

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1829S Defining Locomotor Deficits in KDM5 Loss of Function Mutants **Aubrey Siebels** Albert Einstein College of Medicine

1830S Effects of a Differential Overexpression of the Vesicular Acetylcholine Transporter on Synaptic Activity and Behavior in *Drosophila melanogaster* **Katarzyna Rosikon** Delaware State University

1831S Effect of larval diet on adult feeding preference in *Drosophila Melanogaster* **Vaibhav Menon** University of California, Riverside

1832S The DATI Neuroprocessor Enables Mating Decisions in *Drosophila* Female Through a Molecular and Cellular Mechanism that Eliminates Competing Behaviors **Mandy Wong** Case Western Reserve University School of Medicine

1833S Dissecting the transcriptional networks driven by the Fra/DCC intracellular domain **Camila Barrios-Camacho** University of Pennsylvania

1834S Investigating the role of *NLGN3* in autism spectrum disorder and sleep disruptions **Rebekah Townsley** Baylor College of Medicine

1835S Expression Analysis of cell-type-specific split-GAL4 lines in developing *Drosophila* visual system **Angelina Fordjour** New York Univeristy

1836S Structure-function of *Drosophila* Robo3 using CRISPR gene replacement **Ayawovi Selom Ametepe** University of Arkansas

1837S Multiple glial subtypes interact and compensate for the loss of nearby glial function **Allison Beachum** University of Virginia

1838S Dissecting the Causal Role of Insomnia in Cardiovascular Disease **Torrey Mandigo** Massachusetts General Hospital

1839S Postnatal normalization of *Dyrk1a* in a mouse model of Down syndrome impacts adult behavior and cognition **Elysabeth Otte** Indiana University-Purdue University Indianapolis

1840S Expression Characterization of a Putative Novel Neuropeptide **Vicki Wong** Harvard University

1841S Antennal RNAseq reveals candidate genes associated with host preference in the Northern house mosquito *Culex pipiens* **Theresa Menna** University of Maryland

1842S Paternal inheritance of SLC52A1 Gene Mutation in the infant presenting with developmental delay: a case report **Ah Yeon Lee** Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea

1843S Examining the role of *cadherin 16* (*cdh16*) in the establishment of sensory thresholds **Susannah Schloss** University of Colorado Denver

1844S Identifying molecular targets of CHD7 that mediate CHARGE syndrome phenotypes in a zebrafish mode **Melody Hancock** North Carolina State University

1845S Serotonin acutely regulates acoustically-evoked behavior selection in zebrafish through multiple HTR2 receptor subtypes **Rebecca Osbaldeston** Haverford College

1846V Characterization of Ultrasound-Induced Mobility Defects and Subsequent Recovery in *C. elegans* Nematode Worms **Louise Steele** Kent State University at Salem

Initiatives in Education and Diversity, Equity, and Inclusion

1847T Creating a course based undergraduate research experience (CURE) genetics laboratory course at Xavier University of Louisiana. **Joanna Haye-Bertolozzi** Xavier University of Louisiana

1848T Theory, Design, and Outcomes for routine DEIJ discussion during Department Meetings **Katherine Furniss** University of Minnesota - Twin Cities

1849T Do I Belong? An Analysis of Black Student Experiences in the Biology/STEM program at Emmanuel College **Samira Fawel** Emmanuel College

1850T The Basics of NIH Peer Review **Mollie Manier** National Institutes of Health Center for Scientific Review

1851T Development of an Oxford Nanopore CURE module for an undergraduate genetics course. **Bryce Taylor** Loras College

1852F Structures and Outcomes of Virtual Human Genomics and In-Person *Caenorhabditis* Genetics CUREs **Sosse Kendoyan** California State University, Fresno

1853F Fly-CURE and connecting curriculum: multi-institutional course-based undergraduate research experiences in genetics and beyond **Julie Merkle** University of Evansville

1854F Inclusivity of the LGBTQ+ community in Emmanuel College biology courses. **Teagan Santoro** Emmauel College

1855F Learning genetics by "making a baby" with a deck of cards for majors or non-majors courses **Tina Gumienny** Texas Woman's University

1856F 'Genetics & Society': a non-majors undergraduate case study examining a genetic research study for scientific merit and societal impacts **Nicole Green** Cornell College

1857F Implementing Equitable Grading in Microbiology **Suparna Chatterjee** New Mexico State University

1858F Integrating Research Ethics Instruction in a Genetics CURE **Joseph Ross** California State University, Fresno

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1859F Incorporating information literacy into genetics undergraduate curriculum **Elizabeth Wade** Curry College

1860F Building Sustainable Approaches to Ethical Inclusion of Indigenous Peoples in Genomic Research **Julie Beans** Southcentral Foundation

1861S Using *C. elegans* to study *dcaf-13* RNAi phenotypes to promote inquiry-based learning in an undergraduate Cell and Molecular Biology course **Jessica Sullivan-Brown** West Chester University

1862S The Genomics Education Partnership: A Path to Classroom Research Experiences in Person or at a Distance **Alondra Diaz-Lameiro** University of Puerto Rico at Mayaguez

1863S A cohort-based research program for early-career undergraduates **Elyse Bolterstein** Northeastern Illinois University

1864S Rediscovering Mendel`s Developmental Genetics to Dissolve the Trouble of Gene-Centrism **Hui Zhang** Northwest Normal University of China

1865S Bridging Research and Education with Model ORganisms (BREWMOR) **Kelli Carroll** Wofford College

1866S Teaching the Genome Generation: Cultivating High School Genomics Through Teacher Education **Erica Gerace** The Jackson Laboratory

1867S LacApp: A platform to help students master gene regulation **Caitlin Hanlon** Quinnipiac University

1868S Incorporating whole genome sequencing and analysis into a high school teaching lab **Maitreya Dunham** University of Washington

1869S ORFans and proto-genes: Engaging students in bioinformatics through the study of yeast genes of unknown function **Jill Keeney** Juniata College

1870S Full-Immersion Research Experience (FIRE): a hybrid CURE + Research Internship **Cheryl Van Buskirk** California State University Northridge

1871V Genetics Beyond Laboratories: Using *Drosophila* as a learning tool for biology in Nepalese Schools **Yogesh Joshi** Wayne State University

1872V Using course-based undergraduate research experiences (CUREs) to develop approaches for DNA barcoding ramshorn snails **Jessica Shinn-Thomas** Utica University

Translational Approaches, Stem Cells, and Organoids

1873T Unraveling the Pathophysiology of Jordan's Syndrome: A Proteogenomic Approach **Harris Bolus** Whiddon College of Medicine at the University of South Alabama

1874T *Drosophila* salivary gland transcription factors as novel targets for vector control **Bianca Palicha** Johns Hopkins University

1875T Quantitative Analysis of Cytoplasmic Transfer between Human Retinal Organoids **McKaily Adams** Johns Hopkins

1876F Nrf2/CncC and Hsf1 play a role in intestinal stem cell identity and gut homeostasis in *Drosophila* **Carlos Quinones Sanchez** Universidad de Puerto Rico - Rio Piedras

1877F Discovery of Drug Response-Associated Mutations in Mucinous Metastatic Appendiceal Cancer Using a Patient-Derived Tumor Organoid Platform **Daniel Gironda** Wake Forest School of Medicine

1878S Topoisomerase 3b enhances stability of maternal mRNAs that are essential for neurodevelopment of progeny **Seung Kyu Lee** National Institute on Aging/NIH

1879S A germline organoid model of *Taeniopygia guttata* (zebra finch) Primordial Germ Cell (PGC) migration *in vitro* **Bianca Brown** American University

Sex Differences in Biology and Disease

1880T Tissue-Specific DAF-2 Degradation extends the lifespan and healthspan of *C. elegans* males **Rose Al-Saadi** University of Oregon

1881T Sex-specific larval viability effects of mutations in *Drosophila melanogaster* **Rob Melde** University of Wisconsin Madison

1882T Tdrd5l promotes male identity in germline stem cells **Caitlin Pozmanter** Johns Hopkins University

1883T Female specific increased Insulin/insulin-like growth factor signaling pathway promotes increased body fat in *Drosophila* females than males **Puja Biswas** University of British Columbia

1884T Y chromosome toxicity does not contribute to sex-specific differences in longevity **Charlene Clot** Institut de Biologie Valrose, Université Côte d'Azur, CNRS, Inserm

1885T Investigating the molecular basis of sex-biased brain aging in *Drosophila melanogaster* **Nathan Nigrin** Brown University

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1886T GA binding transcription factor CLAMP regulates the dynamics of splicing condensates in *Drosophila* **Smriti Vaidyanathan** Brown University

1887T Germline novelty through recurrent copy-number, protein, and regulatory evolution of the synaptonemal complex **Kevin Wei** University of British Columbia

1888T The role of X chromosome dosage compensation during development **Océane Tournière** Institut de biologie Valrose, Université Côte d'Azur

1889T Investigating the Origin of Prostate Macrophages through Genetic Lineage Tracing **Peri Wivell** The George Washington University

1890T Why is there a *maleless* homologue in one of the homomorphic sex chromosomes of the *Aedes aegypti* mosquito? **Christen Hughes** Virginia Tech

1891T Identifying the sex determination gene *doublesex* in *Stiphra sp*. by degenerate PCR **Bailey Baratka** Widener University

1892F Histone methyltransferases differentially regulate transcription and chromosome structure in oogenesis and spermatogenesis **Carolyn Remsburg** University of Delaware

1893F The impact of inter-organ communication on ovulation following traumatic injury in *Drosophila* **Cameron Dixon** Boston University

1894F Using long-read sequencing data to analyze sex-based differences in alternative splicing in different species of *Drosophila* **Kinfe Bankole** University of Florida

1895F Understanding the role of exosomes in competitive male reproductive success **Yoko Takashima** Cornell University

1896F The Role of Octopamine in *Drosophila* Exercise Response **Annie Backlund** University of Alabama

1897F Quantifying the impact of biological sex and genetic background on the response to nickel toxicity using *Drosophila melanogaster* **Allie Hutchings** Laurentian University

1898F An Odorant-Binding Protein involved in courtship behaviour of *Drosophila melanogaster* **Enisa Aruçi** Cornell University

1899F Investigating how germline sexual identity controls sex-specific gene expression **Harrison Curnutte** Johns Hopkins University

1900F A fitness analysis of *OdsH* in *Drosophila* using selection with two alleles of X-linkage **Sha Sun** Univ California, Irvine

1901F Transcriptomics analysis of allergen-induced inflammatory gene expression in the Four-Core Genotype mouse model **Carolyn Ekpruke** Indiana University Bloomington

1902F Loss of a postmeiotically expressed X to autosome retrogene, *Phf8l*, results in male subfertility **Ivan Mier** University of Michigan

1903F The Integration Institute: Sex, Aging, Genomics, and Evolution (IISAGE) **Ellie Duan** Cornell University

1904F Exploring the hippocampal transcriptome following perturbations of locally synthesized estrogen in the zebra finch (Taeniopygia guttata) **Rebecca Andrade** American University

1905S Early-life exercise in *Drosophila* alleviates the sex-specific divergence of aging-associated gene expression in thorax muscle tissue **Eric Randolph** University of Alabama at Birmingham

1906S Genetic control of mating plug ejection timing in *Drosophila melanogaster* **Rachel Craig** Cornell University

1907S Geographic origin and sleep patterns predict disease outcomes in *Drosophila melanogaster* **Mintong Nan** University of Maryland

1908S Male Meiotic X Chromosome Inactivation in X-A Translocations and its Implications for Sperm Viability in *Drosophila* **Camila Avelino** Arizona State University

1909S Mass spectrometry revealed sexual dimorphism in response to cancer **Anindita Barua** Tulane University, Louisiana Cancer Research Center

1910S Characterizing the Role of Doublesex in Creating Sexual Dimorphism in the Somatic Gonad **Natalie Murphy** Johns Hopkins University

1911S Investigating the spreading mechanism of the MSL Dosage Compensation Complex on the X chromosome. **Arthur Langford** Emmanuel College

1912S Knockout of highly conserved SFP ablates male fertility **Dominic Hockenbury** Syracuse University

1913S Temporal transcriptomics identifies sexually dimorphic trajectories during mouse adrenal gland postnatal development **Chen-Che Jeff Huang** Auburn University

1914S Consequences of variable escape from X inactivation in humans **Carrie Zhu** The University of Texas at Austin

1915S Understanding Sex Determination in African Clawed Frogs (*Xenopus)* **Sarah Porter** Marine Biological Laboratory

1916S Sexually dimorphic Atf4 expression and activity control adipose tissue physiology **Lydia Grmai** University of Pittsburgh

1917V The between-sex multivariate genetic architecture acts as a constraint to the evolution of sex-difference in contemporary humans **Anasuya Chakrabarty** National Institute of Biomedical Genomics

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1918V Genetic and behavioural correlates of a male-specific aging phenotype in *Drosophila* hypocausta **Lauren Kovacik** University of British Columbia

Agriculture, Aquaculture, and Livestock Genetics

1919T Antifungal killer toxins from yeasts - discovery and their application in craft breweries. **Paul Rowley** University of Idaho

1920T The Effect of Long Non-coding RNA Expression on Vitamin E Concentration in Maize Grain **Morgan Apolonio** University of California, Berkeley

1921T Breeding of high iron and zinc and grain yield under abiotic stress conditions, supporting enhanced maize biofortification **Tesfaye Mekonnen** University of the Free
1922F Adaptation to hatchery conditions in the threatened westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) **Ylenia Chiari** George Mason University

1923F Early-life fecal transplantation from high muscle yield rainbow trout to low muscle yield recipients accelerates somatic growth through respiratory and mitochondrial efficiency modulation. **Guglielmo Raymo** University of Maryland

1924F Cross-species Regulatory Network Analysis Identifies FOXO1 and the Circadian Clock as Drivers of Ovarian Follicular Recruitment **Ashley Kramer** University of Delaware

1925F Identification of genetic and environmental factors influencing aerial root traits that support biological nitrogen fixation in sorghum **Wilfred Vermerris** University of Florida State

1926S Bacillus amyloliquefaciens modulate sugar metabolism to mitigate arsenic toxicity in Oryza sativa L. var Saryu-52 **Harshita Joshi** CSIR-NBRI

1927S De novo transcriptome assembly of 7 California native plant species **Savanah Senn** LA Pierce College

1928S Genetic characterization of a wild emmer by hard winter wheat backcross population **John Hill Price** USDA-ARS

1929S Optimizing expected cross value for genetic introgression-smart crossing design with whole-genome functional genomic knowledge **Charles Chen** Oklahoma State University

1930V Exploiting admixture in livestock to inform the genetic architecture of important traits **Pamela Wiener** Roslin Institute

Ecological Genetics and Genomics

1931T Genomic Evidence of Selection on Gall Size among Goldenrod Gall Fly *Eurosta solidaginis* **Zhenzhu Xiao** George Washington University

1932T Repeatability of evolution varies across timescales in the introduced African Fig Fly, *Zaprionus indianus* **Priscilla Erickson** University of Richmond

1933T Characterizing seasonal changes in the microbiome of Apis mellifera **Bronwyn Boyd** Appalachian State University

1934T CRISPR/Cas9-based homing gene drive for population control of the crop pest, *Drosophila suzukii* **Amarish Yadav** NC State University

1935T Tempo-spacial distribution of *Drosophila* **Chau-Ti Ting** National Taiwan University

1936T Character evolution in the *Impatiens* genus (Balsaminaceae): a statistical approach **Nicholas Beck** Midwestern University

1937F Characterization of Triclocarban (TCC) activity in the *Drosophila melanogaster in vivo* model **Adriana Muñoz Hernández** Universidad Nacional Autónoma de México, Facultad de Ciencias

1938F Wolbachia Improved Fitness Traits of *Drosophila* Fed Rotten Fruit Diet **Oluwatobi Fijabi** University of Alabama

1939F Quantifying compositional variability in microbial communities **Maike Morrison** Stanford University

1940F CRISPR-Cas9 on Red Palm Weevils Yellow-e gene **Adilla Razali** New York University Abu Dhabi

1941F *Steinernema* nematodes as an emerging genetic model to study microbial symbiosis **Mengyi Cao** Carnegie Institution for Science

1942F Genome-wide analysis of mutation in cadmium exposure in adapted and non-adapted *Daphnia pulex* genotypes **Nathan Keith** Indiana University

1943F Chloroplast Phylogenomics of the Genus *Morus L.* (Moraceae) **Madhav Nepal** South Dakota State University

1944S Cracking the *Drosophila* Eggshell: Identifying Genes Essential for UVB Sensitivity **Lillian Pennington** The University of Houston

1945S Conservation of the Regulatory Region and the Genes they Regulate within a Network **Chinmay Rele** The University of Alabama

1946S Diapause experience has lasting effects on post-diapause adult brain gene expression in monarch butterflies **Samuel Stratton** University of Michigan

1947S Investigating the non-homologous end joining (NHEJ) and single-strand annealing (SSA) pathways of DNA double-strand break (DSB) repair with single-allele resolution after CRISPR/Cas9 treatment in embryos of the Major Dengue Vector, *Aedes aegypti* **Joseph Romanowski** Texas A&M University

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1948S Using DNA metabarcoding to evaluate the diet of sea lamprey (*Petromyzon marinus*) in the Great Lakes **Conor O'Kane** Michigan State University

1949S Environmental DNA metabarcoding reveals community-wide patterns of aquatic invertebrate gene flow and genetic drift in Grand Canyon. **Jared Freedman** Oregon State University

1950S Comparative genomics identifies adaptive immune genes experiencing differential selection in Hawaiian honeycreepers with potential applications for conservation. **John Neddermeyer** Northern Arizona University

1951S Gene copy number promotes the rapid evolution of pests across Diptera **Dylan Padilla** School of Life Sciences, Arizona State University

Evo-Devo

1952T Comparative Single-Cell Transcriptomic Analysis in *C. elegans* and C. briggsae Embryos **Rupa Khanal** University of Pennsylvania

1953T Investigating the evolution of new body parts in the rapidly evolution genitalia of *Drosophila* **Gavin Rice** University of Pittsburgh

1954T Understanding cellular and molecular developmental mechanisms of ovariole number determination across Hawaiian *Drosophila* **Adriana Aguilar-Maldonado** Harvard University

1955T Characterization of Zebrafish Homologs of human P-gp and ABCG2 multidrug efflux transporters **Joanna Thomas** National Institutes of Health

1956T *Blimp1* is a pair-rule gene in the hemipteran *Oncopeltus fasciatus* **Katie Reding** University of Maryland, College Park

1957T The *PAX* genes of *Vanessa cardui*, the painted lady butterfly **Ximena Gutierrez-Ramos** University of Maryland

1958T An lncRNA master switch for pigmentation and adaptive color variation in butterflies **Arnaud Martin** The George Washington University

1959F Female-limited color dimorphism in the *Drosophila montium* species subgroup as a model to understand the molecular mechanisms of sex-limited polymorphism and evolution of dominance **Yuichi Fukutomi** UC Davis

1960F The spatiotemporal evolution of *dumpy* regulation in the rapidly diversifying *Drosophila* genitalia **Catarina Colmatti Bromatti** University of Pittsburgh

1961F Comparative analysis of *Drosophila* seminal fluid investment: Trade-offs and evolutionary diversification **Dylan Sims-West** Syracuse University

1962F Is *ftz* a pair-rule gene in *Tribolium*? **Sofia Lopez** University of Maryland - College Park

1963F Phylogenetic comparative approaches give insight into the ecological selective pressures acting on mammalian retinas **Emily Kopania** University of Pittsburgh

1964F Supergene evolution via allele-specific autoregulation **Nicholas VanKuren** University of Chicago

1965F Biodiversity genomics of asexual and anhydrobiotic nematodes in arid and hyper-arid environments **Philipp Schiffer** University of Cologne

1966F Evolutionary Origins and Developmental Repatterning of a Morphological Novelty, the Pronotal Helmet of Treehoppers **Savanna Brown** University of Connecticut

1967F The DNA Damage Response gene chk2 regulates reproductive asymmetry across insects **Arjuna Rajakumar** Whitehead Institute for Biomedical Research

1968S Characterizing actin structures during tube formation in *D. melanogaster* egg chambers **Luana Paleologu** University of Washington

1969S A genomic hotspot of diversifying selection and structural change in bats (Chiroptera) **Robert Cornman** U.S. Geological Survey

1970S Testing the function of the ebony gene in Oncopeltus fasciatus with CRISPR and RNAi **Veronika Valverde Jimenez** University of Maryland College Park

1971S Developmental transcriptomics in *Pristionchus* reveals the timing, responsiveness, and evolution of a plastic trait **Shelley Reich** University of Utah

1972S MSS-related family of glycoproteins in *Caenorhabditis* contribute to male sperm competitive fitness via unknown mechanisms **Asan Turdiev** University of Maryland

1973S Characterizing the composition and morphology of the germ plasm in the wasp *Nasonia vitripennis* **Allie Kemph** University of Illinois at Chicago

1974V The Evolution of fem-1 activity in Caenorhabditis **James Kennedy** Rowan GSBS

1975V Identification of changes in regulatory sequence underlying the gain of polka-dotted pigmentation pattern in *Drosophila guttifera* **Takumi Karasawa** Hokkaido University

1976V Identifying co-factors for TRA-1 activator function **Jibran Imtiaz** Rowan-Virtua STBES

1977V Evolution and Development of Egg Tooth Across Aminotes **Jingjing Wang** Life Science Institute, Zhejiang University

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1978T Adenylosuccinate alleviates mobility deficits associated with Adenylosuccinate Synthetase deficiency in *Caenorhabditis elegans* **Rishika Patil** The Pennsylvania State University

1979T Can an image of a pangenome help to predict drug resistance phenotypes in microbes? Meris Johnson-Hagler

Exhibitors

Exhibitor Information

GSA wishes to thank our fantastic group of exhibitor partners. Please be sure to visit the company representatives during the lunch break and poster sessions.

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Alliance of Genome Resources, 620, 622
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The Alliance of Genome Resources develops and maintains genome informatics resources that facilitate the use of diverse model organisms to investigate the genetic and genomic basis of human biology and disease. This understanding is fundamental for advancing genome biology research and for translating human genome data into clinical utility.

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The Bloomington *Drosophila* Stock Center and *Drosophila* Genomics Resource Center distribute, respectively, *Drosophila melanogaster* strains or DNA clones and cell lines. We also assist in maximizing use of these resources. Staff from both facilities will be present to answer questions and share more about exciting new resources and services.

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The IMPC is an international effort by 21 Institutions to identify the function of every protein-coding gene in the mouse genome. Every single gene in the mouse genome is knocked out and each mutant line is comprehensively phenotyped. Data are openly available to the scientific community on the IMPC website.

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National Institute on Aging, 634
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National Science Foundation, 424
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This booth is shared by the UniProt and Reactome knowledge resources. UniProt is the world's leading high-quality, comprehensive and freely accessible resource of protein sequence and functional information. Reactome is dedicated to high-quality curation of biological pathways and development of intuitive tools for dissemination of pathway

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info@tausci.com
www.tausci.com

Tau Scientific Instruments provides innovative laboratory tools for research on *C. elegans*, *Drosophila*, and other organisms. Our products include customized imaging and manipulation systems for high-throughput assays of animal behavior and aging. We are also the creators of the Self-Sterilizing Loop, a handheld, battery-operated tool for flame-free aseptic work with small organisms.

Tecniplast, 612, 614
info@techniplastusa.com
http://aquaticsolutions.it/index.php

Tecniplast has more than 70 years of experience in the design, manufacture and distribution of specialized housing products and related equipment for the laboratory animal industry. With headquarters in Europe and North America, and seven subsidiaries around the world, Tecniplast has everything that is required to serve the industry globally.

The Company of Biologists, 611
marketing@biologists.com
https://www.biologists.com/

The Company of Biologists is a not-for-profit publishing organisation dedicated to supporting and inspiring the biological community through scientific journals, meetings and grants. The Company publishes five specialist peer-reviewed journals: Development, Journal of Cell Science, Journal of Experimental Biology, Disease Models & Mechanisms and Biology Open.

The Jackson Laboratory, 505
miriam.ortiz@jax.org
www.jax.org

The Jackson Laboratory is an independent, nonprofit biomedical research institution with a National Cancer Institute-designated Cancer Center. Its mission is to discover precise genomic solutions for disease and empower the global biomedical community in the shared quest to improve human health. For more information, please visit www.jax.org.

Undiagnosed Diseases Network, 514
dmccresearchcore@wustl.edu
https://undiagnosed.hms.harvard.edu

The Undiagnosed Diseases Network (UDN) is a research study that is funded by the National Institutes of Health. Its purpose is to bring together clinical and research experts from across the United States to solve the most challenging medical mysteries using advanced technologies.

Union Biometrica, 511
sales@unionbio.com
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UniProt and Reactome, 623
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University of Missouri, 626
mmrrc@missouri.edu
https://mu-mmrrc.com/

Vienna Drosophila Resource Center (VDRC), 615
office@vdrc.at
https://www.viennabiocenter.org/vbcf/vienna-drosophila-resource-center/

The Vienna *Drosophila* Resource Center (www.vdrc.at) is a non-profit bioresource promoting scientific discoveries in *Drosophila*. We maintain over 30,000 transgenic fly stocks and distribute to the *Drosophila* research community worldwide. Additional services include private stock keeping, fly extract and fly food. Drop by to ask any questions and give feedback.

ViewPoint Behavior Technology, 411
https://www.viewpoint.fr/

ViewPoint Behavior Technology is a French company involved worldwide, for over 30 years, in health and environmental research, offering its customers state-of-the-art animal behavior analysis solutions. Keep the behavior of your model organism under close observation with multi-purpose devices and tracking applications.

WellGenetics Inc., 426
info@wellgenetics.com
https://wellgenetics.com/index.html

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Zantiks Ltd, 420
info@zantiks.comwww.zantiks.com

Zantiks produces affordable equipment to enable model organism behaviour to be measured simply. Zantiks units are fully integrated with a computer, software, camera and built-in stimuli to automate studies. Units are available in a range of sizes for Caenorhabditis elegans, *Drosophila*, Zebrafish (eggs, larvae, juveniles & adults), *Xenopus*, mice and rats.

Floorplans

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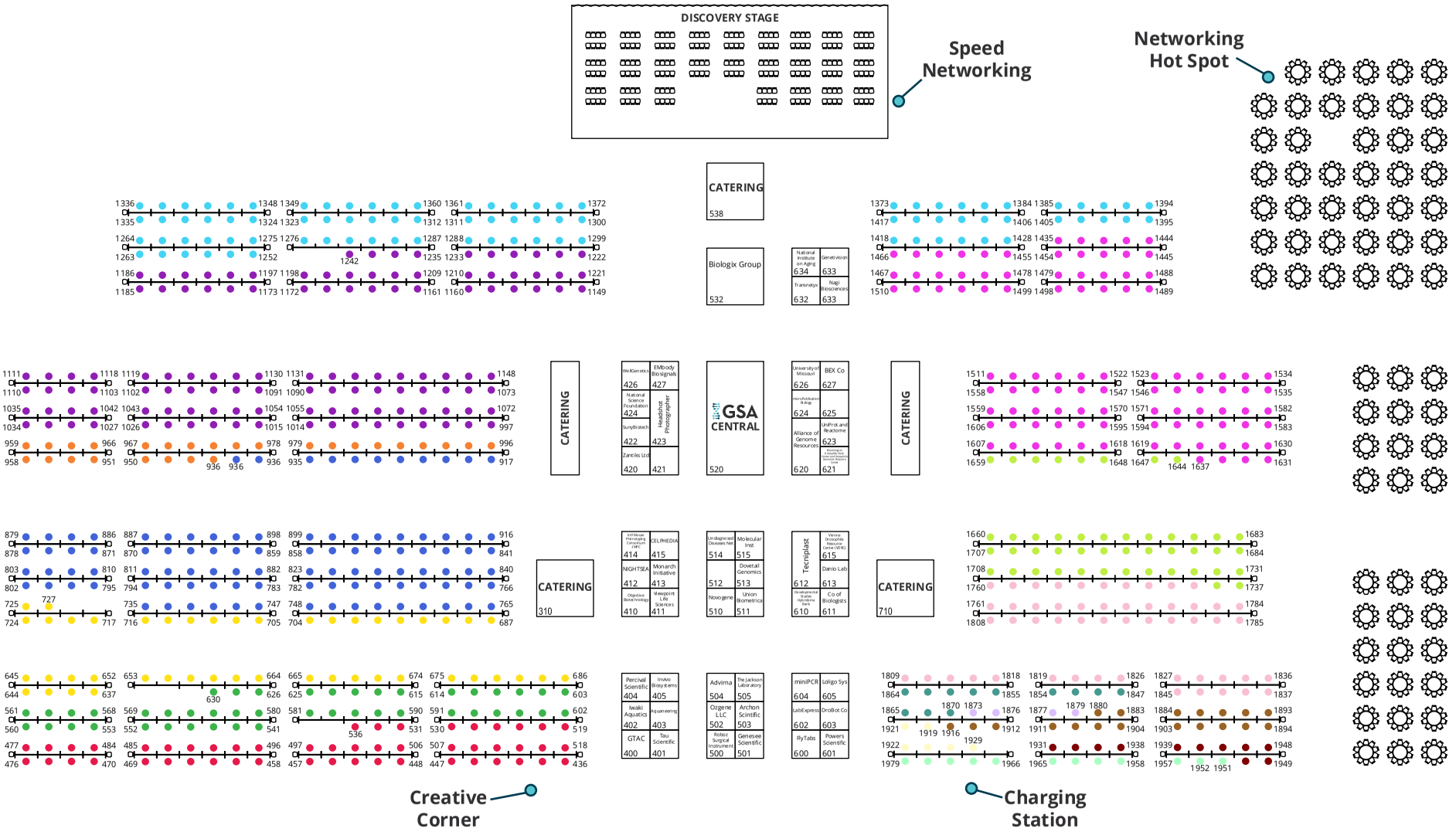
POSTER AND EXHIBIT HALL



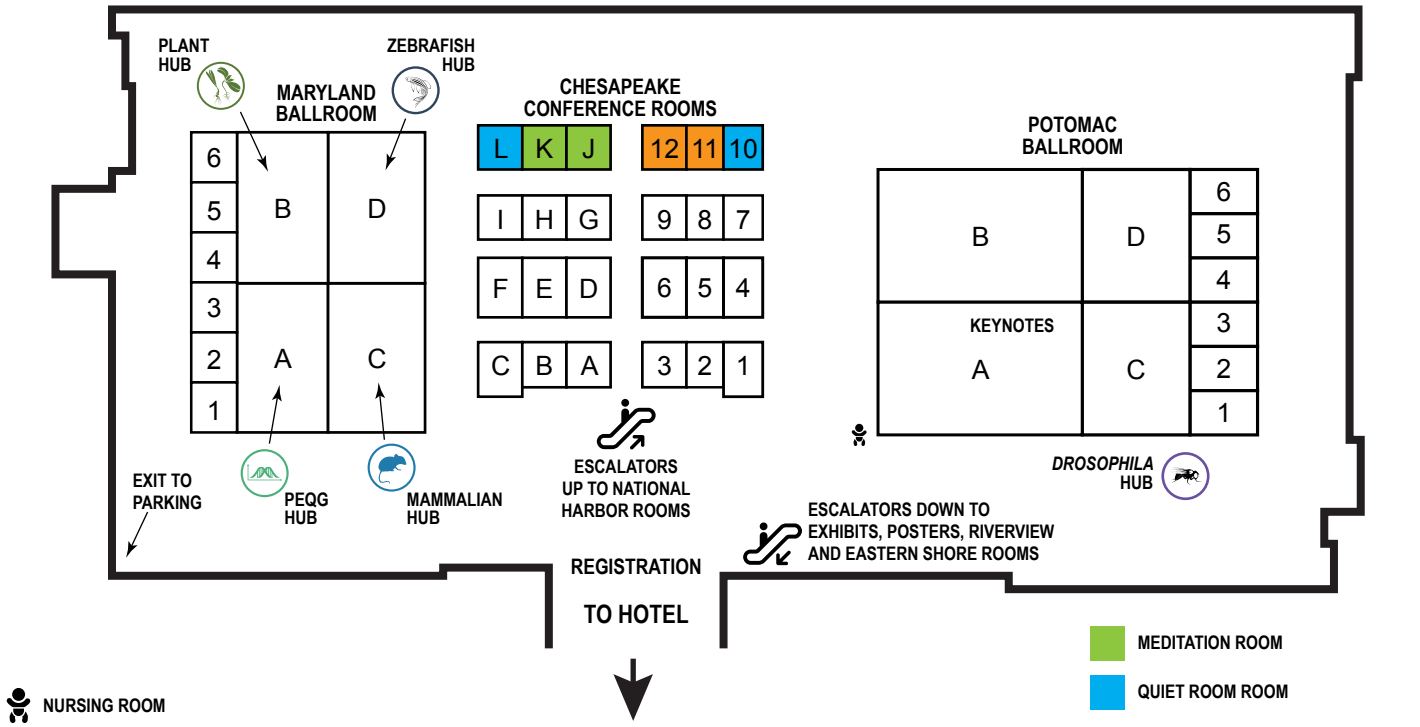
ENTRANCE

NURSING ROOM

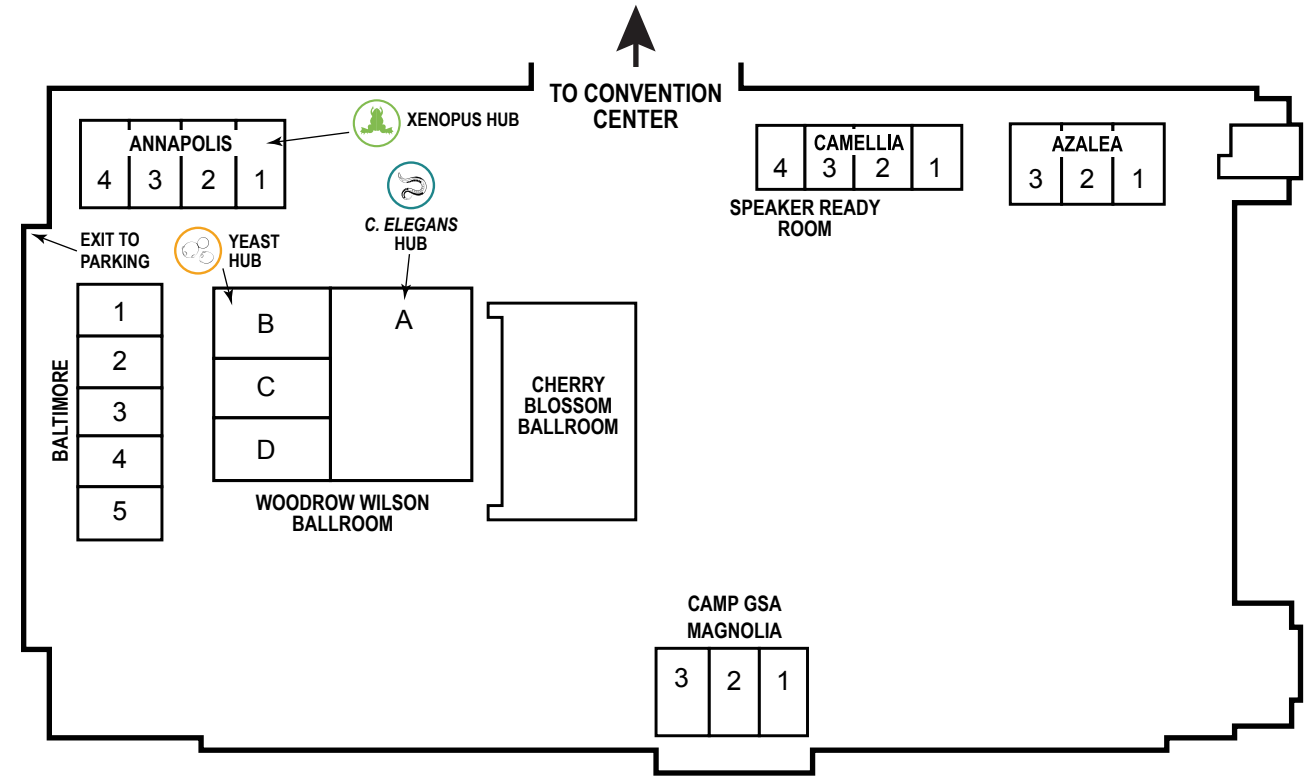
POSTER TOPICS

- Intracellular Dynamics
- Technology, Resources, and Tools
- Gene Regulation
- Genomes and Genomics
- Population and Evolutionary Genetics
- Quantitative Genetics
- Developmental Genetics
- Disease Models and Aging
- Chromosome Biology and Genome Integrity
- Neurogenetics
- Initiatives in Education and Diversity, Equity, and Inclusion
- Translational Approaches, Stem Cells and Organoids
- Sex Differences in Biology and Disease
- Agriculture, Aquaculture, and Livestock Genetics
- Ecological Genetics and Genomics
- Evo-Devo

BALLROOM LEVEL
CONVENTION CENTER



BALLROOM LEVEL - HOTEL



Property Map

COLOR LEGEND

- Lower Atrium
- Lobby Level
- Ballroom Level
- Resort Footprint

KEY

- Concierge
- Front Desk
- Valet
- Bus
- Taxi / Car Service
- Bell Services
- Restrooms
- Elevator
- Stairs
- Escalator
- Fedex Office Business Center

DINING, BARS, & LOUNGE

- Harbor Social
- Old Hickory Steakhouse
- Belvedere Lobby Bar
- Pose Rooftop Lounge
- Potomac District Café & Market

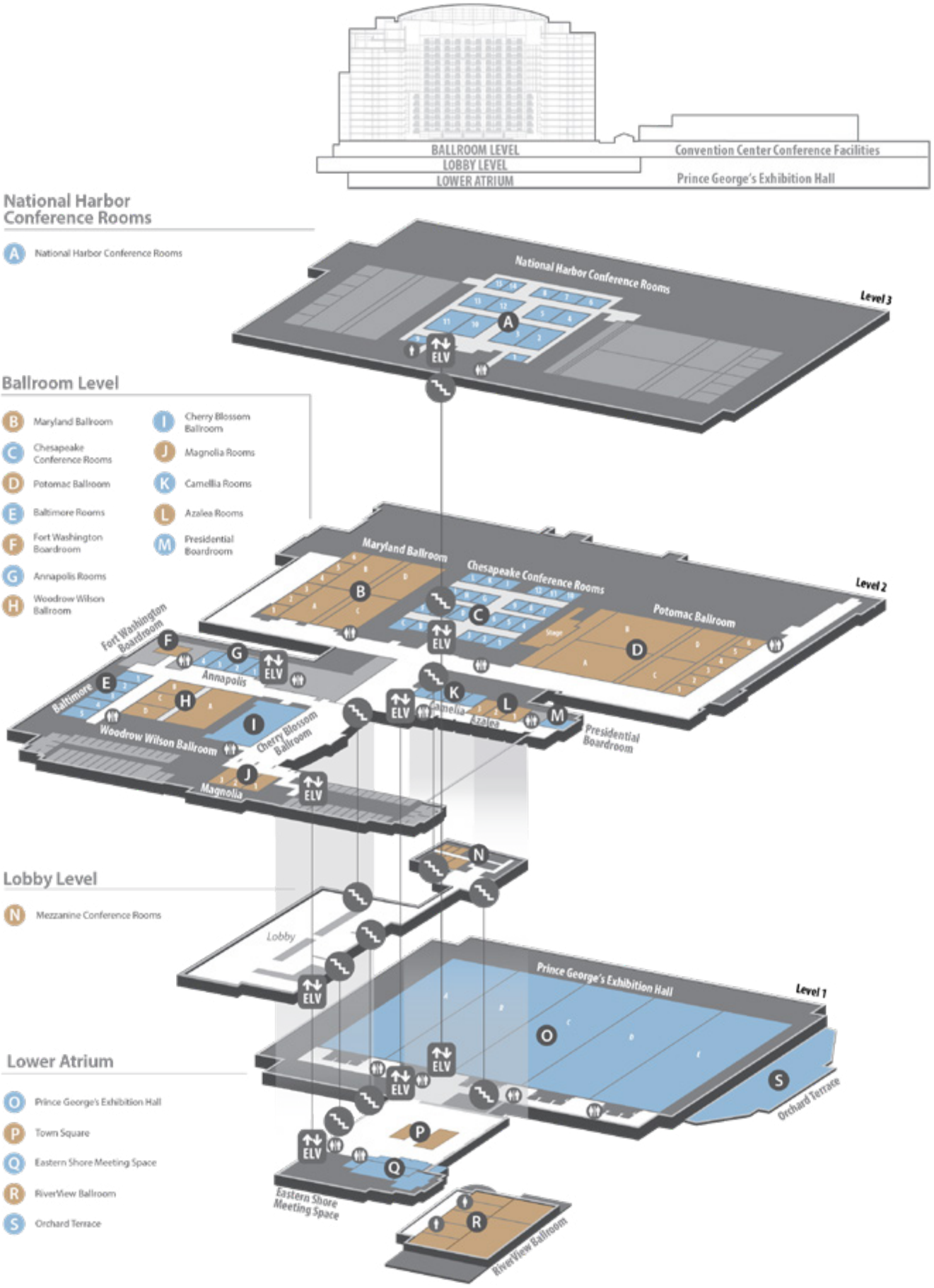
AMENITIES

- Relâche Spa & Salon
- Fitness Center (ELV2 to Level P)
- Pool (ELV2 to Level P)
- Potomac Play Zone (ELV2 to Level P)
- Gaylord Pier

SHOPPING

- Key Provisions News, Sundry & Gifts
- Paisley Accessories & More
- Relâche Boutique
- Strictly First Glass

Property Map



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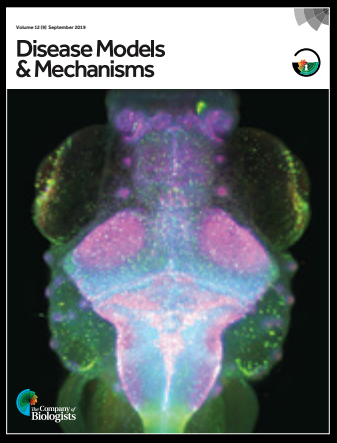

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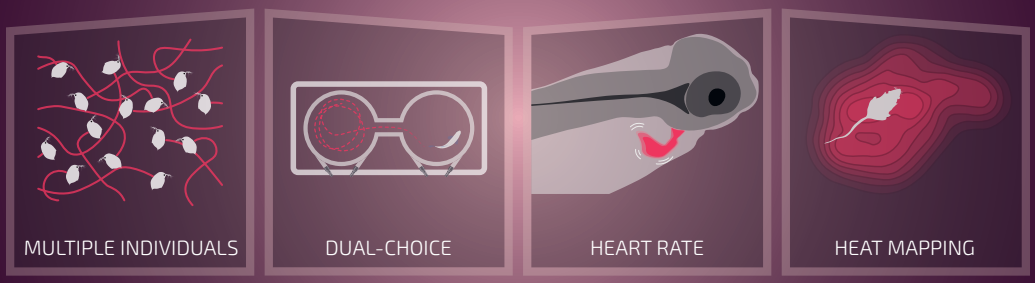

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