24th International C. elegans Conference

June 24-28, 2023 | Glasgow, Scotland

PROGRAM BOOK

GENETICS GSA G3 Genes | Genomes | Genetics

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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.

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

G3: Genes|Genomes|Genetics is an open access journal that publishes high quality, useful results regardless of perceived impact.

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General Information

Registration Desk and Badges

If you are attending in person, you received your registration badge in advance via email and should have printed it out. Badges will not be printed onsite. You can pick up your badge holder and lanyard at the conference registration desk located in the Forth Room in the Armadillo Building. For admission to the sessions, posters, exhibits, and reception, you must have your official conference badge. The information contained in the QR Code on your badge is your name, email, and institution. Exhibitors may ask your permission to scan your badge.

Registration Desk Schedule

Saturday, June 24	5:00 p.m.–9:00 p.m.
Sunday, June 25	7:30 a.m.–5:00 p.m.
Monday, June 26	8:00 a.m.–5:00 p.m.
Tuesday, June 27	8:15 a.m.–1:00 p.m.

You can download the Program Book and Abstract Book on the conference website or access all the information in the Conference App. Certificates of Attendance and Participation are available online.

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. Blackberry users and Windows Mobile Device users can access the App through the web desktop version available on the conference website.

Virtual participants: Virtual attendees will use the App to participate in the conference. 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).

Wi-Fi Access

Complimentary public Wi-Fi is available at the SEC. No password is required.

Speaker Ready Room for Oral Presenters

All speakers must come to the Speaker Ready Room in Etive Meeting Room, located on the ground level of the SEC, 24 hours before the start of your session to upload and review your presentation and become familiar with the equipment that will be used in the session room. You will not be able to use your own computer or upload your presentation in the session room. The speaker ready room will be open at the following times:

Saturday, June 24	4:00 p.m.–9:00 p.m.
Sunday, June 25	7:30 a.m.–6:00 p.m.
Monday, June 26	7:30 a.m.–6:00 p.m.
Tuesday, June 27	7:30 a.m.–6:00 p.m.
Wednesday, June 28	7:30 a.m.–11:00 a.m.

The day of your presentation, arrive 30 minutes before the start of your session (not your talk) and let the session chair know that you are there.

Poster Presentations

All poster authors have been invited to upload a pdf and audio overview of their poster. The electronic files will be available through the App.

To view a poster online, look for the “Virtual Poster” link near the bottom of each poster entry in the App. Please keep personal items with you at all times. GSA cannot be responsible for items left in the hall including but not limited to poster tubes, purses, backpacks, etc. All in-person posters will be located in Exhibit Hall 5 located on the ground level in the Scottish Event Campus (SEC). You must be wearing your official meeting badge to enter the exhibit and poster area. Poster presenters who are attending the conference in person have been assigned a presentation time according to the schedule below.

When you view poster materials during the conference, whether in person or via the Conference App, remember that posters are typically works in progress. Do not cite or reproduce any part of posters without the presenter’s permission.

Poster Session Schedule

Saturday, June 24	The virtual posters will not have a live poster presentation. View all the virtual posters while traveling to the meeting and leave comments for the authors in the App. Posters will be available until July 19.	
Sunday, June 25	All **A poster authors** will present. Posters can be displayed beginning at 11:30 a.m.	
	7:30 p.m.–8:30 p.m.	Even-numbered A posters
	8:30 p.m.–9:30 p.m.	Odd-numbered A posters
	9:30 p.m.–10:30 p.m.	Open Viewing
	10:30 p.m.	A posters must be removed
Monday, June 26	All **B poster authors** will present. Posters can be displayed beginning at 11:30 a.m.	
	7:30 p.m.–8:30 p.m.	Even-numbered B posters
	8:30 p.m.–9:30 p.m.	Odd-numbered B posters
	9:30 p.m.–10:30 p.m.	Open Viewing
	10:30 p.m.	B posters must be removed
Tuesday, June 27	All **C poster authors** will present. Posters can be displayed beginning at 11:30 a.m.	
	1:00 p.m.–2:00 p.m.	Even-numbered C posters
	2:00 p.m.–3:00 p.m.	Odd-numbered C posters
	3:00 p.m.–4:00 p.m.	Open viewing
	4:00 p.m.	C Posters must be removed

Viewing Sessions Online

Remote attendees can view sessions via the Online Planner: In-person attendees also have access to the live stream sessions using their log in information.

Plenary and Concurrent Sessions—Registrants will access live sessions through the App. Five minutes before a session starts, log in using your registration badge ID number and last name. Tap the "Join Webinar" button on the session. The Join Webinar button will be visible five minutes before the start of the session. A recording of each session will be available in the session listings on the App within 24 hours after the session ends. The recordings will be available until July 19.

Poster Sessions—PDFs and audio overviews of all of the posters will be available via the App from June 23 through July 19.

Workshops held during June 24–28 are not being live streamed.

Contacting Presenters

Oral Sessions: In each session, before the listing of speakers, use the "Contact the speaker(s) for this session" field to send a question to the speakers via email. If multiple speakers are in the session, all of them will receive your email. You can also leave a comment in the "Join the Discussion" field at the bottom of the session listing, which all attendees can see, or direct message them. To Direct Message, go to the attendee tab, click on the name and then tap on the message icon right above their name.

Poster Sessions: At the bottom of each poster listing, enter a comment in the "Join the Discussion" field to give the author feedback or ask questions. You can also direct message them by going to the attendee tab, click on their name and then tap on the message icon right above their name.

Presenting Author Index

To search for specific oral and poster presenters, please use the search function in the Conference App.

Community Postings

Individuals and institutions offering or seeking employment and organizers of meetings may post notices and resumes on the "Community Notices" bulletin board in the Poster Sessions in Exhibit Hall 5.

Meals

Meals are not included in the conference registration fee. If you purchased the optional daily lunch package or Conference Dinner on Tuesday night, tickets will be part of your badge that you print in advance. Be prepared to present the ticket to the server for each meal. Lunch will be served in Exhibit Hall 5.

The Conference Dinner will be held at Merchant Square. Walking and public transportation maps, and instructions are available in the Conference App. Upon arriving at Merchant Square you will redeem the ticket attached to your badge for a ticket that will enable you to get drinks and your main course.

For those that did not purchase a lunch plan or the conference dinner, there are many dining options within walking distance of the SEC.

Lost and Found

Lost property is managed from the SEC Information Desk on the concourse.

Nursing Room

A family room is available in M2 Meeting Room located on the first level of the SEC.

Exhibits

Biovirid B.V.

info@biovirid.com

www.biovirid.com

Biovirid (former LabTIE/MolGen) offers standardized and high-quality *C. elegans* nutrition in the form of freeze-dried OP50 and HB101 used to feed live e.coli cells to C. elegans on Agar or in liquid culture. Their focus is to ensure consistency and reproducibility in research. Additionally, Biovirid is currently offering samples for researchers to try their products and experience the benefits of their high-quality nutrition.

Embody Biosignals

c.james@warwick.ac.uk

embody-biosignals.co.uk

EMbody is about the development of fast, intelligent and automatic diagnostic systems. TrakBox is a low cost tracking system to track worms, for long periods of time, and to automatically analyse and report on their behavior; AutoEPG automatically detects the presence of “pumps” in electropharyngeal recordings in *C. elegans*.

Genetics Society of America

ruth.isaacson@
thegsajournals.org

genetics-gsa.org

Come explore the resources and opportunities that GSA has to offer; meet members of the GSA staff and leadership; and find out about publishing in GENETICS and G3: Genes|Genomes|Genetics..

microPublication Biology

daniela.raciti@
micropublication.org

www.wormbase.org

WormBase is the authoritative knowledgebase for *C. elegans* biology and related nematodes and a founding member of the Alliance of Genome Resources. microPublication Biology is a peer-reviewed, open-access journal that publishes single experiment results, which are curated directly into collaborating community databases. Come visit the booth for demos and answers!

info@nagibio.ch

https://nagibio.ch/

Nagi Bioscience

Nagi Bioscience introduces cutting-edge laboratory equipment enabling end-to-end automation of the entire process of culture, treatment, imaging, and analysis of *C. elegans* experimentation, providing high-content data of the development, reproduction, behavior and aging of the worms at unprecedented levels of reproducibility and scalability.

info@nemasync.com

www.nemasync.com

NemaSync

The *C. elegans* Synchronizer (CES) is a manual worm Synchronizer that allows you to achieve near absolute synchronization in your L1 harvest with no bleach or chemicals and with little or no training required. You get healthy worms while increasing the reproducibility of your data.

service@sunybiotech.com

www.sunybiotech.com

SunyBiotech

As a widely recognized company, SunyBiotech focus on precise *C. elegans* genome editing with high efficiency and quality. Our lab has registered in CGC with “PHX” as strain code and “syb” as allele code. So far, we have collaborated with more than 600 labs over the world. 6000+ strains were delivered, from which 400+strains have been cited by clients in 100+ papers.

sales@unionbio.com

www.unionbio.com

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Union Biometrica COPAS FP™, BioSorter® and COPAS Infinity™ Large Particle Flow Cytometers automate analysis and sorting of objects too big/fragile for traditional cytometers, e.g., large cells/clusters, cells in/on beads and small model organisms (2-1500 micron diameter). The COPAS VISION™ cytometer adds brightfield image capture on the fly for convenient identification of objects.

gina.lento@vivoverse.com

www.vivoverse.com

vivoVerse, Inc

vivoVerse develops high-resolution imaging platforms for *C. elegans* studies. The vivoChip system can gently immobilize and orient worms for short- or long-term imaging. vivoVerse’s latest product, vivoScreen, provides a complete platform with an inverted microscope, automation software, and all instruments necessary to perform high-throughput, high-content imaging of *C. elegans*.

daniela.raciti@
micropublication.org

www.microPublication.org

WormBase

WormBase is the authoritative knowledgebase for *C. elegans* biology and related nematodes and a founding member of the Alliance of Genome Resources. microPublication Biology is a peer-reviewed, open-access journal that publishes single experiment results, which are curated directly into collaborating community databases. Come visit the booth for demos and answers!

Conference Policies

Code of Conduct

The Genetics Society of America 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 meeting, including but not limited to meeting rooms, the exhibit/poster hall, meeting areas in the official conference venue, and social events provided by the meeting or vendors.

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, disability or ability status, or other personal characteristics, including those protected by law
- Inappropriate use of nudity and/or sexual images in public spaces (including presentation slides and posters)
- Deliberate intimidation, stalking, or following
- Violating the rules and regulations of the conference hotel
- Sustained disruption of scientific sessions or other events
- Unwelcome and uninvited attention or contact
- Physical assault (including unwelcome touching or groping)
- Real or implied threat of physical harm
- Real or implied threat of professional or financial damage or harm
- Harassing or unwanted photography
- Photographing slides of oral presentations and posters without permission
- Recording of scientific and other sessions without permission

Taking action or making a report

Need to file a complaint? For instructions on how to confidentially report a Code of Conduct violation, please visit genetics-gsa.ethicspoint.com. In addition, GSA staff is available to assist participants in contacting our Ethics Committee to make a report. Please email Tracey DePellegrin, GSA Executive Director, at tracey.depellegrin@genetics-gsa.org.

Consequences of non-compliance

Anyone asked by GSA staff, a 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 accessing the online meeting without warning
- Restrictions from future GSA meeting attendance
- Termination of GSA membership or positions on GSA Boards or Committees
- Reporting the incidentIncidents 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.

Diversity and Inclusion

GSA is committed to promoting equality, diversity, and inclusion to create greater opportunity for any individual to fulfill their scientific potential, irrespective of their background, gender, or circumstances. This diversity leads to innovation by attracting the widest possible talent to the community and fostering a greater diversity of ideas, approaches, and perspectives. The Organizing Committee aims to select speakers and session chairs that represent the breadth and diversity of the discipline and conference participants. GSA especially encourages the Committee to select excellent speakers from t. For more on GSA's Vision for Inclusive Conferences, please visit our website.

Social Media/Photo/Video Policy

Live tweeting of presentations 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, name, and likeness for use in GSA educational, news, or promotional materials.

Schedule of Events

Wednesday, June 21, 2023		
3:00 p.m.—4:30 p.m.	NSF101- Demystifying and personalizing the National Science Foundation	Online
5:00 p.m.—6:30 p.m.	Careers in Academia	Online
7:00 p.m.—8:00 p.m.	Virtual Networking	Online
Thursday, June 22, 2023		
1:00 p.m.—2:00 p.m.	Career Exploration Panel	Online
6:30 p.m.—7:30 p.m.	Multilingual Networking	Online
Saturday, June 24, 2023		
11:00 a.m.—12:30 p.m.	GSA Conference Success Tips and Professional Development Opportunities	Dochart Meeting Room
2:00 p.m.—5:00 p.m.	6th Parasitic Nematodes: Bridging the Divide Workshop	Carron Meeting Room
2:00 p.m.—5:00 p.m.	Teaching Workshop	Dochart Meeting Room
4:00 p.m.—9:00 p.m.	Speaker Ready Room	Etive Meeting Room
5:00 p.m.—9:00 p.m.	Registration	Forth Meeting Room
6:45 p.m.—9:00 p.m.	**Welcome and Plenary Session 1** Sponsored by Disease Models and Mechanisms	Clyde Auditorium

9:00 p.m.—10:00 p.m.	Civic Reception hosted by The Rt Hon Lord Provost of Glasgow	Glasgow Science Centre
Sunday, June 25, 2023		
7:30 a.m.—5:00 p.m.	Registration	Forth Meeting Room
7:30 a.m.—6:00 p.m.	Speaker Ready Room	Etive Meeting Room
8:30 a.m.—11:30 a.m.	Concurrent Session I	
	Cytoskeleton, mitosis, meiosis	Alsh Meeting Room
	RNAi, small RNA, and epigenetics	Clyde Auditorium
	Circuits, computation, & techniques	Lomond Auditorium
	Cellular and organismal growth, morphogenesis and signaling	Boisdale Meeting Room
11:30 a.m.—1:00 p.m.	Lunch for pre-purchased ticket package	Exhibit Hall 5
11:45 a.m.—12:45 p.m.	GSA Journals Editors Lunch (invitation only)	Dochart Meeting Room
1:00 p.m.—2:30 p.m.	Workshops I	
	Live Metabolism Imaging Strategies in C. elegans	Lomond Auditorium
	So you want to record whole-brain activity...	Boisdale Meeting Room
	Analyze RNA sequencing data without writing a single line of code: a hands-on workshop with RNAlysis	Clyde Auditorium
	WormBase and Alliance of Genome Resources, 2023: Data, tools and cross-species comparisons	Alsh Meeting Room
3:00 p.m.—6:00 p.m.	Plenary Session 2	Clyde Auditorium
6:00 p.m.—7:30 p.m.	Dinner (on own)	
7:30 p.m.—10:30 p.m.	Poster Session A/Exhibits/Art Show	Exhibit Hall 5

9:30 p.m.—10:30 p.m.	Networking Hotspots	Exhibit Hall 5
Monday, June 26, 2023		
7:30 a.m.—6:00 p.m.	Speaker Ready Room	Etive Meeting Room
8:00 a.m.—5:00 p.m.	Registration	Forth Meeting Room
8:30 a.m.—11:30 a.m.	Concurrent Session II	
	Metabolism, pathogenesis and new technologies	Boisdale Meeting Room
	Ecology and evolution of hosts and microbes	Alsh Meeting Room
	Gene regulation, genomics, and emerging genetic technologies	Clyde Auditorium
	Sleep, stress, and microbiomes	Lomond Auditorium
11:30 a.m.—1:00 p.m.	Lunch for pre-purchased ticket package	Exhibit Hall 5
1:00 p.m.—2:30 p.m.	Workshops II	
	Beyond EM: Optical tools to visualize ultrastructure	Lomond Auditorium
	So you have whole-brain traces, now what?	Boisdale Meeting Room
	Spotlight on the nuclear envelope: insights from the worm	Alsh Meeting Room
	Expanding the worm model repertoire	Clyde Auditorium
3:00 p.m.—6:00 p.m.	Plenary Session 3 and Keynote Address	Clyde Auditorium
6:00 p.m.—7:30 p.m.	Dinner (on own)	
7:30 p.m.—10:30 p.m.	Poster Session B/Exhibits/Art Show	Exhibit Hall 5

9:30 p.m.—10:30 p.m.	Networking Hotspots	Exhibit Hall 5
Tuesday, June 27, 2023		
7:30 a.m.—6:00 p.m.	Speaker Ready Room	Etive Meeting Room
8:15 a.m.—1:00 p.m.	Registration	Forth Meeting Room
8:30 a.m.—11:30 a.m.	**Concurrent Sessions III**	
	Developmental regulation of gene expression and cell division	Clyde Auditorium
	Intracellular trafficking, organelles, cell polarity	Alsh Meeting Room
	Aging and stress	Boisdale Meeting Room
	Neuronal cell biology, degeneration, & behavior	Lomond Auditorium
11:30 a.m.—1:00 p.m.	Lunch for pre-purchased ticket package	Exhibit Hall 5
1:00 p.m.—4:00 p.m.	Poster Session C/Exhibits/Art Show	Exhibit Hall 5
3:00 p.m.—4:00 p.m.	Networking Hotspots	Exhibit Hall 5
4:15 p.m.—5:45 p.m.	**Workshops III**	
	Advances in volumetric EM in *C. elegans*	Lomond Auditorium
	C. elegans as a platform for whole animal synthetic biology	Clyde Auditorium
	The way of the microbes: tools and resources for microbiome research	Boisdale Meeting Room
	GSA Publishing Workshop	Dochart Meeting Room

7:00 p.m.—10:00 p.m.	**Conference Dinner (optional, pre-purchased ticket) Sponsored by Magnitude Biosciences**	**Merchant Square**
Wednesday, June 28, 2023		
7:30 a.m.—11:00 a.m.	**Speaker Ready Room**	**Etive Meeting Room**
8:45 a.m.—9:15 a.m.	**Worm Art Show Awards and GSA Poster Prizes**	
9:15 a.m.—11:30 a.m.	**Plenary Session 4**	**Clyde Auditorium**

Oral Presentation and Workshop Session Listings

Saturday, June 24, 2023

6:45 p.m.–9:00 p.m.
Clyde Auditorium

Welcome and Plenary Session 1

Sponsored by *Disease Models and Mechanisms*

Session Chairs
Judith Yanowitz University of Pittsburgh/MWRI); and Shay Stern Technion

6:45 p.m. Welcome from the RT. Hon. Lord Provost of Glasgow

6:50 p.m. GSA welcome **Barbara Conradt** and **Piali Sengupta**

6:55 p.m. GSA Journals welcome **Howard Lipshitz**

7:00 p.m. Opening remarks from Organizers **Miriam Goodman** and **Sander van den Heuvel**

7:05 p.m. Exploring how the genome directs development. **Julie Ahringer** University of Cambridge

1 7:35 p.m. Deciphering mechanisms of centriole elimination during oogenesis **Alexander Woglar** EPFL

2 7:47 p.m. Determining the mechanism of Kinesin-1 dependent translocation of the meiotic spindle to the cortex **Alma Martinez Peraza** University of California, Davis - Davis, CA

3 7:59 p.m. Repurposing the Chromosome-Microtubule Coupling Machinery as a “Tuner” of Actin for Dendritic Branching. **Dhanya Cheerambathur** University of Edinburgh

4 8:11 p.m. Endocytosis in the axon initial segment maintains neuronal polarity **Kelsie Eichel** Stanford University

5 8:23 p.m. A brain-to-gonad-to-embryo adrenergic signaling relay controls intergenerational transfer of temporal learning ability **Eugene L.Q. Lee** HHMI, Dept. Biology, MIT

6 8:35 p.m. Nematode extracellular protein interactome expands connections between signaling receptors and ligands **Viola Nawrocka** The University of Chicago

7 8:47 p.m. Caenorhabditis Genetics Center **Aric Daul** Univ of Minnesota

8 8:53 p.m. Critical update on WormBase **Paul Sternberg** California Institute of Technology

Sunday, June 25, 2023

8:30 a.m.–11:30 a.m.
Boisdale Meeting Room

Cellular and organismal growth, morphogenesis and signaling

Session Chairs
Patrick Narbonne Universite du Quebec Trois-Rivieres; and Suzan Ruijtenberg Utrecht University

9 8:30 a.m. Coupling of growth rate and developmental tempo reduces body size heterogeneity *in C. elegans* **Benjamin Towbin** University of Bern

10 8:42 a.m. Innexins and Enac channels coordinate muscle activity in embryos to stimulate body elongation **Flora Llense** Sorbonne Université, IBPS, CNRS UMR7622

11 8:54 a.m. The *C. elegans* "hibernation" **Yanwu Guo** Department of Biosciences, Faculty of Mathematics and Natural Sciences, University of Oslo

12 9:06 a.m. How does starvation promote cellular plasticity during Y-to-PDA transdifferentiation? **Julien Lambert** IGBMC

13 9:18 a.m. Pulling or Pushing? Revisiting the mechanics of *C. elegans* gonad morphogenesis **Priti Agarwal** Tel Aviv University

14 9:30 a.m. EXC-4 CLICs into signaling: defining the conserved function of chloride intracellular channels in Gα-Rho/Rac signaling **Daniel Shaye** University of Illinois at Chicago - College of Medicine

15 9:42 a.m. *C. elegans* SMOC-1 interacts with both BMP and glypican to regulate BMP signaling **Jun Liu** Cornell University

9:54 a.m. Coffee break in Exhibit Hall 5

16 10:18 a.m. AMPK regulates a miRNA-based signal that instructs germ cell quiescence through the release of neuronal extracellular vesicles **Chris Wong** McGill University

17 10:30 a.m. Distinct heparan sulfate modification patterns control proliferation and differentiation of germline stem cells in *Caenorhabditis elegans* **Andrea Carranza** Biomedicina Molecular, Celular y Genómica, Fundación para la Investigación Sanitaria La Fe de Valencia

18 10:42 a.m. DAF-18 prevents oocyte wastage in spermless hermaphrodites through activating calcium signaling and contractility in the spermatheca neck **Jichao Deng** Université du Québec à Trois-Rivières

19 10:54 a.m. A sensory cilium mediates specific neuron-glia attachment **Leland Wexler** Boston Childrens Hospital

20 11:06 a.m. Loss of sensory dendrite cilia is detected by surrounding glia via neuron/glia protein pair DGS-1/ FIG-1 **Katherine Varandas** The Rockefeller University

21 11:18 a.m. Apoptotic trigger *egl-1* regulates mitochondria dynamics to promote exophers to maintain neuronal health and function **Zheng Wu** The University of Texas at Austin

Sunday, June 25, 2023

8:30 a.m.–11:30 a.m.
Alsh Meeting Room

Cytoskeleton, mitosis, meiosis

Session Chairs
Kenji Sugioka University of British Columbia, Canada; and Anne-Cécile Reymann IGBMC, France

35 8:30 a.m. The cortical microtubule regulator EFA-6 forms spatially restricted condensates dependent on its intrinsically disordered region and interactions with tubulins **Anjali Sandhu** University of California

36 8:42 a.m. A new methyl-mark regulating neuronal function "written" on microtubules by the histone methyltransferase NSD3/MES-4 **Edward Pietryk** Baylor College of Medicine

37 8:54 a.m. LIN-5 (NuMA) regulates cytokinesis furrow formation independent of its role in spindle positioning **Kuheli Adhikary** Indian Institute of Science

38 9:06 a.m. Force-generation in the cytokinetic ring aligns the AB cell division with egg shell geometry **Teije Middelkoop** Institute of Molecular Genetics of the Czech Academy of Sciences

39 9:18 a.m. Microtubule force generators govern spindle orientation in mitotic *C. elegans* germ cells **Reda M. Zellag** Université de Montréal

40 9:30 a.m. Phosphorylation of ZYG-1 at Multi-Sites Regulates ZYG-1 Stability and Centrosome Number **Mi Hye Song** Oakland University

41 9:42 a.m. PCMD-1 bridges the centrioles and the PCM scaffold **Tamara Mikeladze-Dvali** Biozentrum der LMU

9:54 a.m. Coffee break in Exhibit Hall 5

42 10:18 a.m. The interkinesis envelope is a novel organelle that covers chromosomes in *C. elegans* oocytes **Layla El Mossadeq** Université de Paris Cité, CNRS, Institut Jacques Monod, F-75013 Paris, France

43 10:30 a.m. Sexually dimorphic regulation of meiotic recombination by the *C. elegans* synaptonemal complex proteins **Cori Cahoon** University of Oregon

44 10:42 a.m. The C-terminus of SYP-4 regulates crossover formation in *C. elegans* meiosis **Simone Köhler** EMBL

45 10:54 a.m. PLK-1/Polo-like kinase is required to protect apicobasal polarity during mitosis in intestinal epithelia **Maria Sallee** Stanford University

46 11:06 a.m. Intermediate filament network perturbation in the *C. elegans* intestine causes systemic dysfunctions **Florian Geisler** Institute of Molecular and Cellular Anatomy, RWTH Aachen University, Aachen, Germany

47 11:18 a.m. More than a loading control: actin form and function during aging. **Ryo Higuchi-Sanabria** University of Southern California

Sunday, June 25, 2023

8:30 a.m.–11:30 a.m.
Clyde Auditorium

RNAi, small RNA, and epigenetics

Session Chairs
Teresa Lee University of Massachusetts Lowell, United States; and Marco Mangone Arizona State University

48 8:30 a.m. AMPK determines small RNA pathway prevalence though Dicer reallocation to enhance microRNA synthesis and mediate soma-to-germ line communication **Elena Jurczak** McGill University

49 8:42 a.m. The role of chromatin factors in small-RNA-mediated, germline gene expression in *C. elegans* **Mindy Clark** Johns Hopkins University

50 8:54 a.m. Genetic conflict and piRNAs drive the evolution of parent-of-origin gene expression **Alejandro Burga** IMBA

51 9:06 a.m. Genetic interaction screens reveal functional relationships between constitutive heterochromatin, the nucleolus, and the integrated stress response **Roopali Pradhan** The Gurdon Institute, University of Cambridge

52 9:18 a.m. Histone H2A mono-ubiquitylation functions independently of Histone H3K27-trimethylation to regulate embryonic enhancers **Kailynn MacGillivray** University of Toronto

53 9:30 a.m. E3 ubiquitin ligase ZSWIM8/EBAX-1 regulates microRNAs in a seed-dependent manner **Acadia Grimme** National Institutes of Health

54 9:42 a.m. Lipid kinase PPK-1/PIP5K1A regulates microRNA biogenesis through interacting with nuclear export protein XPO-1/XPO5 **Chun Li** BIDMC/Harvard Medical School

9:54 a.m. Coffee break in Exhibit Hall 5

55 10:18 a.m. tRNA-fragments in sperm regulate post-fertilization embryonic gene expression and offspring phenotypes **Colin Conine** University of Pennsylvania Perelman School of Medicine and Children's Hospital of Philadelphia

56 10:30 a.m. N-terminal processing of Argonaute proteins affects epigenetic inheritance **Ida Isolehto** Institute of Molecular Biology

57 10:42 a.m. Nucleus-Independent Transgenerational RNAi inheritance in *C. elegans* **Itai Rieger** Tel Aviv University

58 10:54 a.m. Unbiased forward genetics reveals novel mechanisms of transgenerational inheritance **Shiela Pearl Quiobe** Max Planck Institute for Biology

59 11:06 a.m. P bodies coat germ granules to promote transgenerational gene silencing in *C. elegans* **Donglei Zhang** Huazhong University of Science and Technology

60 11:18 a.m. Analysis of WAGO-1(Y613E) reveals specialization of GLH paralogs for promoting Argonaute loading and localization within nuage **Humberto Ochoa** University of Massachusetts Medical

Sunday, June 25, 2023

8:30 a.m.–11:30 a.m.
Lomond Auditorium

Circuits, computation, & techniques

Session Chairs
Monika Scholz Max Planck Institute for Neurobiology of Behavior and Vivek Venkatachalam Northeastern University, USA

22 8:30 a.m. Integration of spatially opposing cues by a single interneuron guides decision making in *C. elegans* **Asaf Gat** Weizmann institute of science

23 8:42 a.m. Resolving sensorimotor integration mechanisms of the RIA interneuron using a custom built microscope for calcium imaging in freely moving *C. elegans* (WormSpy) **Sebastian Wittekindt** McGill

24 8:54 a.m. Coordination of head and body movement by electrically coupled interneurons AVG and RIF promotes roa.m.ing behavior **Tosif Ahamed** Lunenfeld-Tanenbaum Research Institute

25 9:06 a.m. A command neuron in *C. elegans* orchestrates multiple motor outputs through parallel modes of transmission **Yung-Chi Huang** Massachusetts Institute of Technology

26 9:18 a.m. Using *C. elegans* to identify the GPCR targets of valproic acid, an anticonvulsant and mood-stabilizing drug **Lucero Rogel-Hernandez** Stanford University

27 9:30 a.m. An inter-tissue feedback signal that couples muscle activity to gluta.m.ate receptor trafficking in distal upstrea.m. interneurons **Bethany Rennich** Tufts Graduate School of Biomedical Sciences

28 9:42 a.m. Conflict during learning reconfigures the neural representation of positive valence and approach behaviour **Laura Molina-Garcia** University College London

9:54 a.m. Coffee break in Exhibit Hall 5

29 10:18 a.m. Distributed encoding of motor commands mediates response to environmental confinement and escape from predators **Ita.m.ar Lev** University of Vienna

30 10:30 a.m. A Data Modelling Fra.m.ework for Functional Annotation of the *Caenorhabditis elegans* Connectome **Sharan Prakash** California Institute of Technology

31 10:42 a.m. A genetic toolkit for measuring functional connectome in *Caenorhabditis elegans* **Anuj Sharma** Princeton University

32 10:54 a.m.

Neural signal propagation atlas of *C. elegans* reveals that extrasynaptic signaling contributes to brain dynamics **Sophie Dvali** Princeton University

33 11:06 a.m. Influenceability and predictability of *C. elegans* action selection through closed-loop interrogation **Raymond Dunn** University of California, San Francisco

34 11:18 a.m. Towards routine reconstruction of *C. elegans* connectomes, cell states, and cell types, through optimized expansion microscopy **Yangning Lu** Massachusetts Institute of Technology

Sunday, June 25, 2023

1:00 p.m.–2:30 p.m.
Clyde Auditorium

Analyze RNA sequencing data without writing a single line of code: a hands-on workshop with RNAlysis

RNA sequencing is a widely used investigative tool for biologists, allowing researchers to understand transcriptional states and changes under different conditions, tissues, or developmental stages. This is especially relevent to nematode researchers, owing to extensive genomic annotations, gene knock-down/knock-out systems, and curated sequencing datasets available. RNA sequencing data analysis typically requires researchers to possess three different skillsets: 1) an understanding of biology is needed to design the experiment and interpret the data correctly; 2) familiarity with analysis methods, statistics, and common pitfalls is necessary to obtain reliable and meaningful results; 3) the ability to read and write computer code is often required to carry out the analysis. To address the last challenge, we have developed the free and open-source software "RNAlysis", which allows researchers to analyze RNA sequencing data from start to finish without writing a single line of code. At the same time, RNAlysis offers advanced analysis methods that were developed especially for analyzing RNA sequencing data, such as advanced clustering methods specially suited for time-series gene expression data, or RNA sequencing data with biological replicates. The goal of this workshop is to introduce the *C. elegans* community to this tool and provide an opportunity for researchers to learn about RNA sequencing analysis methods – in particular, expanding their familiarity with transcriptomics analysis methods, and improve their proficiency in designing RNA sequencing experiments.

Agenda

1:00 p.m. Guy Teichman, Tel Aviv University, design your sequencing experiment and avoid common pitfalls

1:30 p.m. Hila Gingold, Tel Aviv University, downstream analysis of gene expression data

1:45 p.m. Guy Teichman, Tel Aviv University, a hands-on demo of RNA-seq analysis

2:15 p.m. Discussion and questions

Sunday, June 25, 2023

1:00 p.m.–2:30 p.m.
Lomond Auditorium

Live Metabolism Imaging Strategies in *C. elegans*

Metabolism is spatially and temporally compartmentalized across different cellular compartments, cell types, stages, and conditions. The complex regulation of metabolism is not well understood in any animal. Imaging metabolic processes in intact individual cells using optical sensors in *C. elegans* has the potential to reveal core mechanisms underlying the systemic control of metabolism. Designing and implementing genetically-encoded optical sensors for metabolites is, however, challenging. It is difficult to design specific and robust optical sensors with a high signal-to-noise ratio and tools established in other systems often are difficult to implement in *C. elegans*. On the other hand, there has been impressive recent progress in designing and implementing new tools to image, for example, products of glycolysis or NADPH. Also, optical methods for specific quantification such as FLIM have been applied successfully to visualize and quantify biochemical reactions in cells. This workshop aims at informing about latest developments in optical sensors, their implementation in *C. elegans*, and their imaging using state-of-the-art methods. We will be discussing recent developments, but also pitfalls and open questions. In our open discussion we will define key metabolites that have been refractory to imaging, conceive potential solutions for these metabolites, and forge collaborations to establish efficient strategies for imaging these factors. This workshop will thus facilitate community efforts in establishing and sharing tools for imaging metabolism in *C. elegans* to ultimately enable live imaging of key biochemical reaction in every cell with spatiotemporal resolution in our favorite system.

Agenda

1:00 p.m. Henrik Bringmann, TU Dresden, Live Metabolism Imaging Strategies in *C. elegans*

1:10 p.m. Gill Pollmeier and Aaron Wolfe, TU Dresden and Yale University, Metabolic Sensors 101 – Pitfalls and Opportunities

1:20 p.m. Bryndon Oleson, University of Michigan, Current strategies for the detection of ROS in *C. elegans*.

1:30 p.m. Sudarson Baskaran, FLI Jena, Application of FLIM for Imaging Biochemistry in *C. elegans* cells

1:40 p.m. Q&A

1:50 pm Open discussion with all participants Aim of the discussion will be to define key biochemical reactions or metabolites that will be crucial for dissecting the systemic and spatiotemporal control of metabolism in *C. elegans*. We will define sensors that are lacking or that need to be improved to monitor key metabolic reactions. We will identify potential strategies, collaborators, community resources, and joint funding resources to improve imaging of these key metabolites. Through this workshop the *C. elegans* live metabolic imaging community will gain momentum for establishing additional optical sensors and live imaging strategies for metabolism.

Sunday, June 25, 2023

1:00 p.m.–2:30 p.m.
Boisdale Meeting Room

So you want to record whole-brain activity...

Cutting-edge techniques now enable neuron-type identification in living animals, closed loop neural-activity imaging and manipulation via optogenetics, and behavioral quantification (e.g., in response to stimuli). These techniques enable researchers to investigate neurobehavioral codes and test causality within these encodings. Nevertheless, these techniques require substantial expertise, and a major challenge remains in combining these tools to decipher how neurons generate behavior. This workshop will provide tutorials with experimental examples of how to use microfluidics, microscopy, and data analysis tools to measure and manipulate neurobehavioral circuit activity. It will culminate with a discussion of bottlenecks to throughput and opportunities to improve accessibility of these techniques.

Agenda

Opening Remarks

1:00 p.m. Microfluidic Chip Designs to Deliver Stimuli (Maedeh Seyedolmohadesin, Northeastern University)

1:08 p.m. Microscopes to Record Whole-Brain-Activity Movies and Extensions to Image Freely-Moving Worms (Candy Di, MIT)

1:16 p.m. Closed Loop Neural-Activity Imaging and Manipulation (Francesco Randi, Princeton University)

1:24 p.m. Q&A Session for talks 1-3

1:30 p.m. Tracking Neurons and Extracting their Activity (Jackson Borchardt, UCSF)

1:38 p.m. Neuron-Type Identification in Living Animals (Xingyang Fu, UMass Chan Medical School)

1:46 p.m. Combining Whole-Brain Imaging with Behavioral Quantification (Manuel Zimmer, University of Vienna)

1:54 p.m. Q&A Session for talks 3-6

2:00 p.m. Open discussion that clarifies any confusion in using these techniques, highlights inexpensive equipment for this research to level the playing field among labs worldwide, and explores ways to combine these techniques in novel ways.

Sunday, June 25, 2023

1:00 p.m.–2:30 p.m.
Alsh Meeting Room

WormBase and Alliance of Genome Resources, 2023: data, tools and cross-species comparisons

This workshop will be a use-case driven, interactive session focused on the major data types and search tools available at WormBase and the Alliance of Genome Resources (the Alliance). We will demonstrate how users can find WormBase data now fully integrated and harmonized at the Alliance, expanded disease model data and cross-species data comparisons across the major model organism species. We will also present an improved version of our Community Curation pipeline, Author Curation to Knowledgebase (ACKnowledge). We will walk participants through a submission to familiarize them with our system, highlighting key aspects of the process, and we will extend the hands-on experience to our booth, where curators will assist authors with a real submission.

Agenda

1:00 p.m. Chris Grove Starting with one and arriving at many: Using WormBase and the Alliance of Genome Resources for gene data

1:15 p.m. Todd Harris What tool do I use? Matching tools to data searching

1:30 p.m. Scott Cain JBrowse and recent updates to genome browsing

1:45 p.m. Daniela Raciti, Kimbery Van Auken Be ACKnowledged and help curate your paper!

2:00 p.m. Q&A Session and Discussions

Sunday, June 25, 2023

3:00 p.m.–6:00 p.m.
Clyde Auditorium

Plenary Session 2

Session Chairs
Kris Gunsalus New York University, United States; and Douglas Portman, University of Rochester, United States

3:00 p.m. Genetic pathways for biogenesis of synaptic vesicles. **Sandhya Koushika** DBS-TIFR

61 3:30 p.m. Emergence of whole brain axon-axon patterning from early collective cell behaviors **Christopher Brittin** Memorial Sloan Kettering Cancer Center

62 3:42 p.m. Mapping the neuropeptide signaling network and its evolution in nematodes **Luca Golinelli** KU Leuven

63 3:54 p.m. Dissecting the Functional Organization of the *C. elegans* Serotonergic System at Whole-Brain Scale **Di Kang** Massachusetts Institute of Technology

64 4:06 p.m. Spiking neural circuit underlying the *C. elegans* gut-brain ultradian rhythm **Qiang Liu** City University of Hong Kong

65 4:18 p.m. Sexual dimorphism of whole-brain responses to a broad chemical space **Maedeh Seyedolmohadesin** Northeastern University

4:30 p.m. Coffee break in Forth Room and Gala Room

66 5:00 p.m. M Kin-recognition and nepotism mediate collective behaviours in the cannibalistic nematode *Pristionchus pacificus* **Fumie Hiramatsu** Max Planck Institute for Neurobiology of Behavior – caesar

67 5:12 p.m. *C. elegans* sphingolipid metabolism and pathogen defense are modulated by a microbiota-derived sphinganine **Lena Peters** Zoological Institute, Christian-Albrechts-University

68 5:24 p.m. Metabolism orchestrates direct reprogramming of germ cells to neuron-like cells **Amin Shadfar** Institute of Cell and Systems Biology of Animals University of Hamburg

69 5:36 p.m. MORC-1 is a key component of the *C. elegans* CSR-1 germline gene licensing mechanism **Jessica Kirshner** Johns Hopkins University

70 5:48 p.m. Heterochromatin readers CEC-6 and CEC-3 regulate RNAi inheritance and genome-wide H3K9me3 distribution **Chengyin Li** University of Toronto

Monday, June 26, 2023

8:30 a.m.–11:30 a.m.
Alsh Meeting Room

Ecology and evolution of hosts and microbes

Session Chairs
Lisa Petrella Marquette University, United States; and Jessica Sowa West Chester University of Pennsylvania, United States

71 8:30 a.m. Mating strategy determines context-dependent sexual behavior **Eya Wolfson** Weizmann Institute of Science

72 8:42 a.m. The evolution of developmental genetic biases explains the evolution of evolutionary rates **Joao Picao Osorio** Institute of Biology of the École Normale Supérieure, CNRS, INSERM, ENS, PSL

73 8:54 a.m. The co-option of a "grinder-molting protease" is essential for predatory feeding in the nematode *Pristionchus pacificus* **Misako Okumura** Hiroshima University

74 9:06 a.m. Development across evolutionary time at a single-cell resolution in the *Caenorhabditis* nematode embryo **Christopher Large** University of Pennsylvania

75 9:18 a.m. Virus-like transposons cross the species barrier and drive the evolution of genetic incompatibilities **Sonya Widen** Institute of Molecular Biotechnology

76 9:30 a.m. Nematode-trapping fungus trap *C. elegans* by targeting cuticular collagens **Hanwen Chang** Institute of Molecular Biology, Academia Sinica, Taipei

77 9:42 a.m. A regulator of nongenetic inheritance mediates the evolution and loss of plasticity **Nicholas Levis** Indiana University

9:54 a.m. Coffee break in Exhibit Hall 5

78 10:18 a.m. Hourglass pattern of developmental evolution at the single cell level in *Caenorhabditis elegans* **Chaogu Zheng** The University of Hong Kong

79 10:30 a.m. A toxin-antidote element in *Caenorhabditis elegans* that causes L1 larval arrest **Laura Walter-McNeill** University of California, Los Angeles

80 10:42 a.m. The growth rate of *C. elegans* is modulated by the *Actinobacteria* in its microbiome via sulfur metabolism **Om Patange** Harvard Medical School/Massachusetts General Hospital

81 10:54 a.m. Variable recombination rate landscapes and adaptation to a novel environment **Henrique Teotonio** Ecole Normale Superieure

82 11:06 a.m. Natural polymorphism in biofilm-mediated killing of adult *C. elegans* involves surface galactans **Jonathan Hodgkin** University of Oxford

83 11:18 a.m. Nutritional programming of host-microbiome interactions in *Caenorhabditis elegans* **Adrien Assie** Baylor College of Medicine

Monday, June 26, 2023

8:30 a.m.–11:30 a.m.
Clyde Auditorium

Gene regulation, genomics, and emerging genetic technologies

Session Chairs
Thomas Duchaine McGill University; and Alicia Rogers University of Texas Arlington, United States

9:54 a.m. Coffee break in Exhibit Hall 5

84 8:30 a.m. The molecular atlas of adult *C. elegans* glia across sexes reveals sexually dimorphic and heterogenous glia **Maria Purice** Fred Hutchinson Cancer Research Center

85 8:42 a.m. Loss of poly(U) polymerases has global impacts on the small RNAome and disrupts early embryo PGL granule clearance **Leanne Kelley** Syracuse University

86 8:54 a.m. A mechanistic link between histone mRNA homeostasis and piRNA biogenesis **Joana Pereirinha** Institute of Molecular Biology, Mainz

87 9:06 a.m. Uncovering the hidden germline genome: multimegabase tandem repeats and eliminated DNA in *Auanema rhodensis* **Pablo Gonzalez de la Rosa** Wellcome Sanger Institute

88 9:18 a.m. TASOR triggers intron-less gene silencing in *C. elegans* **Yekaterina Makeyeva** UMass Chan Medical School

89 9:30 a.m. 3D chromosome organization in *Caenorhabditis elegans* autosomes. **Dania Camila Pulido Barrera** Biozentrum, University of Basel

90 9:42 a.m. The functional cooperation of conserved RNA-binding proteins ensures the silencing of a master regulator **Daria Sobanska** Institute of Bioorganic Chemistry, PAS

91 10:18 a.m. Biotinylation-based tissue-specific ChIP-Seq reveals context-dependent genomic distribution of histone variants H2A.Z and H3.3 **Idris Selman Bulut** University of Hamburg

92 10:30 a.m. A family of F-box/transposase fusion genes involved in germ cell proteostasis and thermotolerance **Miguel Almeida** University of Cambridge

93 10:42 a.m. Incorporation of multiple non-canonical amino acids using genetic code expansion in *C. elegans* **jose vazquez** University of Edinburgh

94 10:54 a.m. Global analysis of RNA-binding protein expression and subcellular localization in *C. elegans* **John Laver** University of Toronto

95 11:06 a.m. High-Throughput Library Transgenesis in *Caenorhabditis elegans* via Transgenic Arrays Resulting in Diversity of Integrated Sequences (TARDIS) **Zachary Stevenson** University of Oregon, Institute of Ecology and Evolution

96 11:18 a.m. Towards Spatial Transcriptomics of *C. elegans* via Expansion Sequencing **Ruihan Zhang** Massachusetts Institute of Technology

Monday, June 26, 2023

8:30 a.m.–11:30 a.m.
Boisdale Meeting Room

Metabolism, pathogenesis and new technologies

Session Chairs
Robert Luallen San Diego State University: and Liesbet Temmerman KU Leuven

97 8:30 a.m. Loss of CDK-4 drives nucleolar size and anabolic metabolism via lin-35 and efl-1 **Rachel Webster** University of Toronto

98 8:42 a.m. Impact of High Dietary Glucose on Aβ-induced proteotoxicity in *C. elegans* **Emylee Kerslake** University of Delaware

99 8:54 a.m. A primordial TFEB/TGFβ axis systemically regulates stem cell quiescence, activation, and regeneration in the adult reproductive diapause **Tim Nonninger** Max Planck Institute for Biology of Ageing

100 9:06 a.m. Preferential autophagy of ribosomes balances a trade-off between starvation survival and starvation recovery **Joel Tuomaala** University of Bern

101 9:18 a.m. Defining a novel homeostat that senses the temporal barriers of parental reproductive-span and sets progeny stress resistance capacity **Bennett Van Camp** University of Southern California

102 9:30 a.m. Parallel pathways for serotonin biosynthesis and metabolism in *C. elegans* **Jingfang Yu** Cornell University

103 9:42 a.m. A Pantothenate (Vitamin B5) Metabolite Promotes Intestinal Peptide Secretion as part of Gut-Neural Axis-Mediated Stress Response **Andrew Calof** University of Southern California

9:54 a.m. Coffee break in Exhibit Hall 5

104 10:18 a.m. Cell type-specific activity of *hif-1* drives an organismal response to hypoxia **Ji Na Kong** HHMI/MIT

105 10:30 a.m. Novel tissue-specific regulation of the mitochondrial unfolded protein response **Maulik Patel** Vanderbilt University

106 10:42 a.m. The *Caenorhabditis elegans* microbiome (CeMbio) influences *Nematocida parisii* infection through nutrient limitation and inhibiting parasite invasion **Hala Tamim El Jarkass** University of Toronto

107 10:54 a.m. The host kynurenine pathway modulates and is modulated by gut microbes in *C. elegans* **Alexandre Benedetto** Lancaster University

108 11:06 a.m. Metabolic modeling and characterization of the nematode-infecting bacterial pathogen Bordetella atropi. **Ila Peeler** San Diego State University

109 11:18 a.m. *Caenorhabditis elegans* susceptibility to viral infection is modulated by its naturally associated bacteria **Rubén González** Institut de Biologie de l'École Normale Supérieure

Monday, June 26, 2023

8:30 a.m.–11:30 a.m.
Lomond Auditorium

Sleep, stress, and microbiomes

Session Chairs
Astra Bryant University of Washington; and Michael Krieg ICFO-Institute of Photonic Science

110 8:30 a.m. Nematode-trapping fungi predation induces behavioral quiescence in *Caenorhabditis elegans* **TzuHsiang Lin** Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan

111 8:42 a.m. A sleep-active neuron can promote survival while sleep behavior is disturbed **Inka Busack** TU Dresden

112 8:54 a.m. Gut-brain sphingolipid signaling regulates stress-induced aversive memory in *C. elegans* **Yu-Chun Wu** National Taiwan University

113 9:06 a.m. The IRHOM ortholgue ROM-4 functions with ADM-4/ADAM17 and FRM-10/FRMD8 to promote sleep during sickness **Michael Iannacone** University of Pennsylvania

114 9:18 a.m. *In vivo* monitoring of rapid adaptations in glycolysis in response to activity in *C. elegans* neurons **Aaron Wolfe** Yale University

115 9:30 a.m. Activity-dependent mitochondrial ros production regulates glutamate receptor delivery and exocytosis at synapses **Frederic Hoerndli** Colorado State University

116 9:42 a.m. Modular Glucosides : A novel family of microbe-derived metabolites which regulate egg-laying and touch sensitivity in *C. elegans* **Madhumanti Dasgupta** Yale University

9:54 a.m. Coffee break in Exhibit Hall 5

117 10:18 a.m. Elucidating Mechanisms of *Actinomyces* Mediated Neuroprotection in *C. elegans* Models of Parkinson's Disease **Sophie Ngana** McMaster University

118 10:30 a.m. Of Memory and Microbes: How stress regulators affect learning pathogen avoidance behavior **Rebekka Paisner** Johns Hopkins University

119 10:42 a.m. Investigating the role of dopamine signaling in skin penetration by *Strongyloides* species **Ruhi Patel** UCLA

120 10:54 a.m. Phototransduction is mediated by cGMP pathway and GPCR kinase in the nematode *Pristionchus pacificus* **Ken-ichi Nakayama** Hiroshima University

121 11:06 a.m. The heterochronic LIN-14 protein is a BEN domain transcription factor **Sharrell Greene** University of Alabama at Birmingham

122 11:18 a.m. Regulation of stress-induced sleep by neuropeptide NLP-67 in *Caenorhabditis elegans* **Vishnu Raj** University of Wisconsin

Monday, June 26, 2023

1:00 p.m.–2:30 p.m.
Lomond Auditorium

Beyond EM: Optical tools to visualize ultrastructure

Visualizing small subcellular structures, such as synaptic connections, has traditionally relied on electron microscopy (EM), which is constrained by time, sample size, expense, and a steep learning curve. To scale the analysis, individual labs continue to develop various in vivo labeling strategies and imaging approaches to study such ultrastructures in *C. elegans*. The ensuing toolkit of reporters and microscopy techniques brings its opportunities - such as interrogation in different paradigms and with a much higher throughput - as well as challenges, which include lower resolution and manual quantification biases. In this workshop, we propose to discuss 1) recent advances in optical imaging and quantification to expand the phenotypic space that would facilitate a deeper understanding of ultrastructures, and 2) developments in labeling strategies and shared resources. The goal is to discuss both opportunities and challenges and to encourage the sharing of the growing number of resources generated by independent labs. Speakers will adhere to each method's relevance to *C. elegans* instead of broadly describing the methods and their utility in other systems. Multiple speakers, each of whom will bring a distinct set of expertise will present two longer talks and several short updates on ongoing technological advances.

Agenda

1:00 p.m. Maryam Majeed, Haejun Han, Columbia University, Georgia Institute of Technology, Toolkits for detailed and high-throughput interrogation of synapses.

1:15 p.m. Bérangère Pinan-Lucarre, Université Lyon, Experiences with labeling post-synaptically localized LGICs.

1:20 p.m. Kelsie Eichel, Stanford University, Using Flp/FRT recombination to visualize proteins at the axon initial segment.

1:25 p.m. Chi Zhang and Yangning Lu, Massachusetts Institute of Technology, Advances in Expansion Microscopy in *C. elegans*.

1:37 p.m. Ruihan Zhang and Madison Sneve, Massachusetts Institute of Technology, Expansion Microscopy-Enabled Spatial Transcriptomics of *C. elegans*.

1:42 p.m. Chien-Po Liao, Columbia University, Distinct subcellular localization of Neuroligin-1/NLG-1 and its implications.

1:47 p.m. Yehuda Salzberg, Weizmann Institute, Anterograde labeling of synaptic connections.

1:52 p.m. Miri VanHoven, San José State University, Multicolor split-fluorescent protein labeling of synapses.

2:00 p.m. Gal Haspel, New Jersey Institute of Technology, Moderated discussion.

Monday, June 26, 2023

1:00 p.m.–2:30 p.m.
Clyde Auditorium

Expanding the worm model repertoire

Recent developments in genome engineering tools and gathering of high-quality genomic data expanded the range of worm species accessible for mechanistic investigation. These advances permitted decisive discoveries thanks not only to the particularities of "non model" nematodes, but also thanks to the power of exploiting prior knowledge from *C. elegans* when studying related species. The workshop speakers will first present ongoing research and distinctive biological features of tractable non-*C. elegans* nematodes, with a heavy emphasis on the latest tools and resources developed to improve genetic, genomic and behavioral experimentation, providing avenues for exciting research in "new" species to *C. elegans* investigators from all backgrounds. Then, in an open discussion including the audience, we will debate over the current challenges affecting studies in unconventional worms and the most promising technical and community-based approaches to accelerate research and incite more worm scientists to adopt additional species in their own lab.

Agenda

1:00 p.m. Itai Toker, Columbia University, Introduction.

1:04 p.m. Ronald Ellis, Rowan University, Caenorhabditis briggsae.

1:10 p.m. Hillel Schwartz, Caltech, Steinernema hermaphroditum.

1:16 p.m. Ray Hong, California State U Northridge, Pristionchus Pacificus.

1:22 p.m. Alejandro Burga, IMBA Vienna, Caenorhabditis tropicalis.

1:28 p.m. Eric Haag, University of Maryland, Considerations for research in gonochoric nematodes.

1:34 p.m. Elissa Hallem, UCLA, Strongyloides stercoralis.

1:40 p.m. Marie Delattre, ENS Lyon, Mesorhabditis genus.

1:46 p.m. Sally Adams, University of Warwick, Auanema genus.

1:52 p.m. Marie-Anne Félix, ENS Paris, Resources for species available in lab culture.

1:58 p.m. Open Discussion with panel and audience.

Monday, June 26, 2023

1:00 p.m.–2:30 p.m.
Boisdale Meeting Room

So you have whole-brain traces, now what?

Now that whole brain neuronal recording of immobilized and freely-moving worms is possible, new exciting questions and challenges arise. Specifically, there is a growing need to figure out the most useful and interpretable approaches to analyze whole-brain datasets, and how they could relate to behavior. The workshop is organized in two parts: First each speaker will advertise one computational approach including strengths and weaknesses and how to interpret it. Second, each speaker will form a small group and discuss their technique in more detail, including tips and tricks on how to implement them and additional intuition. We will also discuss ways to save and share whole-brain datasets, focusing on the Neurodata Without Borders standard. Overall, we aim to bring theoretical and experimental scientists together and to encourage collaboration and sharing of whole-brain data and analysis techniques.

Agenda

1:00 p.m. Charles Fieseler and Itamar Lev, University of Vienna, Introduction

1:05 p.m. Megan Morrison, New York University

1:10 p.m. Matthew Creamer, Princeton University

1:15 p.m. Vivek Venkatachalam, Northwestern University

1:20 p.m. Adam Atanas, MIT

1:25 p.m. Yunjie J Zhu, University of Leeds

1:30 p.m. Daniel Sprague, USCF, Neurodata Without Borders

1:35 p.m. Discussion in small subgroups

Monday, June 26, 2023

1:00 p.m.–2:30 p.m.
Alsh Meeting Room

Spotlight on the nuclear envelope: insights from the worm

The nuclear envelope is a double membrane structure that surrounds and separates the genome in eukaryotic cells. Apart from acting as a supportive barrier, the nuclear envelope also controls the passage of macromolecules to and from the nucleus, organizes chromatin, and mediates mechanical signals from the cell surface to the nuclear interior. Mutations in its components lead to multiple diseases underscoring the nuclear envelope's many critical functions. In this workshop, we will explore open questions in the field of nuclear envelope biology and how *C. elegans* is being leveraged to address them. We feature research flashtalks from experts and audience/panelist discussion on new tools, techniques, and biology. The conservation of the nuclear envelope proteome from worms to humans, as well as the ease of genetics and in vivo imaging, makes *C. elegans* an excellent model organism to understand nuclear envelope functions.

Agenda

1:00 p.m. Introductory remarks, Sarah Barger

1:05 p.m. Peter Askjaer, Universidad Pablo de Olavide, nuclear envelope physiology

1:20 p.m. Daniel Starr, University of California Davis, LINC complex

1:35 p.m. Daphne Cabianca, IFE Helmholtz Zentrum Munich, chromatin organization

1:50 p.m. Lionel Pintard, Université Paris cité, CNRS, Institut Jacques Monod, mitotic kinases and nuclear envelope breakdown

2:05 p.m. Audience-led discussion, Olya Yarychkivska / Sarah Barger / panelists

2:27 p.m. Closing remarks, Olya Yarychkivska

Monday, June 26, 2023

3:00 p.m.–6:00 p.m.
Clyde Auditorium

Plenary Session 3 and Keynote Address

Session Chairs
Hannes Buelow Albert Einstein College of Medicine; and Jessica Feldman Stanford University, United States

3:00 p.m. Assembly and function of P granules. **Geraldine Seydoux** Johns Hopkins Medical Institute

123 3:30 p.m. The SPN-4 RNA-binding protein promotes maternal mRNA clearance during the oocyte-to-embryo transition **Caroline Spike** University of Minnesota

124 3:42 p.m. A passive "hitch and tow" mechanism for cell shape change **Theadora Tolkin** NYU Grossman School of Medicine

125 3:54 p.m. Spatiotemporal Dynamics of pulsatile miRNA transcription in the *C. elegans* Hypodermis **Shubham Sahu** PCC, UMR168, Institute Curie

126 4:06 p.m. Dissecting the role of the atypical E2F factor EFL-3 in seam cell development in *Caenorhabditis elegans* **Mar Ferrando Marco** Imperial College London

127 4:18 p.m. Temperature experience is encoded in the AFD gene expression profile to drive neuronal and behavioral plasticity **Nathan Harris** Brandeis University

4:30 p.m. Coffee break in Forth Room and Gala Room

5:00 p.m. Introduction of Oliver Hobert

5:05 p.m. Keynote Address, Why *C. elegans* remains special. **Oliver Hobert** Columbia University

Tuesday, June 27, 2023

8:30 a.m.–11:30 a.m.
Boisdale Meeting Room

Aging and stress

Session Chairs
Maulik Patel Vanderbilt University: and Ye Tian Institute of Genetics

128 8:30 a.m. Heterochromatin Protein 1 controls gene expression and longevity in response to mitochondrial dysfunction **Marta Artal Sanz** Andalusian Centre for Developmental Biology. University Pablo de Olavide

129 8:42 a.m. Dietary restriction promotes healthspan via a glucagon-like signaling pathway in *C. elegans* **Brian Onken** Rutgers, The State University of New Jersey

130 8:54 a.m. Glia: cell non-autonomous regulators of metabolic homeostasis and longevity **Ashley Frakes** National Institutes of Health

131 9:06 a.m. A ribonuclease κ that promotes longevity by cleaving age-dependently accumulating circular RNAs **sieun Kim** Korea Advanced Institute of Science and Technology

132 9:18 a.m. Stochastic, synchronized DAF-16 nuclear translocation pulses control stress-induced growth arrest in developing larvae **Burak Demirbas** AMOLF

133 9:30 a.m. Systematic mapping of organism-scale gene-regulatory networks in aging using population asynchrony **Matthias Eder** Centre de Regulació Genòmica (CRG)

134 9:42 a.m. Regulation of lifespan by sensory neural activity and CaMKI/IV **Yanxun Yu** Wuhan University

9:54 a.m. Coffee break in Exhibit Hall 5

135 10:18 a.m. Knockdown of microtubule and lysosomal regulators alleviates embryonic lethality in a Nestor Guillermo Progeria *C. elegans* model **Adrián Fragoso-Luna** Centro Andaluz Biología del Desarrollo

136 10:30 a.m. H3K4me3 modifiers regulate proteostasis via an HSF-1-lipid metabolic axis **Bryndon Oleson** University of Michigan

137 10:42 a.m. Olfactory chemosensation extends lifespan through TGF-β signaling and UPR activation **Rebecca Taylor** University of East Anglia

138 10:54 a.m. Determining the role of calcium on the mitochondrial unfolded protein response **Suzanne Angeli** University of Maine

139 11:06 a.m. Neurotransmitters modulate lifespan via GPCR signaling in *C.elegans* **Jianfeng Liu** Huazhong University of Science and Technology

140 11:18 a.m. The quality control system that monitors the secreted proteome: investigating the extracellular proteostasis network **Ivan Gallotta** Babraham Institute

Tuesday, June 27, 2023

8:30 a.m.–11:30 a.m.
Alsh Meeting Room

Intracellular trafficking, organelles, cell polarity

Session Chairs
Ariel Pani University of Virginia, CAS; and Ana Xavier de Carvalho, IBMC

154 8:30 a.m. Live single-molecule imaging shows localized translation of endogenous transcripts in the *C. elegans* embryo **Elise van der Salm** Utrecht University

155 8:42 a.m. Tug of war between PAR-3 and CDC-42 in the polarisation of the *C. elegans* zygote **Josana Rodriguez** Newcastle University

156 8:54 a.m. Multiple pathways for re-establishing PAR polarity in *C. elegans* embryo **Laurel Koch** University of California, Davis

157 9:06 a.m. The mechanical role of the nucleus in cell invasion in *C. elegans* **Johan d'Humières** Ecole Normale Supérieure

158 9:18 a.m. An intrinsic polarising signal for asymmetric cell division in the nematode genus *Auanema*. **sally adams** The University of Warwick

159 9:30 a.m. Connecting neighboring epithelial cells to make one continuous digestive tract **Lauren Cote** Stanford University

160 9:42 a.m. Investigating FGF dispersal and the spatial organization of downstream signaling proteins in migrating cells **Theresa Gibney** Department of Biology, University of Virginia

9:54 a.m. Coffee break in Exhibit Hall 5

161 10:18 a.m. Independent regulation of mitochondrial DNA quantity and quality in *C. elegans* primordial germ cells **Aaron Schwartz** NYU School of Medicine

162 10:30 a.m. A Conserved Requirement for RME-8/DNAJC13 on Neuronal Autolysosome Reformation **Sierra Swords** Rutgers University

163 10:42 a.m. Non-random segregation of mitochondria during asymmetric neuroblast division **Ioannis Segos** University College London

164 10:54 a.m. Phospholipid flippases regulate glial phagocytosis of a sensory neuron ending **Violet Sorrentino** Fred Hutch Cancer Research Center

165 11:06 a.m. Cilia-intrinsic mechanisms and not neuronal transduction regulate dynamic release of extracellular vesicles (EVs) **Juan Wang** Rutgers University

166 11:18 a.m. Lysosomes contain an expansion compartment that mediates zinc transporter delivery to promote zinc homeostasis in *C.elegans* **Adelita Mendoza** Washington University

Tuesday, June 27, 2023

8:30 a.m.–11:30 a.m.
Lomond Auditorium

Neuronal cell biology, degeneration, & behavior

Session Chairs
Rachel Arey Baylor College of Medicine; and Eviatar Yemini UMass Chan Medical School, United States

167 8:30 a.m. Neural control mechanisms of sex pheromone-triggered mate-searching behavior **Xuan Wan** Caltech

168 8:42 a.m. Sensory cilia architecture and intraflagellar transport shape sensory signaling **Alison Philbrook** Brandeis University

169 8:54 a.m. NeuroSCAN: a tool for analyzing neuronal relationships across scales and throughout development **Noelle Koonce** Yale University School of Medicine

170 9:06 a.m. Structural insights into the formation of repulsive Netrin guidance complexes **Jessica Priest** University of Chicago

171 9:18 a.m. UNC-43/CaMKII regulates synapse assembly in *C. elegans* **Mizuki Kurashina** University of British Columbia

172 9:30 a.m. A gene expression atlas of the entire L1 *C. elegans* nervous system **Seth Taylor** Brigham Young University

173 9:42 a.m. Neuropeptide NLP-47 and its receptor GNRR-1 are important for forgetting of olfactory memory in *C. elegans* **Yuuki Onishi** Kyushu University

9:54 a.m. Coffee break in Exhibit Hall 5

174 10:18 a.m. A pan-neuronal alternative splicing event triggers pan-neuronal gene transcription **Eduardo Leyva Diaz** Instituto de Neurociencias, CSIC-UMH

175 10:30 a.m. *hrpr-1* rescues *smn-1*-related motoneurons degeneration by modulating *ret-1* splicing. **Pamela Santonicola** IBBR - CNR

176 10:42 a.m. TIR-1/SARM1 inhibits axon regeneration and promotes axon degeneration **Lauren O'Connor** UMass Chan Medical School

177 10:54 a.m. Metabolic mechanisms for suppression of axon degeneration **Hadas Dabas** Yale

178 11:06 a.m. Neural mechanisms of oxygen sensing in a skin-penetrating nematode **Breanna Walsh** University of California, Los Angeles

179 11:18 a.m. Hierarchical regulation of functionally antagonistic neuropeptides expressed in a single modulatory neuron type control locomotion of *C. elegans* **Ichiro Aoki** Goethe University Frankfurt

Tuesday, June 27, 2023

8:30 a.m.–11:30 a.m.
Clyde Auditorium

Developmental regulation of gene expression and cell division

Session Chairs
Colin Conine University of Pennsylvania Perelman School of Medicine and Children's Hospital of Philadelphia, United States; and Ahilya Sawh University of Toronto, Canada

141 8:30 a.m. What sets the limits of transcription kinetics in the developing embryo? **Priya Sivaramakrishnan** University of Pennsylvania

142 8:42 a.m. When a new gene learns old tricks: how a species-specific T-box gene came to play a role in the very early embryo **Emily Baker** University of Oxford

143 8:54 a.m. Developmentally programmed histone H3 expression regulates cellular plasticity at the parental-to-early embryo transition **Ryan Gleason** Johns Hopkins University

144 9:06 a.m. Sexually dimorphic cell cycle regulation of quiescent neural progenitor asymmetric divisions **Carla Lloret Fernández** University College London

145 9:18 a.m. The transcription factor LSL-1 is a main player in germline/soma distinction **Magali Nanchen** University of Fribourg

146 9:30 a.m. Inter-individual variation in gene expression underlies reproductive traits in isogenic worms **Amy Webster** University of Oregon

147 9:42 a.m. Spatial single cell sequencing of meiosis I arrested oocytes reveals acquisition of maternal transcripts from the soma **Kenneth Trimmer** MD Anderson Cancer Center

9:54 a.m. Coffee break in Exhibit Hall 5

148 10:18 a.m. Dynamic chromatin regulation and the *C. elegans* molting clock. **Stephen Methot** Friedrich Miescher Institute for Biomedical Research

149 10:30 a.m. Transcriptional Control of a developmental transition in *Caenorhabditis elegans* **François-Xavier Stubbe** UNamur

150 10:42 a.m. LincRNAs Promote Germline Stem Cells Differentiation via Sequestering PUF Proteins to Phase-Phase Condensates **Hanna Achache** Institute of Life Sciences, The Hebrew University of Jerusalem

151 10:54 a.m. The USTC complex defines the chromatin environment of piRNA genes in the *C. elegans* germ line **Nancy Sanchez** Yale University

152 11:06 a.m. Mitopherogenesis: an unexpected mitochondria-specific ectocytosis process and its critical role in modulating mitochondrial content and fertility of sperm **Hongyun Tang** Westlake University

153 11:18 a.m. A Bipartite Nuclease and Cytidine Deaminase is Required in the Soma and the Germline to Promote Transgenerational Male Fertility **Nicholas Galambos** University of Pennsylvania

Tuesday, June 27, 2023

4:15 p.m.–5:45 p.m.
Lomond Auditorium

Advances in volumetric EM in *C. elegans*

Electron microscopy (EM) is instrumental to many *C. elegans* studies. New technologies have improved the capabilities of EM from specimen prep to image analysis. Despite these improvements, EM remains a complex endeavor where many labs develop their own unique protocols. This workshop is focused on the sharing of knowledge and best practices associated with improvements to EM. Topics will include improvements to established techniques such as high-pressure freezing for sample prep to the use of artificial intelligence for data analysis.

Agenda

4:15 p.m. Welcome and introductions, Nathan Schroeder, University of Illinois at Urbana-Champaign

4:20 p.m. Application of high-pressure freeze, serial TEM for single-cell reconstruction and immunohistochemistry, Mia Krout, University of Illinois at Chicago

4:35 p.m. Volume EM for connectomes and more, Ben Mulcahy, University of Toronto Lunenfeld

4:50 p.m. How hard is it to do EM on worms? Sample prep tips for conventional and more fancy EM (FIB-SEM), Sebastian Markert Universität Würzburg

5:05 p.m. Array tomography: How to democratize *C. elegans* EM, Irina Kolotuev University de Lausanne

5:25 p.m. Discussion among speakers and attendees.

Tuesday, June 27, 2023

4:15 p.m.–5:45 p.m.
Clyde Auditorium

C. elegans as a platform for whole animal synthetic biology

Synthetic biology is a rapidly emerging field, focusing on the engineering of novel biological systems out of biological building blocks. The *C. elegans* Synthetic Biology workshop will discuss the opportunities offered by *C. elegans* for whole-animal synthetic biology design and implementation, including genetic code expansion and in vivo gene and neural circuit engineering. The workshop will explore both technical and conceptual innovations in the field and discuss where it might head.

Agenda

4:15 p.m. Ithai Rabinowitch, The Hebrew University of Jerusalem, Israel, Introduction

4:27 p.m. Daniel Colón-Ramos, Yale University, USA, Intercellular signaling

4:39 p.m. Alexander Gottschalk, Goethe University, Frankfurt/Main, Germany, Optogenetics

4:51 p.m. Michael Krieg, Institute of Photonics Sciences, Castelldefels, Spain, Optical synapses

5:03 p.m. Sebastian Greiss, The University of Edinburgh, Scotland, UK, Genetic code expansion

5:15 p.m. Discussion

Tuesday, June 27, 2023

4:15 p.m.–5:45 p.m.
Dochart Meeting Room

GSA Publishing Workshop

Curious about the peer review process? Want to learn what it takes to get published? This workshop has you covered. After opening with an informative presentation by GSA Journals, the workshop gives participants the opportunity to talk with GENETICS and G3 editors. The Publishing Q&A is open to all career stages and is likely of particular usefulness to students and postdocs. Please bring your questions and join us for lively conversation!

Tuesday, June 27, 2023

4:15 p.m.–5:45 p.m.
Boisdale Meeting Room

The way of the microbes: tools and resources for microbiome research

This great new era of *C. elegans* natural biology has unearthed a new field in the community dedicated to understanding the role that microbes have played in sculpting the physiology of our beloved model system. In the wild, microbes not only act as potential food or pathogen, but can also colonize the intestines of *C. elegans* in simple communities ('microbiomes'). Interest in this field has exploded since the first descriptions of these communities in wild *C. elegans* and introduction of the characteristic core microbiome in the first workshop, yet there is still great opportunity ahead. The aim of this workshop is to provide an overview of this emerging field and the evolving directions, to facilitate cross-fertilization between the different approaches, and to introduce members of the *C. elegans* community to useful research pipelines and available resources for its native microbiome.

Agenda

4:15 p.m. Introduction to the *C. elegans* microbiome, Buck Samuel, Baylor College of Medicine

4:20 p.m. Fine scale methods for assessing gut bacteria in *C. elegans*, Jessica L. Hill, Colorado State University

4:30 p.m. Microbial metabolite transport from gut to brain, Michael O'Donnell, Yale University

4:40 p.m. Identifying gene regulatory networks involved in host-microbe interactions in *C. elegans* Alejandra Zárate-Potes, Lancaster University

4:50 p.m. *C. elegans* microbiota-mediated protection against pathogens, Katja Dierking, Kiel University

5:00 p.m. Genomic and genetic resources for the *C. elegans* microbiome, Adrien Assié, Baylor College of Medicine

5:10 p.m. Small group discussions

5:30 p.m. Large group discussion

Wednesday, June 28, 2023

8:45 a.m.–11:30 a.m.
Clyde Auditorium

Plenary Session 4

Session Chairs
Javier Apfeld Northeastern University, United States; and Andrea Calixto Universidad de Valparaiso, Chile

8:45 a.m. Art Show Awards

9:05 a.m. GSA Poster Awards

9:15 a.m. Autophagy: lessons from *C. elegans*. **Hong Zhang** Chinese Academy of Sciences

180 9:45 a.m. Identifying the aging intestine secretome and its role in lifespan regulation **Jason Miklas** Stanford University

181 9:57 a.m. Ribosome rescue factor PELO-1/PELOTA prevents premature aging by enhancing mRNA quality and autophagy in *C. elegans* and mammals **Jongsun Lee** Korea Advanced Institute of Science and Technology

182 10:09 a.m. Maternal insulin signaling to germ cells regulates adaptive changes in offspring metabolism via a mitochondrial ETC dependent mechanism **Nick Burton** Van Andel Institute

183 10:21 a.m. Nutrient deprivation induces a tissue-specific, reversible, large-scale chromatin reorganization *in C. elegans* **Daphne Selvaggia Cabianca** HelmholtzZentrum Muenchen

184 10:33 a.m. Multi-species nematode screening uncovers a new class of broad-spectrum anthelmintic compounds **Hala Zahreddine Fahs** NYU

10:45 a.m. Opening Remarks for Inclusivity Session

10:50 a.m. Inclusive Classrooms **Lina Dahlberg**

10:55 a.m. Inclusive Communities **Meera Sundaram**

11:00 a.m. Inclusive Peer Review **Miriam Goodman**

11:05 a.m. Question and Answer

Poster Session Listings

Cell Biology

185A High-throughput screening of fluorescent *Caenorhabditis elegans* using the COPAS VISION large particle imaging flow cytometer **Giuliano Ferrero** Union Biometrica

186A Analyses of mechanisms of ALLO-1 targeting to the paternal organelles in embryos **Takuya Norizuki** Gunma University

187A Ciliopathy Disease Modelling in *C. elegans*: using CRISPR to interpret patient variants and characterise molecular mechanisms of Joubert Syndrome **Karen Lange** University College Dublin

188A Dynamics of oocyte-surface proteins during and after fertilization **Sugiura Kenta** Institute for Molecular and Cellular Regulation, Gunma University

189A Identification of polycystin interactors within ciliary extracellular vesicles using proximity labeling in *Caenorhabditis elegans* Topics: Cell Biology / Intracellular Trafficking and Organelles **Inna Nikonorova** Rutgers University

190A Mitochondrial morphology and inheritance during asymmetric cell division **Jens Van Eeckhoven** University College London

191A Extracellular matrix regulates polycystin localization and extracellular vesicle release from *C. elegans* sensory cilia **Katherine Jacobs** Rutgers University

192A A split-GFP based biosensor for the detection of mature CED-3 caspase *in vivo* **Madiha Ghani** University College London

193A Linker cell-type death (LCD) – a physiological model for nuclear and chromatin aberrations **Olya Yarychkivska** The Rockefeller University

194A Sensing damage in the skin **Thomas Sonntag** Aix Marseille Univ, INSERM, CNRS, CIML, Turing Centre for Living Systems, Marseille, France

195A Actomyosin interconnectivity in body wall muscles **Ana Marta Silva** IBMC, Instituto de Biologia Molecular e Celular, and i3S, Instituto de Investigação e Inovação em Saúde, University of Porto, Portugal.

196A Routine immunostaining, fluorescence in situ hybridization, and expansion microscopy in *C. elegans* enabled by cuticle removal using spatially-restricted enzymatic digestion **Chi Zhang** Massachusetts Institute of Technology

197A An adapted MS2-MCP system for live imaging endogenous cytoplasmic mRNAs **Cristina Tocchini** Biozentrum

198A Characterizing the subcellular distribution of SOD-1 in *C. elegans* cells and tissues **Lucia Sedlackova** Centre for Genomic Regulation (CRG)

199A Deletion of *flwr-1* suppresses *rab-37* mutant hypersensitivity to inhibitors of cholinesterase **Kevin Kruse** University of Utah

200A HDAC inhibition combats neurodevelopmental trafficking stressors **Caitlin Taylor** Stanford University

201A Bilayer lipid metabolism and chromatin-based membrane remodeling seal holes in the nuclear envelope **Sarah Barger** Yale University

202A A BORC-dependent molecular pathway for vesiculation of cell corpse phagolysosomes **Gholamreza Fazeli** University of Wuerzburg

203A DRP-1 mediates microvillar effacement induced by Enterohemorrhagic *Escherichia coli* **Cheng-Rung Huang** National Cheng Kung University

204A Changes in nucleolar architecture and biological functions during *C. elegans* aging **Laeya Baldini** Mcgill university

205A Identification of new apoptosis regulators in *C. elegans* **Nadin Memar** Institute for Basic Science - Center for Genomic Integrity

206A Regulation of centriole number by the microtubule remodeling factor SSNA-1 **Jason Pfister** NIH

207A The nucleoporin NPP-14 is required for co-clustering of nuclear pores and P granules in the *C. elegans* germline **Laura Thomas** HHMI / Johns Hopkins University School of Medicine

208A Cortical actomyosin flow driven polarization, what goes with the flow and why? **Zeno Messi** The Francis Crick Institute

209A PAM-1 interacts with the cell-cycle machinery to regulate meiosis and mitosis in *C. elegans* **Rebecca Lyczak** Ursinus Col

210A A primary microcephaly-associated *sas-6* mutation perturbs centriole duplication and ciliogenesis in *Caenorhabditis elegans* **Jyoti Iyer** University of Tulsa

211A A model for striated muscle disorders caused by variants of human laminA **Daniel Starr** UC Davis

212A APC/C^{FZR-1} is controlled at several levels in the germline **Jose Perez-Martin** Instituto de Biomedicina de Valencia CSIC

213A RG/RGG repeats in the *C. elegans* homologs of Nucleolin and GAR1 contribute to sub-nucleolar phase separation **Dustin Updike** Mount Desert Island Biological Laboratory

214A Genome-wide synthetic lethality RNAi screen identifies genes essential for survival in response to the loss of the *lem-3* or *slx-1* nucleases in *C. elegans*. **Stephane Rolland** Institute for Basic Science - Center for Genomic Integrity

215A Epithelia delimits glial apical polarity against mechanical shear to maintain glia-neuron - architecture **Aakanksha Singhvi** Fred Hutchinson Cancer Center

216A Number intentionally not assigned

217A Coordinating the Seam Cytoskeleton & Matrix: How the Worm Forms Alae **Trevor Barker** University of Pennsylvania

218A “Mirror-image symmetry” in centrosome migration during serial cell divisions in *C. elegans* mid-stage embryo **Takefumi Negishi** National Institute of Genetics

219A Contractile ring mechanosensation and its RhoA-dependent tuning during early embryogenesis **Kenji Sugioka** University of British Columbia

220A Extracellular vesicle budding and fertility are regulated by distinct levels of TAT-5 lipid flippase activity and conserved domains of the Dopey protein PAD-1 **Ann Wehman** University of Denver

221A Meisosomes, folded membrane platforms, link the epidermis to the apical extracellular matrix **Nathalie Pujol** Aix-Marseille Univ, CNRS, INSERM, Turing Centre for Living systems

222A Regulated endoplasmic reticulum remodeling inhibits ectopic RNP condensates in oocytes **Jennifer Schisa** Central Michigan University

223A Intestinal depletion of *cdc-25.2* increases germ cell apoptosis through mitochondrial oxidative stress **Mijin Lee** Konkuk University

224A Caffeine intake reduces reproductive capacity through germ cell proliferation, apoptosis and autophagy by regulating vitellogenesis in *C. elegans* **Juhae Kim** Konkuk University

225A Nuclear Vesicle Release During Neuronal Extrusion Events **Rebecca Androwski** Rutgers University

226A NanoBRET in *C. elegans* – a novel technique to illuminate protein trafficking **Victoria Groß** Heinrich Heine University Düsseldorf

227A Identifying substrates of aPKC in the worm early embryo to elaborate anterior PAR protein network interactions **Iolo Squires** Newcastle University

228B The nuclear cargo adaptor KASH protein UNC-83 regulates the choice of dynein vs. kinesin-1 motor activity to move nuclei in opposite directions during development **Daniel Starr** UC Davis

229B Nuclei migrate through constricted spaces during hypodermal P-cell development using multiple mechanisms **Daniel Starr** UC Davis

230B Microtubule glutamylation: required for cold tolerance and male mating, dispensable for centrosome function **Nina Peel** TCNJ

231B LINC complexes at the nuclear envelope regulate organelle positioning by modulating cytoplasmic macromolecular crowding **Daniel Starr** UC Davis

232B Optimized dimerization of PAR-2 via its RING domain underlies cooperative membrane recruitment, plasma membrane selectivity, and feedback-driven cell polarization **Nathan Goehring** Francis Crick Institute

233B Characterization of a putative *C. elegans* ortholog of the ERAD protein, Valosin-containing Protein-interacting Membrane Protein (VIMP) **Caroline Dahlberg** Western Washington University

234B Autophagy in meiotic fidelity and genome integrity in the *C. elegans* germline **Alicia Melendez** Queens College, City University of NY

235B Identifying new proteins that facilitate the incorporation of autophagosomes to phagosomes that contain apoptotic cells in *C. elegans* **Zheng Zhou** Baylor Col Med

236B WormAtlas: New Chapters, New Data, New Worms **Nathan Schroeder** University of Illinois at Urbana-Champaign

237B Array Tomography facilitates ultrastructural data acquisition and analysis of *C. elegans* samples **Irina Kolotuev** Université De Lausanne

238B Ubiquitin modification in regulating endosome maturation **Mei Ding** Institute of Genetics and Developmental Biology, Chinese Academy of Sciences

239B ATFS-1 dependent mitochondrial UPR is required for viability of *Caenorhabditis elegans* lacking mitochondrial thioredoxin and glutathione reductases **Antonio Miranda-Vizuete** Instituto de Biomedicina de Sevilla (IBIS)

240B Determining caspase functional conservation *in vivo* **Melissa Fee** University of Texas at Arlington

241B Investigating the role of Rab GTPase RAB-28 in extracellular vesicle biogenesis and glial uptake **Malek Elsayyid** University of Delaware

242B Determining the function of chromosomal nuclear peripheral localization in nuclear envelope rupture repair and cell cycle regulation **Ling Jiang** The University of Hong Kong

243B CCM-3 Regulates USO-1 to Promote Seamless Tube Extension **Ran Cheng** The Hospital for Sick Children

244B Intracellular transport of organelles in *C. elegans* **Anna Gavrilova** University of Manchester

245B The Spatial Organization of Sister Chromatids during Meiosis **Antonia Hamrick** University of Utah

246B EGFR Signaling Promotes Efferocytosis in *Caenorhabditis elegans* **Laura Filomena Comi** University of Zurich

247B Substrate-specificity, and structure-function analysis of the conserved LEM-3/Ankle1 nuclease which ensures faithful chromosome segregation **Peter Geary** Center for Genomic Integrity, Institute for Basic Science (IBS)

248B The *hox* gene *lin-39* induces cell proliferation in somatic cells of *C. elegans* **Stefanie Engleitner** University of Zurich

249B Heterodimerization of receptor-type guanylate cyclases is required for ciliary tip localization **Suzanne Rademakers** ErasmusMC Rotterdam

250B Structural and molecular determinants of dynamics in P granules of *C. elegans* **Stela Jelenic** IMBA, Vienna, Austria

251B Enhanced Single RNA Imaging Reveals Dynamic Gene Expression in Live Animals **Erqing Gao** Zhejiang University-University of Edinburgh Institute

252B Role of LOTUS-domain proteins in liquid-like P granules **Balashankar R Pillai** IMBA

253B Identification of the molecular to functional consequences of human cytoplasmic actin variants **Theo Hecquet** IGBMC

254B Functional interactions between the apoptosis pathway and cell size are coordinated by the *ced-3* caspase – *ect-2* RhoGEF axis **Aditya Sethi** University College London

255B Identification of new molecular players in the process of germline/soma distinction **Magali Nanchen** University of Fribourg (Unifr)

256B Asymmetric distribution of actin-related proteins can precede known cell differentiation event in the early *C. elegans* embryo. **Roxane Benoit** IGBMC

257B UNCovering the ciliary roles of *C. elegans* septins - UNC-59 and UNC-61 **Emilia Filipczak** University College Dublin

258B Deciphering the role of LGL-1 in *C.elegans* epithelial cells **Olga Jarosinska** Utrecht University

259B Investigating the role of apoptosis in maintaining progeny fitness and fertility under temperature stress **Kristen Quaglia** Marquette University

260B CED-9-CED-4 Interaction is Likely Required for the Non-Canonical Pro-Apoptotic Function of CED-9 **Nolan Tucker** HHMI/MIT

261B Endomitosis of the *C. elegans* intestine is controlled by transcriptional downregulation of cytokinesis genes **Ramon Barrull-Mascaro** Hubrecht Institute

262B Elucidating the role of RAB-10 in EGFR signaling during *C. elegans* vulva development **Clare FitzPatrick** McGill Unversity

263B Planar-polarized plasma membrane compartments in body wall muscle cells **Elise Cheynet** CNRS UMR 5284, Université Lyon 1

264B The conserved role of BYN-1/Bystin in cellular uptake and clearance in the *Caenorhabditis elegans* germline **Hyemin Min** The Mount Desert Island Biological Laboratory

265B Aurora A functions in a time-dependent manner to polarize *C. elegans* embryos **Bailey de Jesus** The University of Texas at Austin

266B CED-12, the original ELMO (engulfment and cell migration) protein, promotes F-actin during engulfment and inhibits it during cell migration **Thejasvi Venkatachalam** Rutgers - RWJMS

267B Actin capping protein, CAP-1, regulates actomyosin contractility and maintains syncytial germline architecture **Ronen Zaidel-Bar** Tel Aviv University

268B The unconventional physical chemistry of the first *C. elegans* oocyte actomyosin cortex **Arjun Narayanan** New York University Abu Dhabi

269B Investigating differences in spindle assembly checkpoint strength in the early *C. elegans* embryo **Imge Ozugergin** McGill University

270C Characterization of proteostasis factors in the context of cellular safeguarding **Qinming Li** Molecular Cell Biology Unit, Institute of Cell and Systems Biology of Animals, University of Hamburg, Germany

271C CED-6/GULP and the AP2 complex maintain CED-1 localization on the plasma membrane via Clathrin-mediated endocytosis in *C. elegans* **Rikke Harders** Aalborg University

272C Exploring how cell cycles are timed in development using the *C. elegans* intestine as a model **Sonia Veltkamp** Hubrecht Institute

273C The *C. elegans* intestine and germline share their small membrane-impermeable molecules **Sarah Turmel-Couture** Université du Québec à Trois-Rivières

274C Regulation of Kinesin-2 Motors in Sensory Cilia of *C. elegans* **Wouter Mul** Vrije Universiteit Amsterdam

275C The distinct response of *C. elegans* chemosensory neurons to different repellents **Guus Haasnoot** Vrije Universiteit Amsterdam

276C Uncovering how heterochronic factors control intestinal cell cycle progression in development **Daniel Iglesias van Montfort** Hubrecht Institute

277C Comparison of meiotic proteins REC-1/HIM-5 in *Caenorhabditis elegans* and *Caenorhabditis briggsae* **Michelle Scuzzarella** Magee-Womens Research Institute

278C Tryptophanyl tRNA synthetase (WARS1) depletion leads to genomic instability **Mahmoud Izadi** College of Health and Life Sciences, Hamad Bin Khalifa University

279C Dinstint collaboratory Aurora B kinase and the PP1 phosphatases during the two *C. elegans* male meiotic divisions **Yu-Nan Tsai** National Taiwan University

280C Regulation of *C. elegans* germline stem and progenitor cell mitosis by developmental and environmental signaling networks **Eric Cheng** McGill University

281C Homeostatic regulation of germline stem cells: AAK-1 non-autonomously supresses germline stem cell proliferation from the somatic sheath cells **Xavier Lechasseur** Université du Québec à Trois-Rivières (UQTR)

282C TOP-2 is differentially required for meiotic chromosome morphology in spermatogenesis and oogenesis **Christine Rourke** University of Delaware

283C TIR-1/SARM1 is required for homeostatic regulation of germline stem cell proliferation independently of PMK-1/p38 MAPK **Alexandre Clouet** Université du Québec à Trois-Rivières

284C High-resolution recombination mapping in individual meiotic products of *C. elegans* spermatogenesis and oogenesis **Zachary Bush** University of Oregon

285C Polarity regulation through microtubules **Aaron Daniel Brooks** Newcastle University

286C Regulation of defective mitochondrial DNA accumulation and transmission in *C. elegans* by the programmed cell death and aging pathways **Samantha Fiallo** UC Santa Barbara

287C Uncovering the Molecular Mechanisms that Underlie *C. elegans* Primordial Germ Cell Trogocytosis **Julie Manikas** New York University School of Medicine

288C Skp1 proteins are structural components of the synaptonemal complex in *C. elegans* **Joshua Blundon** Johns Hopkins University

289C Defining CLS-2 Function in Central Spindle Assembly in *C. elegans* Male Sperm Meiosis **Sebastian Gomez** San Francisco State University

290C Leveraging the Male Secreted Short (MSS) family of glycoproteins to investigate fertilization and sperm competition in *Caenorhabditis* **Asan Turdiev** University of Maryland, College Park

291C PQN-59: a link between cell division and stress granule formation? **Adriano Pizzella** Universite de Geneve

292C UNC-10/SYD-2 complex is sufficient to link kinesin-3 to RAB-3 containing synaptic vesicles in the absence of the motor's PH domain **Odvogmed Bayansan** Molecular and Cellular Biology, NTHU

293C The enigmatic *trans* function of the Adhesion GPCR Latrophilin cross-talks with the Notch pathway **Willem Berend Post** Heinrich Heine University

294C Kinetics of nucleolar droplets during nucleolar assembly **Sara Zdanovskis** McGill University

295C Uncovering moonlighting functions of nucleoporins across species **Paula Monterrubio Asensio** Centro Andaluz de Biología del Desarrollo

296C Cell biology and biochemistry approaches to identify the proteins regulating sperm derived mitochondria degradation **Justine Cailloce** Sorbonne University - CNRS, Institut de Biologie Paris Seine, IBPS, Developmental Biology Laboratory, UMR7622

297C Cleavage furrow-directed cortical flows bias PAR polarization pathways to link cell polarity to cell division **KangBo Ng** Francis Crick Institute

298C The Kinetochore microtubule coupler, Ndc80 complex, is repurposed for Dendrite Branching **Henrique Alves Domingos** University of Edinburgh

299C Using MAPH-9 in *C. elegans* to investigate the formation and maintenance of doublet microtubules on centrioles and in cilia **Nabor Vazquez Martinez** Stanford

300C Dynein orients the mitotic spindle during asymmetric seam cell division to ensure proper cell fate and integrity of the epidermis **Cátia Carvalho** i3S - Instituto de Investigação e Inovação em Saúde, Universidade do Porto

301C Nonlinear antagonism and control of oligomerisation in the PAR polarity network in the *C. elegans* embryo **Alex Chizh** Francis Crick Institute

302C Endogenous tagging of the *C. elegans* GABARAP ortholog LGG-1 reveals a highly dynamic microtubule-associated tubular network of LGG-1 required for autophagy **Julius Adam** Goethe University Frankfurt

303C Characterization of gonad morphology in a low-fertility mutant with defects in dynein and MEL-28 **Julia Stobierska** Fairfield University

304C Reduced Brood Size in *dhc-1; mel-28* Double Mutants is Associated with Defective Yolk Import **Anna Weissenberg** Fairfield University

305C Defects to Dynactin cause Sperm Function Deficiencies that are Partially Rescued by Defects in Y-Complex Nucleoporins **Sydney Youd** Fairfield University

306C Adaptation of fungal bioluminescence for protein tagging in *C. elegans* **Liam Schuck** The University of Texas at Austin

307C The role of the kinesin, KLP-4, in local protein synthesis **Jasmine Tang** Rollins College

308C Ciliary distribution and ectocytosis of the tetraspanin TSP-6 **Adria Razzauti Sanfeliu** UNI, ULB Neuroscience Institute, Université Libre de Bruxelles

309C A novel role of kinesin-1 in localised protein synthesis? **Astrid Boström** University of Manchester

310C Galectin is required for apoptotic cell removal in *Caenorhabditis elegans* **Yu-Shin Chang** National Taiwan University

311C *C. elegans* Meiotic and Mitotic Function is Regulated by a Mitochondrial Localized Protein **Samantha Schaffner** Vanderbilt University

312V Specificity in glia-neuron interactions **Sneha Ray** Fred Hutch Cancer Research Center

313V Formation, growth and function of the axonal spectrin lattice **Shaul Yogev** Yale School of Medicine

314V Exophergenesis response to expression of aberrant intrinsically disordered proteins **Edward Chuang** Rutgers University

315V EleganSeg: Whole body instance segmentation using improved U-Net in *Caenorhabditis elegans* microscopic images **Pablo-Emmanuel Layana-Castro** Universitat Politècnica de València

316V Understanding how lipid metabolism contributes to α-synuclein toxicity in *C. elegans* **Tao Zhang** University Medical Center Groningen

317V Exploiting the CRISPR/Cas9 system to label chromosomes of *C. elegans* gonads **Cristina Pineiro Lopez** European Molecular Biology Laboratory

318V Mutagenesis and structural modeling implicate RME-8 IWN domains as conformational control points **Anne Norris** Rutgers University

319V First characterization of the *C. elegans* WASH complex in endocytic recycling **Patricia Irizarry-Barreto** Rutgers - RWJMS

320V The non-canonical role of the kinetochore protein KNL-1 in axon formation **Mattie Green** University of Edinburgh

321V Investigating cell type-specific modes of Wnt dispersal *in vivo* **Michelle Favichia** University of Virginia

322V Anillin and the microtubule bundler PRC1 maintain myosin in the contractile ring to ensure completion of cytokinesis **Ana Carvalho** i3S—Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Portugal

323V Intermediate Filaments Associate with Aggresome-like Structures in Proteostressed *C. elegans* Neurons and Influence the Rate of Large Vesicle Extrusions as Exophers **Meghan Arnold** Rutgers University

324V Investigating the Regulation of Separase during Cell Division **Christopher Turpin-Sorensen** Wayne State University

325V Automated Microscopy Image and Video Analysis Tool for Biological Applications. **Manos Chaniotakis** BioMarkerImaging

326V Establishment of *Caenorhabditis elegans* as a Model System in Anthelmintic Drug Discovery from Natural Sources for the First Time in Bangladesh **Md. Talukder** Bangladesh Agricultural University

327V Determining endosomal pathway specificity for the TBC-2 family of Rab GAPs **Ananya Jana** The Research Institute of the McGill University Health Centre

328V KLP-7/Kinesin-13 dependent microtubule organization and dendritic identity in PVD neurons **Swagata Dey** National Brain Research Centre

329V Exploring the roles of patched, dispatched, and hedgehog related genes in the development of unicellular tubes **Nicholas Serra** University of Pennsylvania Perelman School of Medicine

330V Branched-chain actin dynamics specify apicobasal polarity in the *C. elegans* intestine. **Verena Gobel** Massachusetts Gen Hosp

331V Visualization of the Biphasic Calcium Wave during Fertilization in *C. elegans* using a Genetically Encoded Calcium Indicator **Karen Kim Guisbert** Florida Institute of Technology

332V Genetic analysis of the RNAi defective mutants for zinc-binding molecules **Katsufumi Dejima** Tokyo Women's Medical University School of Medicine

333V The role of nucleosome remodeler LET-418 in germline DSB repair **Deepshikha Ananthaswamy** University of Massachusetts Lowell

334V The AP-1 clathrin adaptor complex differentially regulates LIN-12/Notch signaling in somatic gonad and the vulval precursor cells **Tatsuya Kato** Research Institute of the McGill University Health Centre

335V Nascent protein synthesis is required for spindle pole re-establishment during MI-MII transition during spermatocyte divisions in *C. elegans* **Shang Yang Chen** Department of Clinical Laboratory Sciences and Medical Biotechnology, College of Medicine, National Taiwan University

336V The role of TBC-2 in AKT-1 mediated regulation of HLH-30/TFEB **Soumyendu Saha** McGill University

337V Role of C9orf72/SMCR-8 protein complex in regulating LET-23 EGFR signaling via the ARF6 GTPase **Ahmed Sabbir** McGill University

338V Identification of neuronal microtubule regulators using forward genetic screening **Sunanda Sharma** National Brain Research Centre

339V Lysosomal copper transporter in pharyngeal muscle underlies cold tolerance of *C. elegans* **Serina Yamashiro** Konan University

Development

340A A comprehensive high-resolution, high-throughput screening platform reveals cell invasion defects in *C. elegans* **Simon Berger** University Zurich

341A Eggshell contributions to late embryogenesis in *C.elegans* **Akiko Hatakeyama** RIKEN Center for Biosystems Dynamics Research

342A Unraveling the regulatory network of a complete *C. elegans* neural lineage **Euclides Fernandes Povoa** Hubrecht Institute

343A Connecting vulva cell fate specification to apical extracellular matrix organization **Helen Schmidt** University of Pennsylania

344A Coordination of pharynx and body growth by an ultra-sensitive coupling via *yap-1* **Klement Stojanovski** University of Bern

345A Two distinct myosins contribute to early vs late stages of spermatheca organogenesis **Fung Yi Chan** Instituto de Biologia Molecular e Celular (IBMC), Instituto de Investigação e Inovação em Saúde (I3S)

346A Validation of single cell transcript numbers with smiFISH **Vincent Portegijs** Utrecht University

347A Very old doubles with bubbles: *daf-2(e1370)* / peroxisomal beta oxidation double mutants are very long lived and contain extremely large lipid droplets **Andreas Ludewig** Boyce Thompson Institute

348A Autonomous and non-autonomous regulation of somatic gonad and germ line development by TORC1 **Julia Wittes** Columbia University

349A The role of VAB-9 in the regulation of actomyosin and epidermal morphogenesis **Jonathon Heier** University of Wisconsin-Madison

350A Studying chromatin regulation at single-cell resolution during *C. elegans* postembryonic development **Alexander Blackwell** Utrecht University

351A A high throughput platform for the elucidation of bacterial species and mechanisms that regulate insulin signaling **Kelsie Nauta** Van Andel Research Institute

352A Peroxisome critically controls the developmental fate by relaying the intestinal nutrient signal to the brain **Huanhu ZHU** ShanghaiTech University

353A A sperm–oocyte protein complex as an actin regulator required for completion of female meiosis, egg activation, and the block to polyspermy **Tatsuya Tsukamoto** University of Minnesota

354A The cell cycle regulator APC/C^{FZR-1} controls the decision between the SS and DTC cell fate in *Caenorhabditis elegans* **Jose Perez-Martin** Instituto de Biomedicina de Valencia CSIC

355A Post-transcriptional regulation of PDE-2: a key molecule regulating cAMP and cGMP signalling in *C. elegans* **Kavita Babu** Indian Institute of Science

356A Loss of mammalian glutaminase orthologs impairs sperm function in *C. elegans* **Zhao Qin** Tongji University

357A Regulation of Developmental Arrest and Arousal at Hatching **Bruce Wightman** Muhlenberg College

358A Manipulating malonyl-CoA entering the germline **Todd Starich** University of Minnesota

359A FBF directly represses *gld-1* RNA in germline stem cells and then activates it upon meiotic entry **Sarah Crittenden** University of Wisconsin - Madison

360A DAF-16/FOXO functions to both promote and oppose adult cell fate during dauer-interrupted development **Xantha Karp** Central Michigan University

361A *Odd-skipped* Genes in *C. elegans* **Amy Groth** Eastern Connecticut State University

362A Digital Integration of Neural Morphogenesis **Anthony Santella** Sloan Kettering Cancer Center

363A Characterizing the genetic and physical interaction of the DBL-1/BMP signaling pathway with BLMP-1/BLIMP1 transcription regulator in *Caenorhabditis elegans* **Tina Gumienny** Texas Woman's University

364A Ror1/CAM-1 receptor cooperates with Frizzled/MOM-5 receptor to control asymmetric division and gastrulation during *C. elegans* embryogenesis. **Takefumi Negishi** National Institute of Genetics

365A Quantitative guiding of cell fates in dynamic signaling environments during *C. elegans* vulval development **Wolfgang Keil** Institut Curie

366A Refining our understanding of male tail tip morphogenesis with a toolkit and tissue-specific RNA-seq **David Fitch** New York University

367A Identifying Functional Interaction Motifs Within *C. elegans* Eggshell Vitelline Layer Proteins **Sara Olson** Pomona College

368A Patterning the apical extracellular matrix (aECM) during entrance and exit from dauer **Valeri Thomson** Bard College

369A TIAM-1 regulates protrusive activity during dorsal intercalation through both GEF and N-terminal domains **Jeff Hardin** University of Wisconsin-Madison

370A Identifying genes required for ELT-7-mediated transdifferentiation through a large-scale genetic selection and computational analysis of whole-genome sequences **Joel Rothman** University of California, Santa Barbara

371A Characterizing gonad-enriched and sex-biased transcripts in *Caenorhabditis elegans* **Mary Kroetz** Bellarmine University

372A SHC-3 regulates DAF-16 to promote survival in L1 arrest **Lesley MacNeil** McMaster University

373A Characterization of a temperature-sensitive allele of *egg-3* **Amber Krauchunas** University of Delaware

374A Quantitative embryology: New approaches to the measurement of cell lineages **Pavak Shah** UCLA

375A Deciphering the role of Syndecan in regulating the number of cellular projections in polarized cells **Anna Caridys Ramírez Suárez** Université du Québec à Montréal, Canada

376A TORC2 in Germline Development **Anke Kloock** NYU Grossman School of Medicine

377A Inhibition of mitotic cell cycling and activation of CHK-2 at meiotic entry are independently controlled by SCF^{PROM-1} **Ariz Mohammad** Washington University School of Medicine

378B The neuropeptides FLPs of *Caenorhabditis elegans* are capable of responding to environmental cues and modulating larval development through hormonal signaling. **Tsuyoshi Kawano** Tottori University

379B The prion-like domain of IFET-1 is critical for localisation to P granules, but not to it's protein interaction network. **Peter Boag** Monash University

380B Understanding the roles of sperm supplied SPE-11 and its novel oocyte partner, OOPS-1, in *C. elegans* egg activation **Ji Kent Kwah** University of Delaware

381B Deciphering the Neuronal Pathways Involved in Long-term Social Behavior Across Development **Eshkar Nir** Technion

382B Dissecting the Development of the *C. elegans* Pharyngeal Cuticle **Levon Tokmakjian** University of Toronto

383B NCAM-1 promotes synaptic remodeling in developing GABAergic neurons **Casey Gailey** Vanderbilt University

384B MRCK-1 activates non-muscle myosin to promote excretory canal development **Evelyn Popiel** University of Toronto

385B Transcriptional analysis of *xol-1* mutant hermaphrodites reveals changes in developmental plasticity during embryogenesis **Eshna Jash** University of Michigan - Ann Arbor

386B The function of LEM-3 nuclease in regulating cell fate determination **Siyu Deng** The University of Hong Kong

387B Identifying small molecule inhibitors of anchor cell invasion
Wei Chen Kao University of Zurich

388B Vitamin B12 metabolism controls MAPK-dependent cell fate decisions **Ana Laranjeira** Institute of Molecular Life Sciences, UZH

389B Deciphering transcriptional control of germ cell development **Qi Fan** monash university

390B CMOS (Cellular Morphology of *C. elegans* Embryo), an online database for visualization and analysis of cellular morphologies and gene expression during *C. elegans* embryogenesis **Pohao Ye** Hong Kong Baptist University

391B Systematic characterization of engulfment of apoptotic cells during *Caenorhabditis elegans* embryogenesis **Yiming MA** Hong King Baptist University

392B Antagonizing Wnt signaling pathways converge on a small GTPase that regulates cell migration **Jonas Mars** Hubrecht Institute

393B How is the number of natural transdifferentiations controlled in *C. elegans*? **jeanne cury** IGBMC

394B A single nucleus perspective of pluripotent cells: investigating the genomic regulation of the M mesoblast lineage **Matthew Hill** Gurdon Institute

395B Collagen IV levels at the DTC/germline interface positively influences Notch receptor activation **Pier-Olivier Martel** Universite du Quebec a Trois-Rivieres

396B Investigating tissue-specific alternative isoform compatibility **Charlotte Martin** University of Toronto

397B Feminization of the Worm: An Exploration of the Role of *fem* Genes *in Caenorhabditis tropicalis* **Montana Bobinski** University of Alberta

398B Dissecting the role of PIE-1 in the specification of precursor germ cells during early embryogenesis in *C. elegans* **Pauline Ponsard** University of Namur

399B Developing methodology to identify regulators of early CEPsh glia development **Simin Liu** The Rockefeller University

400B SEM-2/SoxC regulates multiple aspects of *C. elegans* postembryonic mesoderm development **Marissa Baccas** Cornell University

401B DAF-12 mediates oleic acid dependent changes to metabolism and reproduction **Frances Compere** Syracuse University

402B Understanding the regulation and function of the CAP protein LON-1 **Maria Serrano** Cornell University

403B Understanding the role of stop codon readthrough in *C. elegans* development **Loes Steller** Utrecht University

404B Understanding how *kxd-1* contributes to homeostatic germline stem cell regulation **Armi Manharbhai Chaudhari** Universite du Quebec A Trois-Rivieres

405B Identification of the tissue in which homeostatic signaling inhibits MPK-1 to block germline stem cell proliferation **Lloyd Venceslas Fotso Dzuna** Université du Québec à Trois-Rivières

406B Specification of the *C. elegans excretory gland cell* **Marion Boeglin** Columbia University

407B A sex-specific switch in a single glial cell creates a nanoscale pore in the extracellular matrix **Wendy Fung** Harvard Medical School

408B Dafachronic acid-insensitive Daf-c enhancers in *Pristionchus pacificus* **Heather Carstensen** California State University Northridge

409B Mechanisms Mediating FBF Clearance within the *C. elegans* germline **Gabriella Weiss** University of Montana

410B Filopodia-mediated morphogenic cytokinesis during chiral morphogenesis **YuXuan Xiong** University of British Columbia

411B Optimization of neuron-specific isolation of nuclei for molecular profiling in *C. elegans* **Dalton Patterson** University of Alabama at Birmingham

412B *vab-6* encodes a kinesin and promotes epidermal morphogenesis through miRNA regulation **Dan Quesnelle** Queen's University

413B Notch is required for the completion of the late-developing avm branch at the *C. elegans* nerve ring **Rachid El Bejjani** Davidson College

414B Investigating the Effects of COMT Loss in *C. elegans* **Salma AshShareef** Fisk University

415B The transcriptional landscape of nervous system development in both sexes of *C. elegans* **Rizwanul Haque** Weizmann Institute of Science

416B The Role of HPK-1 and HSF-1 in Linker Cell Death **Betty Ortiz** The Rockefeller University

417C Cell-cell fusion and its regulation during *C. elegans* male tail morphogenesis **Kateryna Flyak** Technion- Israel Institute of Technology

418C Uncovering molecular mechanisms for developmental synchrony with *in-vivo* spatial temperature perturbations in *C. elegans* larva **Eliot Schlang** Institut Curie

419C Non-canonical DAF-2/IR signalling regulates transient larval arrests in *C. elegans* **Francisco Romero-Expósito** Department of Genetics, University of Sevilla, Spain

420C Genetic dissection of *in vivo* direct cellular reprogramming **Ismail Özcan** Institute of Cell and Systems Biology of Animals, University of Hamburg

421C Understanding the mRNA regulatory repertoire of LIN-41 during cell fate decisions **Benedicte Storvik Nordhagen** University of Oslo

422C Parental dietary restriction delays offspring growth due to suboptimal ribosome provisioning **Sigma Pradhan** Institute of Cell Biology-University of Bern

423C Transcriptional control of male tail tip morphogenesis by DMD-3 **Porfirio Fernandez** New York University

424C Identifying co-factors that drive TRA-1 activator function **Jibran Imtiaz** Rowan University SOM

425C DAF-16/FOXO inhibits NHR-23/ROR and the *let-7* family of microRNAs during dauer in *C. elegans* **Himani Anand Galagali** Johns Hopkins University

426C The *C. elegans* intestine as a model to study the function of polyploidy **Christa Jordan Ortiz** Hubrecht Institute

427C Modified Mechanisms of Chromosome Inheritance in the Trioecious Nematode *Auanema rhodensis* **Liesl Strand** Stanford University

428C The asymmetric cell division of a glial neuronal progenitor in *Caenorhabditis elegans* is co-regulated by PIG-1/MELK and a Wnt/□-catenin asymmetry pathway **Joseph Gehler** UCL

429C Regulation of programmed cell death during *C. elegans* development **Chloe Emerson** Yale University

430C Transcriptional Regulation of *hlh-2* in the Larval Somatic Gonad **Jee Hun Kim** Columbia University in the City of New York

431C Genetic analyses of PGL proteins using newly generated CRISPR alleles **Devavrat Bodas** Johns Hopkins School of Medicine / HHMI

432C Building a developmental proteomics map of *Caenorhabditis elegans* tissues **Emmanuel Fiagbedzi** University of Edinburgh

433C LIN-46 post-translationally down-regulates HBL-1 to specify seam cell fate by potentially influencing chromatin states during larval development **Reyyan Bulut** University of Massachusetts Chan Medical School

434C The conserved Toll-like receptor homolog *tol-1* is involved in neuroblast migration during *C. elegans* ventral epidermal morphogenesis **Zoe Tesone** University of Wisconsin-Madison

435C *sea-2* and *lin-66* are accessory heterochronic genes that come into prominence during L2d interrupted developmental trajectory **Reyyan Bulut** University of Massachusetts Chan Medical School

436C Targeting *C. elegans* Cyclic Nucleotide Phosphodiesterases as Potential Nematicides Using Chemical and Molecular Agents **Kranti Galande** University of New Hampshire

437C Cell focusing and the tumor necrosis factor superfamily **Christian Wartenberg** Institut fuer Genetik, Technische Universitaet Braunschweig

438C Cap-adjacent 2'-O-ribose Methylation is required for Germline Cell Specification in *C. elegans* **Eileen Clemens** University of Aberdeen

439C Converting molecular- scale torques to embryonic left-right asymmetry **Allan Akandwanaho** Institute of Molecular Genetics

440C Establishing the role of HBL-1 in the developmental timing of *C. elegans* **Marit van der Does** Friedrich Miescher Institute for Biomedical Research

441C The SIN-3 HDAC corepressor regulates embryonic development by suppressing the APL-1 expression in *Caenorhabditis elegans* **Mitsuki Ohara** School of Life Sciences, Ritsumeikan University

442C Balanced SUMOylation regulates SET-26 "reading" aptness in the germline **Cátia Carvalho** Tel Aviv University

443C Upstream and downstream of *rnt-1* in the seam cells **Yuanhang Jiang** University of Oxford

444C Endogenous ZIF-1 activity mediates targeted protein degradation in primordial and proliferative germ cells **Aaron Schwartz** NYU School of Medicine

445C Oscillatory expression of molting cycle genes is coordinated with pharynx growth in larvae **Timo Louisse** AMOLF

446C Establishing the polarity of intracellular lumenogenesis **Lauren Meyer** NYU Grossman School of Medicine

447C MSc Research project_ The understanding of body wall muscle cells' fusion by ectopics fusion of the fusogen EFF-1 and his effect in PVD's arborization Sharon Fitoussi_The technion **Sharon Fitoussi** The technion

448C 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 **Erika Tsukamoto** University of Minnesota

449C Temporal Requirement for Insulin Signaling in Developmental Progression During Embryogenesis **Isabella van der Weide** Muhlenberg College

450C The role of the *let-7/lin-41* pathway in the neuronal maturation of *Caenorhabditis elegans* hermaphrodites **Craig Peters** University of Alabama at Birmingham

451C A bacterial genetic screen to identify how diet regulates *C. elegans* germline stem cells **Katherine Norton** NYU Grossman School of Medicine

452C Elucidating the Localization and Functions of SPD-1 during Chromosome Segregation in *Caenorhabditis elegans* Sperm Meiosis **Cuc Huynh** San Francisco State University

453C Genetic mechanisms that restrict dendritic branching **Hannes Buelow** Albert Einstein College of Medicine

454C LIN-28 as a conserved factor controlling the juvenile-to-adult transition **Jana Brunner** Friedrich Miescher Institute for Biomedical Research

455C Investigating the temporal gene regulation of grinder formation **Sage Aviles** Saint Joseph's University

456C Single cell atlases in diverse nematode species **Manuela Rebecka Kieninger** Wellcome Sanger Institute

457V GLD-1 and GLD-2 Physically Interact with the GLP-1/Notch Receptor intracellular domain **Xue Han** University of Calgary

458V DAF-18/PTEN and the maintenance of VPC quiescence in dauer larvae **Alexandra Ketcham** Columbia University

459V GLD-1 function is regulated by RACK-1 in the germline of *C. elegans* **Kaitlin Chan** University of Calgary

460V Exploring the role of *C. elegans* furin proteases in the cleavage of ZP proteins **Chelsea Darwin** University of Pennsylvania

461V Roles for fate specifying transcription factors in collective cell migrations and fate transformations in *C. elegans* embryogenesis **Amanda Zacharias** Cincinnati Children's

462V Vitamin B12 levels affect Ephrin and Netrin signaling to create a gene-environment interaction in *C. elegans* embryonic development **Amanda Zacharias** Cincinnati Children's

463V Ral protein but not Ral signaling activity is required for exocyst function **You Wu** Texas A&M IBT

464V *ztf-16* is a novel heterochronic modulator that opposes adult cell fate in dauer and non-dauer life histories in *Caenorhabditis elegans* **Anuja Dahal** Central Michigan University

465V Search for "parasitism genes": comparative transcriptomics of different developmental stages of the nematode *Alloionema appendiculatum* **Violetta Mazakina** Severtsov Institute of Ecology and Evolution

466V Mechanism of Sexual Maturation of the Nervous System in the *C. elegans* Male **Jiarui Zhang** University of Rochester

467V *C. elegans* and *C. briggsae* show a species-specific difference in dependence on EGF signaling in both the VPC and P12 cell fate decision **Ashley Castelloe** Ohio State University

468V Unraveling an ancient mystery: A cooperative catalytic mechanism used by GLH-1 explains the persistent localization of Vasa-family helicases to germ granules **James Bosco** Univserity of Montana

469V IP-MS defines extensive regulators of EGO-1 showing potent *rde* phenotype and 22G siRNA biogenesis identification factor **Farees ud din Mufti** University of Science & Technology of China

470V Acetylcholine receptors regulate a reversal response in the male gonadal migratory leader cell **Elizabeth Strang** Pomona College

471V Comparison between phase-field model and coarse-grained model for characterizing cell-resolved morphological and mechanical properties in a multicellular system **Guoye Guan** Peking University

472V Expression and function of recently duplicated genes at specific developmental stages in *C. elegans* **Fuqiang Ma** School of Biological Sciences, the University of Hong Kong

473V VAB-8 and EFN-4/Ephrin act cell-autonomously downstream of MAB-5/Hox to drive QL posterior migration **Vedant Jain** University of Kansas

474V Automated analysis of cellular morphology with resolved cell identity throughout *C. elegans* embryogenesis **Guoye Guan** Peking University

475V Sex-determination in the male/female species *C. nigoni* **Jonathan Harbin** Rowan SOM

476V Maintenance of neuronal identity by Hox proteins through a homeostatic mechanism **Paschalis Kratsios** University of Chicago

477V Revisiting hox gene evolution, and Hox cluster linkage across Nematoda **Joseph Kirangwa** University of Cologne

478V Epidermal ribosome synthesis inhibition induces a nutritional uncoupled organism-wide quiescence in *C. elegans* **Elif Sarinay Cenik** University of Texas, Austin

479V Organelle specific V-ATPase pumps with distinct functions in unicellular tubulogenesis **Liakot Khan** Massachusetts General Hospital and Harvard Medical School

480V The role of 3'UTR regulation of *ifet-1* in early *C. elegans* development. **Claire Nuessmeier** Marquette Univ

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481A Harnessing natural genetic variation to identify structure-specific molecular mechanisms of per- and polyfluoroalkyl substances (PFAS) toxicity **Tess Leuthner** Duke University

482A Species-specific loss of a gene involved in protein glycosylation leads to complete embryonic lethality in the hybrids between *Caenorhabditis briggsae* and *C. nigoni* **Dongying Xie** Hong Kong Baptist University

483A Cultivating *C. elegans* in its true ecological niche: a peek into nematode-microbe interaction in a laboratory-based "natural habitat" **Rocel Amor Indong** Yonsei University Mirae Campus

484A Disease-decreasing diversity: more biodiverse *C. elegans* communities contain fewer nematode-infecting pathogens **Lisa van Sluijs** Wageningen University and Research

485A Genomic signatures of asexual reproduction in *Diploscapter* nematodes **George Chung** New York University

486A Radioactivity of nematode collection site in Chernobyl Exclusion Zone does not predict mutation load or mutagen tolerance **Sophia Tintori** New York University

487A Natural variation in *Caenorhabditis elegans* egg-laying behaviour modulates an intergenerational fitness trade-off **Laure Mignerot** CNRS, UCA

488A Natural microbiome protects against paralysis in an amyloid-beta model of disease **Feng Xue** University of Kent

489A Divergence and similarities of the embryonic transcriptomes of nematodes **Tarja Tamara Hoffmeyer** University of Cologne

490A GWA in a bottle: a flexible experimental system for genome-wide association mapping in *C. elegans* and related nematodes **Stefan Zdraljevic** University of California, Los Angeles

491A Marvelous Mutants of C. *inopinata*: Forward Screen Reveals Body Size Mutations **Kimberly Moser** University of Oklahoma

492A *F1 hybrid male sterility can be rescued by homozygotic X-chromosome introgression* **Runsheng Li** City University of Hong Kong

493A Co-segregation of recombinant chromatids maintains genome-wide heterozygosity in an asexual nematode **Marie Delattre** CNRS

494A Getting inside sperm gigantism: Electron microscopy of *C. macrosperma*'s giant sperm cells **Asher Cutter** University of Toronto

495A Evo-Devo-Neuro: Neuronal specification by terminal selectors in the *Pristionchus pacificus* nervous system **Curtis Loer** Univ San Diego

496A Rewiring TRA-1 regulation in germ cells during nematode evolution **Ronald Ellis** Rowan University SOM

497A Investigating P granule localization and temperature dynamics across the *Caenorhabditis* phyla **Lisa Petrella** Marquette University

498B Nigon elements as organising principles in nematode genome evolution **Mark Blaxter** Wellcome Sanger Institute

499B What can we learn about aging from an experimental population system with *C. elegans*? **Andrea Scharf** Missouri University of Science and Technology

500B Studying the mode of action of the new nematicide cyclobutrifluram in *Caenorhabditis elegans* **Chantal Wicky** University of Fribourg, Switzerland

501B Substantial Programmed DNA Elimination in Mesorhabditis nematodes **Marie Delattre** CNRS

502B COSMIC signature and strand symmetry of spontaneous mutations in *Caenorhabditis elegans* **Charles Baer** University of Florida

503B Direct inference of the distribution of fitness effects (DFE) of spontaneous mutations from recombinant inbred *C. elegans* mutation accumulation lines: support for Fisher and Gillespie **Charles Baer** University of Florida

504B The *C. elegans* proteome response to two protective *Pseudomonas* symbionts **Katja Dierking** University Kiel

505B The wild microbes of a fig worm **Gavin Woodruff** University of Oklahoma

506B Evolution and plasticity of *Caenorhabditis* egg-laying behaviour **Christian Braendle** CNRS

507B Predator-prey coevolution drives natural diversity in *Caenorhabditis elegans* chemotaxis towards predatory fungal odor **TzuHsiang Lin** Institute of Molecular Biology, Academia Sinica, Taipei 11529, Taiwan

508B Linking wild alleles to acute ethanol behavioral responses in *C. elegans* **Marijke van Wijk** Wageningen University & Research

509B Interrogating the evolution of host-microbe interactions with fig worms **Austin Link** University of Oklahoma

510B A hybrid non-motile cilium requires motility apparatus for mechanosensation **Dhruvin akbari** Simon Fraser University

511B Solving a genetic paradox: how a tRNA synthetase became a killer **Polina Tikanova** Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA), Vienna BioCenter (VBC)

512B A novel selfish gene that selectively exploits mitochondria to subvert Mendelian segregation **Alevtina Koreshova** Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA)

513B How nematodes acquired the specific relationship with their vector beetles? **Haru Kirino** Meiji University

514B The *C. elegans* microbiome buffers the effects of pathogenic *Stenotrophomonas* bacteria on host health and fitness **Ashley Foltz** University of Nebraska - Lincoln

515B Halophile nematodes live in America's Dead Sea **Julie Jung** University of Utah

516C Conjugative plasmids are necessary for adherence of commensal-like bacteria to *C. elegans* intestinal epithelium **Dalaena Rivera** San Diego State University

517C Gene family evolution of Argonaute regulatory proteins across the *Caenorhabditis* phylogeny **Daniel Fusca** University of Toronto

518C Are *C. elegans* behaviors relevant for the worm in the real world? Studying worm behavior in its native ecology **Jongmin Park** Yonsei University Mirae Campus

519C Quantitative high throughput measurement of selection in an animal system via novel barcode library transgenesis **Zachary Stevenson** University of Oregon, Institute of Ecology and Evolution

520C Genetic assimilation underlies the emergence of novel neuronal functions. **Andrea Millán Trejo** Instituto Biomedicina Valencia-CSIC

521C *C. elegans* as a model to investigate the interactions of soil invertebrates with microplastics **David Elliott** The Open University

522C Evolution of genes that negatively regulate cell proliferation in nematodes **Nikita Jhaveri** McMaster University

523C A tale of two nematodes: Evolution of neuronal fate specification in *C. elegans* and *P. pacificus* **Yasmin Ramadan** Columbia University

524C Evolution of fem-1 activity in Caenorhabditis **James Kennedy** Rowan GSBS

525C Measuring the fitness of a large panel of wild *C. elegans* isolates against pathogenic bacteria **Yin Chen Wan** University of Toronto

526C Understanding neuron type evolution at single-cell resolution **Adrián Tarazona Sánchez** Instituto de Biomedicina de Valencia

527C Molecular changes of a chemosensory component in males may facilitate the mating system transition from dioecy to androdioecy in *Caenorhabditis* species **Harini Kannan** The Hong Kong University of Science and Technology (HKUST)

528C Functional analysis of Hox genes in the nematode *Panagrolaimus* sp. PS1159 **Viktoria Hellekes** University of Cologne

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530C Assessing the impact of environmental versus genetic variation on vulval precursor cell fates and their possible evolution under pleiotropy **Marie Marcaillou** Institut de Biologie de l'ENS (IBENS), Département de biologie, École normale supérieure, CNRS, INSERM, Université PSL

531C Exploring the evolution of pesticide resistance in real-time **Luna Qingyang Li** University of Oxford

532C Higher-order epistasis shapes natural variation in germ stem cell niche activity **Sarah Fausett** University of North Carolina Wilmington

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536V Natural polymorphisms in the GTPase-activating protein GAP-2 underlie correlated variation in foraging behavior and the dynamic neuron-specific expression of DAF-7 **Harksun Lee** Harvard Medical School

537V Interaction of genetic variation and diet on stress resistance in *Caenorhabditis tropicalis* isolates **Tzitziki Lemus** University of California Los Angeles

538V Programmed DNA elimination is the ancestral state in *Caenorhabditis* **Lewis Stevens** Wellcome Sanger Institute

539V Manipulating sex determination in *Caenorhabditis* tetraploids to evaluate Haldane's rule **Jonathan Harbin** Rowan SOM

540V How *Caenorhabditis elegans* responds to Candida albicans: from parental attraction to progeny rejection. **Romina D'Almeida** INSIBIO CONICET

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541A Modular safe-harbor transgene insertion for targeted single-copy and extrachromosomal array insertion in *Caenorhabditis elegans*. **Sonia el Mouridi** KAUST

542A PALS-22 modulates RNAi-directed silencing of repetitive DNA and epigenetic inheritance **Chee Kiang Ewe** Tel Aviv University

543A The E isoform of MEC-2 with a long C-terminal provides mechanosensation **Talia Magdolna Keszthelyi** Semmelweis University

544A New models of transcriptional adaptation in *C. elegans* **Yuntao Charlie Song** Max Planck Institute for Heart and Lung Research

545A Distinct roles for SAM synthases in histone methylation **Alexander Munden** University of Massachusetts Chan Medical School

546A High-throughput Screening of RNAi Phenotypes in *C. elegans* **Eleanor Warren** London institute of medical sciences

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549A Uncovering genomic drivers of ZGA and early embryonic development in *C. elegans* using single-nucleus multiomics **Ser van der Burght** University of Cambridge

550A How is *unc-6/Netrin* regulated and what are its primary roles in establishing various neuronal circuits? **Jonathan Rumley** Columbia University

551A Sequencing-based mutagenesis screening of *C. elegans* identifies modifiers of *let-23* EGFR signaling **Hillel Schwartz** California Institute of Technology

552A UNC-13 microexon alternative-splicing regulators and its functional relevance in *C. elegans* **Bikash Choudhary** Southern Methodist University

553A Heterochromatin formation in embryogenesis at single nucleus resolution **Toby Buttress** University of Cambridge

554A SET-24 mediates epigenetic silencing maintenance in the *C. elegans* germline **Chenming Zeng** University of Cambridge

555A Dissecting the molecular mechanisms of miRNA-binding Argonautes in spermatogenesis: shedding light on unexplored regulators of paternal fertility **Volker Nitschko** University of Toronto

556A A comparative single-cell neuronal transcriptome for both sexes of *C. elegans* **Rizwanul Haque** Weizmann Institute of Science

557A Homeodomain-interacting protein kinase (HPK-1) maintains neuronal homeostasis during normal aging and systemically regulates longevity from serotonergic and GABAergic neurons **Maria Lazaro-Pena** University of Rochester Medical Center

558A Altering sequence features of miRNA duplexes influences strand selection and reveals potential imbalances in the relative stabilities of each miRNA strand **Jeffrey Medley** Kansas State University

559A Noncanonical germline RNA expression from multi-copy transgenes **Maya Spichal** University of Massachusetts Chan Medical School

560A Characterization of *Caenorhabditis elegans* F07A5.4, an ortholog of human Olfactomedin 1 **Karunambigai Kalichamy** Kennesaw State University

561A Understanding the chemical kinetics of auxin-inducible degradation (AID) across TIR1 and degron tag variants **Jeremy Vicencio** Barcelona Institute of Science and Technology (BIST)

562A Misregulation of mitochondrial 6mA promotes the propagation of mutant mtDNA and causes aging in *C. elegans* **Anne Hahn** Queensland Brain Institute - University of Queensland

563A CSR-1 RNA interference pathway restricts holocentromere protein CENP-A/HCP-3 localization in

Caenorhabditis elegans **Charmaine Yan Yu Wong** The University of Hong Kong

564A The clock gene homolog *Ror/nhr-23* generates both 8-hour molting rhythm and 24-hour circadian rhythm. **Shingo Hiroki** Tokyo Metropolitan Instituite of Medical Sciences

565A How does RNA polymerase III promote longevity? **Yasir Malik** University of Kent

566A Genetic Interactions Between the Gut Microbiota and *C. elegans* Intestinal Cells **Jessica Hill** Colorado State University

567A Polymorphic short tandem repeats and their impacts on gene expression variation in *Caenorhabditis elegans* **Gaotian ZHANG** Northwestern University

568A Natural genetic variation in multigenerational non-genetic phenomena in *C. elegans* **Marie Saglio** Institut de Biologie de l'ENS (IBENS)

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572A Worm Cool Kit: *C. elegans*-specific online tools for single-guide CRISPR planning and gene conservation evaluations **Anat Nitzan** Tel Aviv University

573A A cap-associated ribonucleoprotein complex as a platform for assembly of the *trans*-spliceosome in *C. elegans* **Jonathan Pettitt** University of Aberdeen

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575A Identification and Characterization of New Regulators of SKN-1/Nrf **Danielle Garsin** The University of Texas HSC Houston

576A Context-dependent transcriptional responses to BMP signaling in *C. elegans* **Cathy Savage-Dunn** Queens College and the Graduate Center, CUNY

577A Heritable epigenetic changes are constrained by the dynamics of regulatory architectures **Antony Jose** University of Maryland

578A Transcriptome profiling the *Caenorhabditis elegans* intestine reveals how ELT-2 negatively and positively regulates intestinal gene expression within the context of a gene regulatory network **Erin Osborne Nishimura** Colorado State University

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580A DOT-1.1 (DOT1L) deficiency in *C. elegans* leads to small RNA-dependent gene activation **Alla Grishok** Boston University School of Medicine

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582A Rethinking microRNA-mediated regulation of *lin-28* in the *C. elegans* heterochronic network **Charles Nelson** UMass Chan Medical School

583A Formation of fountains by cohesin in nematodes: micro-TADs for the limitation of enhancer search space **Peter Meister** University of Bern

584A The role of the endogenous nuclear RNAi pathway in chromatin remodeling during *Caenorhabditis elegans* dosage compensation **Hector Mendoza** University of Michigan

585A The role of chromatin-interacting replisome subunits in transgenerational epigenetic inheritance (TEI) **Juan Carlos Rueda Silva** University of Cambridge

586A Last(?) piece of the puzzle: piRNA processing by a trimeric Schlafen-domain nuclease **Rene Ketting** Institute of Molecular Biology

587A SmY RNAs, an essential family of nematode-specific non-coding RNAs that play a key role in spliced leader *trans*-splicing **Mohammed Alkhafaji** University of Aberdeen

588A Functional characterization of GTSF-1 across clade V nematodes reveal conserved role in RNA-Dependent RNA polymerase activity as well as novel interactions with PETISCO complex **Shamitha Govind** Institute of Molecular Biology

589A Elucidating the molecular and genetic mechanisms of action of cocaine by leveraging *C. elegans* genetics and behavior **Rachid El Bejjani** Davidson College

590A From WormBase to the Alliance of Genome Resources – Developments and Data Migrations **Stavros Diamantakis** EMBL-EBI

591A Chromatin modifier SET-25/G9a is required to modulate the transcriptome revealing different adult gene expression and behavioral profile in the next generation after early life stress in *Caenorhabditis elegans* **Aina Bellver Sanchis** Universitat de Barcelona

592B A neural-specific mechanism to regulate PQM-1 expression and survival from hypoxia **Heather Hundley** Indiana University

593B Using TWIST1 patient mutations in HLH-8 structure/function studies **Ann Corsi** The Catholic University of America

594B An insulin signaling pathway in the parasitic nematode *Brugia malayi* **Kirsten Crossgrove** University of Wisconsin-Whitewater

595B Characterization of NHR-25 genome-wide binding reveals role for combinatorial transcription factor action **Deborah Thurtle-Schmidt** Davidson College

596B SIN3 acts in distinct complexes to regulate the germline transcriptional program in *C. elegans* **Francesca Palladino** Ecole Normale Supérieure de Lyon, Lyon University

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598B *De Novo* designed protein switches in *C. elegans* **Erika Sorensen** Wabash College

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601B U6 snRNA m6A methylation is required for effective cis- and trans-splicing **Alper Akay** University of East Anglia

602B The Unknown unknowns: finding functions for poorly annotated genes in *C. elegans* **Amy Walker** UMASS Medical School

603B SAM synthase specific effects on histone methylation, gene expression and survival **Amy Walker** UMASS Medical School

604B Regulation of the period protein homolog LIN-42 by KIN-20 **Priscilla Van Wynsberghe** Colgate University

605B BRC-1 and BRD-1 nucleosome ubiquitylation: conserved features and functional importance **Mikaela Stewart** TCU

606B A single-cell RNA-Seq strategy that uses combinatorial barcoding for whole transcriptome coverage of *C. elegans* neurons **David Miller** Vanderbilt University,

607B A single allele to determine the spatiotemporal expression pattern while also allowing for functional analysis of long non-coding RNAs **Sandeep Wontakal** Johns Hopkins University School of Medicine

608B An anchored experimental design and meta-analysis approach to address batch effects in large-scale metabolomics **Lauren McIntyre** University of Florida

609B The protective roles of heterochromatin in the response to stress and tissue integrity **Jan Padeken** Institute of Molecular Biology

610B Ribo-On and Ribo-Off: efficient manipulation of endogenous gene expression using a self-cleaving ribozyme **WEI ZOU** Zhejiang University

611B Imaging transcriptional dynamics during development using a fluorescently-labelled Argonaute and its application to nested gene interactions **Antoine Barriere** IBDM / CNRS / Aix-Marseille University

612B H4K20 Methylation Regulation in Cell Cycle and Dosage Compensation **Anati Alyaa Azhar** University of Michigan, Ann Arbor

613B Optimizing genome-wide association approaches to determine the genetic basis of natural variation in starvation resistance **Jameson Blount** Duke University

614B Investigating the role of chromatin structure in starvation resistance via novel histone variant *hil-1/* H1-0 using *C. elegans* **Kinsey Fisher** Duke University

615B L1 starvation gene-expression atlas at single-cell resolution **Jingxian Chen** Duke University

616B Sensory neuron transcriptomes reveal complex neuron-specific function and regulation of mec-2/ Stomatin splicing **Canyon Calovich-Benne** Southern Methodist University

617B Scaffold protein interactions govern embryonic mRNA decapping condensates **Elva Vidya** Goodman Cancer Research Institute, McGill University

618B The expanded role of the conserved *snpc-1* and *snpc-3* gene families in *C. elegans* small RNA transcription **Lars Benner** Johns Hopkins University

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625B Gene co-expression network analysis identifies regulators of activity-regulated gene expression patterns in the AFD thermosensory neurons **Samuel Bates** Brandeis University

626B Investigating the mechanism of heterochromatin sequestration by the euchromatin reader MRG-1: a role for mitochondrial stress? **Carole Zaratiegui** Helmholtz Munich

627B Developing a quantitative gene network for the epidermal stem cells of *C. elegans* **Alicja Brozek** Imperial College London

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631B Cer1 Virus-like Particles mediate horizontal and vertical transmission of epigenetically encoded environmental information **Renee Seto** Princeton University

632B Elucidating mechanisms of susceptibility and resistance to distinct Microsporidia species in wild isolates of *C. elegans* **Meng Xiao** University of Toronto

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634B ICL-1 suppresses the pathogenicity of mitochondrial DNA damage **Chai Chee Ng** The University of Queensland

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636B Hedgehog-related signaling regulates the formation of starvation-induced gonad abnormalities downstream of Insulin/IGF-1 signaling in *Caenorhabditis elegans* **Ivan Falsztyn** Duke University

637B Dissecting the role of RNT-1 in epidermal stem cell patterning in *C. elegans* **Amanda Lin** Imperial College London

638B Wormbiome: a comprehensive genomic database of the *Caenorhabditis elegans* microbiome **Adrien Assie** Baylor College of Medicine

639C Distinguishing the sex-specific roles of germline small RNA pathways **Mathias Renaud** University of Toronto

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650C Inheritance of *Sid-1* epigenetic silencing is modulated by bacterial diet and growth temperature **Nicole Bush** Harvard University

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656C Metabolic regulation of the RNA methylome in *C. elegans* **Katarzyna Hencel** University of East Anglia

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663C An updated *C. elegans* nuclear body muscle transcriptome for studies in muscle formation and function **Nicholas Cuda** Arizona State University

664C Chromodomain Proteins CEC-3 and CEC-6 Restrict Transgenerational Epigenetic Inheritance in a Temperature Sensitive Manner **Phoebe Bhagoutie** University of Toronto

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666C ZNFX-1 plays a surprisingly complex role in propagating epigenetic states across generations **Daniel Durning** UMass Medical School

667C Investigating an *rde-3*-independent mechanism of piRNA silencing in *C. elegans.* **Wendy Tan** University of Massachusetts Medical School

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672C More than a SET of parts: Probing the establishment of transgenerational epigenetic inheritance by the multi-domain histone lysine methyltransferase, SET-25 **Jessica Hawes** University of Sydney

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674C Characterization of a new isoform of the MEC-8 protein **Camille Rongier** Université of Bordeaux

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676C Investigating Proteins Specific for *C. elegans* snRNA in SL1 *trans*-splicing **Feyisola Fasimoye** University of Aberdeen

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678C Aberrant germline H3K4me3 leads to an increase in *spo-11*- and R-loop-dependent DNA damage **McLean Sherrin** McGill University

679C The transgenerational accumulation of repressive H3K9me2 confers longevity via a DAF-12-dependent and a DAF-12-independent pathway **Jaime Croft** University of Massachusetts Lowell

680C Deciphering the variable relationship between overlapping and distinct foci of TBP-1 and PRDE-1 in piRNA biogenesis **Jackson Roberts** Yale University

681C mScarlet and split fluorophore mScarlet resources for plasmid-based CRISPR/Cas9 knock-in in *C. elegans* **Gillian Witten** The University of Texas at Austin

682C Characterization of *nhr-25* DNA Binding Domain mutant with CUT&Tag **Belle Ange Itetere** Davidson College

683C Genome-wide mapping and analysis of the transposon landscape of *C. elegans* isolates **Cora Albers** University of Oregon

684C Germline silencing of the X chromosome revealed by CRISPR knock-in in *C. elegans* **Stephen Pullman** The University of Texas at Austin

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686C Mapping regulatory elements across nematode taxa to detect reprogramming **Thomas King** University of Utah

687C High throughput identification of Genetic Modifiers: A bioinformatics approach with Machine Learning **K. M. Tahsin Hassan Rahit** University of Calgary

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697V Neuronal GPCR NMUR-1 regulates immune response by promoting the expression of energy production proteins in *Caenorhabditis elegans* **Phillip Wibisono** Washington State University

698V Investigating the Localization and Functions of Intestinal Secondary Argonautes **Madeline Prevec** University of Toronto

699V Elucidation of the link between RNA maturation and neurodegeneration by a cell-specific transcriptomic analysis in *C. elegans* **Sara Savaheli** University of Bordeaux

700V Exploring the heat shock transcription factor 1 (HSF-1) mediated transcriptional activation in *Caenorhabditis elegans* **Márton Kovács** Eotvos Lorand University

701V Differential contributions of condensin to the establishment and maintenance of dosage compensation in *C. elegans* **Jessica Trombley** University of Michigan

702V Quantitative analysis of *C. elegans* transcripts by Nanopore direct-cDNA sequencing reveals terminal hairpins in non trans-spliced mRNAs **Denis Dupuy** Inserm-Université de Bordeaux

703V Ketamine induces apical extracellular matrix modifications in *Caenorhabditis elegans* **Duygu Yucel** Erciyes University

704V Reversal frequency as a measure of health in transgenerational longevity mutants **Arthur Colunga** University of Massachusetts Lowell

705V SEMO-1, a novel copper-dependent methanethiol oxidase and selenium-binding protein, mediates selective stress resistance in *C. elegans* **Verena Alexia Ridolfi** Friedrich-Schiller-Universität Jena, Institute of Nutritional Sciences, Nutrigenomics Section, Jena, Germany

706V Modeling human neurodevelopmental disorder-associated *hAGO1* mutations in *C. elegans* Argonaute *ALG-1.* **Victor Ambros** UMass Chan Medical School

707V Regulation of piRNA-mediated silencing by Arginine Dimethylation **Dylan Wallis** University of Southern California

708V JBrowse 2, a new genome browser for WormBase **Scott Cain** Ontario Institute for Cancer Research

709V The role of LIN-39 in promoting the longevity of *daf-2* mutant *C. elegans* **Christian Riedel** Karolinska Institutet

710V The mitochondrial genome of *C. elegans* is functionally 6mA methylated **Lantana Grub** Vanderbilt University

711V Whole-body gene expression atlas of an adult metazoan **Abbas Ghaddar** University of Virginia

Neurobiology

712A Neuron type-specific degeneration occurs through distinct mechanisms in a *C. elegans* model of SOD1 ALS **Alexander Lin-Moore** Brown University

713A Stress-induced remodeling of pharyngeal nervous system function via interorgan signaling from the intestine **Surojit Sural** Howard Hughes Medical Institute, Columbia University

714A Cohesin and a PLZF Protein Direct GABAergic Neuronal Development **Dongyeop Lee** HHMI/MIT

715A Building a Homeobox Expression Atlas in the *male C. elegans* nervous system **Robert Fernandez** Columbia University

716A *rpm-1*/MYCBP2 interacts with the Kallmann Syndrome gene *kal-1*/KAL1 to regulate neuronal branching **Carlos Diaz-Balzac** University of Rochester

717A CFI-1 (ARID) and EGL-5 (HOX) transcription factors establish and maintain interneuron identity in a touch reflex circuit **Filipe Alberto Gonçalves Marques** University of Chicago

718A Constructing a tool box for imaging and stimulating pharyngeal neurons to understand foraging behavior in *C. elegans* **Jun Liu** Max Planck Institute for Neurobiology of Behavior – caesar

719A Global characterization of neuronal gene expression profiles and neuro-differentiation programs in evolutionary divergent *Caenorhabditis* species **Itai Antoine Toker** Columbia University

720A Serotonin-Dependent Memory of Juvenile Experience Regulates Sexually Dimorphic Connectivity through the Conserved Zn Finger Transcription Factors LIN-29A **Chien-Po Liao** Columbia University

721A Loss-of-function variants in MYCBP2 cause neurobehavioural phenotypes and corpus callosum defects **Muriel Desbois** Seattle Children's Research Institute

722A Towards comparative neural physiology of *C. elegans* and *Tardigrada* **Ana Lyons** University of California, San Francisco

723A Decoding the regulatory factors underlying synthesis of toxic dipeptides in a *C. elegans* model of *C9orf72* ALS/FTD **Nidhi Sharma** University of Chicago

724A Principles for coding associative memories in a compact neural network **Christian Oliver Pritz** University of Turin

725A The transcription factor MEC-3 regulates the cell surface adhesion proteins FMIL-1 and ZIG-1 to direct neuron-specific synapses in the PVD nociceptive circuit **Tyler Kennedy** Vanderbilt University

726A Impact of the tubulin code on nerve cell morphology & function over long timescales in a living organism **Nagesh Kadam** Institut Curie, CNRS UMR168

727A The Role of *C. elegans* Metaxins in Mitochondrial Homeostasis **Jonathan Dietz** Rutgers University

728A Characterising the phenomenon of swarming in *C. elegans* **Surabhi Sudevan** Max Planck Institute of Animal Behaviour

729A Giant Ankyrin (UNC-44) mediates neuron maturation through interactions between its C-terminus, UNC-119, and UNC-33. **Matthew Rich** University of Utah

730A An intestinal sphingolipid promotes neuronal health across generations **Wenyue Wang** Monash University

731A Molecular screening of genes that regulate the integration of temperature and odor stimuli in *C. elegans* **Zhenhua Shao** RIKEN

732A Mechanosensory pathways are involved in prey detection in the predatory nematode *Pristionchus pacificus* **Marianne Roca** Max-Planck-Institut für Neurobiologie des Verhaltens – caesar

733A 'Scanning' and 'glocal search': new behavioral states in worms **Saurabh Thapliyal** University of Fribourg

734A *Caenorhabditis elegans* as a model for human pain genes **Aurore Jordan** University of Fribourg

735A Mesodermally-derived GLR glia control *C. elegans* motor behavior and require *let-381/FoxF* and *unc-30/Pitx2* for their fate specification **Nikolaos Stefanakis** The Rockefeller University

736A Using *Caenorhabditis elegans* to understand the mechanism and the function of towering behaviour **Daniela Malgarini Perez** Max Planck Institute of Animal Behavior

737A Functional and behavioral impacts of human *NRXN1* variants identified through expression in *C. elegans* neurons. **Dustin Haskell** University of Pennsylvania Perelman School of Medicine

738A Characterisation of a Cationic Dopamine-Gated Ion Channel in *C. elegans* and other invertebrates **Amy Courtney** MRC Laboratory of Molecular Biology

739A Studying evidence accumulation and the neurogenic control of pharyngeal pumping **Luis Alvarez** Max Planck Insitute Neurobiology of Behavior

740A Bidirectional spiraling is a novel collective behavior in *C. elegans* involving the AFD neuron **Laura Persson** University of California, San Francisco

741A Effects of early life adversity on the adult brain of *Caenorhabditis elegans* **Giulio Valperga** Columbia University

742A Visualizing neuronal outgrowth and circuit assembly of the *C. elegans* pharyngeal nervous system **Wen Xi Cao** Columbia University

743A AGEF-1 activates RAB-35 and promotes axonal fragility by altering neuron-epidermal attachment **Igor Bonacossa-Pereira** The University of Queensland

744A Membrane calcium ATPase-3 (MCA-3) is a Calcium/calmodulin-dependent protein kinase-1 (CMK-1) target essential for *C. elegans* thermo-nociceptive habituation **Martina Rudgalvyte** University of Fribourg

745A Neuropeptidergic signaling underlying experience-dependent behavioral plasticity **Ellen Geens** KU Leuven

746A Behavioural analysis of nematode natural diversity **Tanara Peres** Imperial College London

747A Molecular mechanisms of *Bacillus subtilis*-induced protection against □-synuclein aggregation in *Caenorhabditis elegans* **Deep Prakash** University of Edinburgh, UK

748A Fatty acids derived from the probiotic *Lacticaseibacillus rhamnosus* HA-114 suppress age-dependent neurodegeneration **Audrey Labarre** CRCHUM, University of Montreal

749A Loss of peptidergic regulation of cholinergic transmission induces postsynaptic homeostatic compensation **Jiajie Shao** Buchmann Institute for Molecular Life Sciences, Goethe University

750A Restructuring of a lateralized neural circuit during associative learning by asymmetric insulin signaling **Leo Tang** Albert Einstein College of Medicine

751A Sexually dimorphic nutrient-dependent behavioral prioritization in *C. elegans* **Chance Bainbridge** University of Rochester Medical Center

752A Electrical synapses and the *C. elegans* connectome **Ben Mulcahy** Lunenfeld-Tanenbaum Research Institute

753A Hierarchical behavior control by a single class of interneurons **Tianqi Xu** University of Science and Technology of China

754A Reverse genetic screen of Parkinson's disease-susceptibility genes identifies novel modulators of alpha-Synuclein neurotoxicity in *C. elegans* **Roman Vozdek** EURAC Research

755A Pheromone-based animal communication influences the production of somatic extracellular vesicles **Agata Szczepanska** Institute od Biochemistry and Biophysics of Polish Academy of Sciences

756A Role of GLR-1 In Age Dependent Memory Decline **Attila Stetak** University of Basel

757A *Caenorhabditis elegans* model of Riboflavin Transport Deficiency (RTD) disorder shows reduced growth, synaptic transmission defects and locomotion deficits **Ramesh Narayanan** ANZAC Research Institute

758A Multi Time-scale Neuronal Activities in the Brains of Freely Moving *C. elegans* **Charles Fieseler** University of Vienna

759A Development of a machine learning classifier to predict GPCR-peptide interactions **Larissa Ferguson** MRC Laboratory of Molecular Biology

760A Long-term posture dynamics across development reveals stereotyped and individual-specific behavioral signatures **Yuval Harel** Technion - Israel Institute of Technology

761A Neural activity-independent regulation of synaptic vesicles by K2P channels. **Jun Meng** Lunenfeld-Tanenbaum Research Institute

762A Number not assigned

763A m6A DNA methylation controls forgetting of long-term memories in *C. elegans* **Attila Stetak** University of Basel

764A Quantitative Behavioural Phenomics: *C. elegans* as a model organism for the development of high-throughput precision medicine **Thomas O'Brien** Imperial College London

765A Functions of anti-microbial peptides in neural circuits and behaviour **Xinyi YANG** MRC Laboratory of Molecular Biology

766A Visualising neuromodulation *in vivo* **Emma Clark** University College London

767A CaMKII mediates sexually dimorphic synaptic transmission at neuromuscular junctions in *C. elegans* **Xiajing Tong** ShanghaiTech University

768A NeuroPAL: Whole-Nervous-System Cell IDs to Map Neural-Communication and Cell-Fate Dynamics in Live Animals **Eviatar Yemini** UMass Chan Medical School

769A The central role of the transcription factor CREB in the behavioral changes induced by starvation and glucose exposure **Julian Valdes** UNAM IFC

770A Specific glial regulators of ions and solutes are required for different chemosensory function in *C. elegans* **Laura Bianchi** University of Miami

771A Genetic analysis of circuit connectivity identifies key processes important for the development and maturation of excitatory synaptic connections to GABAergic neurons **Michele Lemons** Assumption University

772A Innexin hemichannel regulates transmission of temperature information during *C. elegans* thermotaxis **Shunji Nakano** Nagoya University

773A Social contexts modulate *C. elegans* thermotaxis behavior **Shunji Nakano** Nagoya University

774A Combining human and *in silico* judgement in the search for genetic regulators of nictation **Liesbet Temmerman** KU Leuven

775A Lipid peroxidation promotes regenerative axonal fusion and functional recovery after nerve injury **Lizhen Chen** University of Texas Health Science Center San Antonio

776A Selected mRNA decay triggers axon degeneration in adult *C. elegans* **Dong Yan** Duke University

777A Reciprocal learning enhancement between two conditioned stimuli during classical conditioning in the complex environment **He Liu** Beijing Normal University

778A Mind of a dauer: Comparative connectomics reveals developmental plasticity **Junho Lee** Seoul National University

779A Alterations of the UNC-33, UNC-119, and UNC-44 Ternary Complex Negatively Impact Autophagy **Andrea Holgado** St. Edward's University

780A Differential quantification of neuropeptides supports neuroregulatory & behavioral genetics **Liesbet Temmerman** KU Leuven

781A *C. elegans* behavioral screen identifies nrx-1 allele-specific small molecule modifiers **William Haury** University of Pennsylvania

782A Worm Neuro Atlas: A Python package combining multimodal *C. elegans* neural datasets **Andrew Leifer** Princeton University

783A Negative autoregulation and Hox activation maintain critical levels of terminal selector expression **Honorine Destain** University of Chicago

784A The thermosensory specializations of soil-transmitted parasitic nematodes **Astra Bryant** University of Washington

785A The neuropeptide FLP-17 regulates a novel oviposition behavior that increases the reproductive fitness of the hermaphrodite mothers in 3D cultivation **Jin Lee** Yonsei University

786A Dye-uptake of amphid neurons enhances phototaxis behavior in a LITE-1 dependent manner **Hirofumi Kunitomo** The University of Tokyo

787A Classification of *C. elegans* behaviors based on centroid movement and posture analyses **Yuichi Iino** The University of Tokyo

788A Visualizing neuropeptide GPCR activation in *C. elegans* using PepSee **Isabel Beets** KU Leuven

789A Studying CEPsh glia uncovers factors of early development and lifelong maintenance of astroglia architecture **Georgia Rapti** European Molecular Biology Laboratory

790A Inter-tissue regulation of neuromuscular function by the G protein-coupled receptor FSHR-1 **Jennifer Kowalski** Butler University

791A Caught in the act: visualizing sex-specific neuroblast divisions in the ventral cord **Andrea Kalis** St. Catherine University

792A Uncovering new GABA transporters in *C. elegans* using knock-out strains and classical immunostaining **Nalia Samba** IBENS - ENS - CNRS - INSERM - PSL university

793A Functional recovery associated to dendrite regeneration in PVD neuron **Anindya Ghosh Roy** National Brain Research Centre

794A *sma-1* mutants have a reduced response to electricity **Jared Young** Mills College at Northeastern University

795A *sut-6/NIPP1* modulates tau toxicity **Brandon Henderson** Veterans Affairs Puget Sound Health Care System

796A A statistical analysis workflow for multivariate behavioural data in *C. elegans* **Daniel-Cosmin Marcu** Health and Medical University

797A Hox factors collaborate with or antagonize terminal selectors to generate neuronal diversity within the *C. elegans* ventral nerve cord **Manasa Prahlad** University of Chicago

798A Dissecting the *Caenorhabditis elegans* exploratory head movements **Pinjie Li** Chinese Academy of Sciences Key Laboratory of Brain Function and Diseases, Division of Life Sciences and Medicine, University of Science and Technology of China, Hefei, China

799A Identification of novel genetic interactions between RNA-binding proteins regulating neuronal development and animal fitness **Sharanja Premachandran** University of Toronto

800A Functional recovery during regeneration of a head ganglion neuron in *C. elegans* **Yuki Tsukada** Keio University

801A The gene *igeg-1* encodes a Neuregulin-like EGFR ligand **Andrew Hill** California Institute of Technology

802A Updates from the OpenWorm project: incorporating NeuroPAL data and ASH neuron electrophysiological recordings **Padraig Gleeson** University College London

803A *C. elegans* effort-versus-reward studies enabled by a novel microfluidic arena **Muneki Ikeda** Department of Neurology, Weill Institute for Neurosciences, University of California San Francisco

804A Tale of two behaviors: Sleep and Memory **Rashmi Chandra** University of California San Francisco

805A Investigating the role of CEP sheath glia in long term memory **Angel Garcia** UCSF

806A Social regulation of maternal provisioning via defined neurocircuits **Jadiel Wasson** University of Basel

807A Structure-function analysis suggests that the photosensor LITE-1 is a light-activated ion channel **Alexander Gottschalk** Goethe University

808B WormPicker: A general-purpose automated system for high-throughput genetic manipulation and analysis of *C. elegans* **Chris Fang-Yen** Ohio State University

809B Loss of *hlh-3* causes an interneuron to take on a sensory neuron-like morphology **Berenice Chavez Rojas** Boston Children's Hospital

810B A Neural Circuit for Proprioceptive Control of Undulatory Movement in *C. elegans* **Chris Fang-Yen** Ohio State University

811B Systematic overexpression screen of human 21 Chromosome genes in *C. elegans* **Jon Pierce** University of Texas at Austin

812B Natural variants in orthologs of autism and Williams syndrome risk genes account for variance in social clumping in *Caenorhabditis elegans* **Brooke Frohock** University of Texas at Austin

813B *C. elegans* males optimize mate-choice decisions via sex-specific responses to multimodal sensory cues **Douglas Portman** Univ Rochester Sch Med Dent

814B Transcriptional profiling and clearance of *apl-1* and its gene product APL-1, the *C. elegans* orthologue of human APP **Chris Li** City College of New York-CUNY

815B GOA-1 affects different parameters of mechanosensory habituation **Alvaro Luna** University of British Columbia

816B A community framework for development of of *C. elegans* whole-brain imaging analysis pipelines **Daniel Sprague** University of California, San Francisco

817B Investigating the roles of somatostatin-like receptors npr-16 and npr-24 on *C. elegans* behaviours. **William Bendena** Queen's University

818B Investigating behavioral responses to fire-exposed plant material in *C. elegans* **Melissa LaBonty** Southern Oregon University

819B Transcriptomic changes in *C. elegans* with mixed tau and TDP-43 pathology **Nicole Liachko** VA Puget Sound Health Care System

820B Pheromone-based animal communication influences the production of somatic extracellular vesicles **Michał Turek** Institute of Biochemistry and Biophysics Polish Academy of Sciences

821B Combined TDP-43 and tau pathology leads to selective neurotoxicity in *C. elegans* **Caitlin Latimer** University of Washington

822B PPRP-1/PHACTR1 holophosphatase controls SV cycle in *C. elegans* **Patrick Laurent** Université Libre de Bruxelles

823B Shaping Brain Function with Microbes **Elizabeth DiLoreto** Worcester Polytechnic Institute

824B Interaction Rules behind emergence of *C. elegans* aggregation **Youn Jae Kang** Max Planck Institute of Animal Behaviour

825B Pheromone perception during early development remodels neurodevelopment and accelerates neurodegeneration in adult *C. elegans* **Jingyi Peng** ShanghaiTech University

826B Investigating mechanisms of dendritic pruning in *Caenorhabditis elegans* **Paola Figueroa-Delgado** Yale University

827B UNC-43/CaMKII-triggered anterograde signals recruit $GABA_A$Rs to mediate inhibitory synaptic transmission and plasticity at *C. elegans* NMJs. **Yue Hao** School of Life Science and Technology, ShanghaiTech University

828B Sexual dimorphism in PVD neuron dendritic branching and its effect on male mating **Yael Iosilevskii** Technion - Israel Institute of Technology

829B Multiple Neuronal Signals Regulate the Plasticity of A Key Modulatory Neuron in A Memory Circuit **Wai Hou Tam** National Taiwan University

830B Restless legs syndrome drug screen in *C. elegans* model. **Rachel De Barros Oliveira** McGill University

831B Rapid detection and recognition of whole brain activity in a freely behaving *Caenorhabditis elegans* **Yuxiang WU** University of Science and Technology of China

832B RIM neurons integrate sensory and motor signals to modulate chemotaxis strategy **Talya Kramer** MIT

833B Peripheral Peroxisomal Lipid Signaling Targets a Serotonergic Neuron to Regulate Stress-Induced Aversive Memory in *C. elegans* **Shang-Heng Tsai** National Taiwan University College of Medicine

834B Transcriptomic Analysis and Candidate Screens for Genes in Stress-Induced Aversive Memory **Yen-Ju Chen** National Taiwan University

835B Role of Neuromodulation in CASY-1 mediated regulation of locomotion in *C. elegans.* **Navneet Shahi** Indian Institute of Science

836B The cell surface receptor GOGO-1 controls follower axon navigation in the ventral nerve cord **Debapriya Roy** Simon Fraser University

837B Neurogenetic mechanisms underlying sexually dimorphic behavioral states in *C. elegans* **Gregory Reilly** University of Rochester

838B Decoding the role of novel memory regulators CEY/YBX RNA binding proteins in neurons **Ashley Hayden** Baylor College of Medicine

839B Sensory encoding of temporal gradients **Maggie Chang** McGill University

840B Phenomic Characterization of *C. elegans* orthologs of Parkinson's Disease-Associated Genes **Joseph Liang** University of British Columbia

841B Investigating the role of a neural bottleneck in *C. elegans* **Elsa Bonnard** Max Planck Institute for Neurobiology of Behavior

842B Whole brain imaging of freely moving *C. elegans* under a thermal stimulus **Core Francisco Park** Harvard University

843B Regulation of Synaptic Development at Neuromuscular Junction via PXF-1 and RAC-2 Signaling **Reagan Lamb** University of Kentucky

844B Integrate or Disintegrate: understanding the neuronal mechanisms underlying sensory integration in *C. elegans* **Caroline Muirhead** Worcester Polytechnic Institute

845B Temperature-mediated chemotactic behavioral plasticity by aversive olfactory conditioning in *C. elegans* **Nour Halaby** McGill University

846B Cross-tissue tuning of neuronal proteostasis by an intestinal molecular chaperone and microRNA in *C. elegans* **Yingchun Ni** Department of Neurobiology and Department of Neurology of Second Affiliated Hospital, NHC and CAMS Key Laboratory of Medical Neurobiology, Zhejiang University School of Medicine, Hangzhou 310058, China

847B Analysis of the effect of *unc-11* on the aggregation and pathology in *C. elegans* Alzheimer disease models **Mira Sleiman** University of Bremen

848B Syndecan, netrin, guidance receptors and Rho-family GTPases cooperate to regulate the number of cellular extensions **Raphael Dima** Université du Québec à Montréal

849B MIG-6/papilin mediates long-term maintenance of neuronal architecture through the regulation of extracellular matrix organization and cell signaling **Ivan Valette** Université du Québec à Montréal

850B Uncovering novel neuropeptide regulators of associative behaviors in *C. elegans* **Emily Leptich** Baylor College of Medicine

851B AP180 Assembly Domain Controls Synaptic Vesicle Function via Condensates and Actin Cytoskeleton **Yu Wang** School of Life Sciences, Westlake University

852B Temporal Variation and Individuality in Decision-Making across Development **Smriti Bhardwaj** Technion

853B Neuromodulation of sexually dimorphic perceptual behaviors **Sonu Peedikayil Kurien** Weizmann Institute of Science

854B Ubiquitin Ligase Activity Inhibits CDK5 to Control Axon Termination **Nelson Ayala** University of Washington School of Medicine

855B The olfactory neuron AWC^{on} perceive the volatile sex pheromone, cyclohexyl acetate, in *C. elegans* male. **Yuki Togawa** Meiji University, Japan

856B The mind of a dauer: EM reconstruction of neuron wiring **Hyunsoo Yim** Seoul National University

857B FLP-15 through the receptor NPR-3 regulates reversal behavior during foraging in *C. elegans* **Umer Bhat** Indian Institute of science education and research, Mohali

858B Studying the role of asymmetric neuronal connectivity in touch sensation of *Caenorhabditis elegans* **Varun Birari** The Institute for Medical Research Israel-Canada (IMRIC), The Hebrew University of Jerusalem

859B Methionine analogue-based cell-specific proteomics and interactomics in *C. elegans* **Qiao Ran** The University of Hong Kong

860B Modifying TDP-43 Toxicity **Lale Gungordu** European Research Institute for the Biology of Ageing

861B Development of individual neural computational capacities in *C. elegans* **Yuval Balshayi** Hebrew University of Jerusalem

862B The effect of complex social environment on the collective behavior of *Caenorhabditis elegans* **Iris Bernstein** Max Planck Institute of Animal Behavior

863B The conserved kinase NEKL-4/NEK10 modulates hyperglutamylation-induced neurodegeneration **Kaiden Power** Rutgers University

864B Age-related neuronal changes are alleviated by dietary restriction in part through the regulation of neuronal architecture maintenance molecules **Yann Chabi** Université du Québec à Montréal

865B The CREB-regulated co-transcription factor CRTC1 regulates stress-induced sleep **Aja McDonagh** University of Nevada, Reno

866B Identifying suppressors of stress-induced neurodegeneration in the knock-in *sod-1 G85R* ALS model **Mika Gallati** Brown University

867B The AFD-specific glial microdomain cue, KCC-3, regulates multiple amphid neuron functions **Pralaksha Gurung** Fred Hutchinson Cancer Center

868B Behavioral and genetic evidence that habituation at different interstimulus intervals involves dissociable processes **Nikolas Kokan** University of British Columbia

869B *C. elegans* neurons contain dynamic nuclear speckles involved in pre-mRNA splicing **Randall Eck** University of Washington

870B Membrane Trafficking of hTMC1 in *C.elegans* **Rui Wang** School of Biological Sciences, The University of Hong Kong, Hong Kong SAR, China

871B MBL-1/muscleblind promotes neurite development by regulating *mec-3* alternative splicing **Ho Ming Terence Lee** The University of Hong Kong

872B Long-term associative memory formation in *Caenorhabditis elegans*: diving into its variation with changing environments **Monmita Bhar** Indian Institute of Science

873B Stage-specific properties of the dauer connectome: A network perspective **Daniel Choe** Department of Biological Sciences, Seoul National University

874B Neuropeptidergic circuitry underlying arousal and sensitization in *C. elegans* **Keertana Venkatesh** KU Leuven

875B Expressing human epithelial Na channel subunits in *C. elegans* to model human salt taste **Laura van Vuuren** Erasmus MC

876B Analysis and prediction of behavioural states during predatory and bacterial feeding in *P. pacificus* **Leonard Böger** Max Planck Institute for the Neurobiology of Behavior – caesar

877B Presynaptic cytosolic proteins can interact with membranes and subsequently recruit synaptic cell adhesion molecules. **Araven Tiroumalechetty** Albert Einstein College of Medicine

878B Head motor coordination: Exploring spatially-segregated signalling between interneurons and motor neurons **Hannah Owens** McGill University

879B Circuit and Molecular Mechanisms of an Associative Learning Task **Susana Colinas Fischer** UCL

880B Finding neural representations of navigation strategies using whole-brain imaging of freely moving *C. elegans* in an odor gradient **Helena Casademunt** Harvard University

881B A Computational Pipeline for the Analysis of Social Behavior in *C. elegans* Across Development **David Scher-Arazi** Technion, Israel Institute of Technology

882B Investigating roles for axon guidance and regeneration genes in GABAergic plasticity in *C. elegans* **Sophia Villiere** University of Pennsylvania

883B NeuroPlant: An efficient chemotaxis screening platform to identify plant-made chemicals that affect *Caenorhabditis elegans* **Emily Fryer** Stanford University

884B The efficiency of synaptic vesicle exocytosis regulates the abundance of CaV2/UNC-2 voltage-gated calcium channels **Ame Xiong** Rosalind Franklin University of Medicine and Science

885B Increased iron promotes axon regeneration after injury **Carrie Ann Davison** Yale University

886B “Notch-your” average *goa-1* study: sleep, insomnia, and *C. elegans* **Adam Friedberg** Brown University

887B Sex specificity of neurodegeneration in *C. elegans:* the dual role of dafachronic acid **Giada Onorato** Institute of Biosciences and Bioresources (IBBR-CNR)

888B RNA regulation in neurons and the germline induced by the odorant butanone **Samiha Tasnim** University of Maryland

889B Understanding and Modeling the Integration Properties of a Neuron in *C. elegans* **Amanda Ray** Johns Hopkins University

890B Developmental plasticity in foraging behavior in *C. elegans* **Jorge Luna Herrera** McGill University

891B Semaphorin signaling pathway restricts neuronal regeneration **Maria belen Harreguy Alfonso** New Jersey Institute of Technology

892B Multi-omics screen identifies anti-oxidants as novel KIN-29/SIK targets in the metabolic regulation of sleep **Pearson McIntire** University Nevada Reno

893B Developmentally regulated shedding of sensory cilia **Rachel Swope** Harvard Medical School

894B The tubulin acetyltransferase *atat-2* genetically interacts with *klp-4* in *C. elegans* **Michael Webb** Rollins College

895B Multiple roles for innexins in *C. elegans* thermo-nociceptive plasticity **Parvathi Gopinath** University of Fribourg

896B Endogenous Tau levels predict pattern of APOE4-induced neurodegeneration in *C. elegans* **Andy Cardona** Department of Neuroscience; Center for Learning and Memory, Waggoner Center for Alcohol and Addiction Research; Institute of Cell and Molecular Biology, University of Texas at Austin, USA

897B Mechanosensory and Proprioceptive Neurons Mediate the Precipice Response in *Caenorhabditis elegans* **Savannah McCoy** Mills College at Northeastern University

898B Microcystin-LR is neurotoxic via binding the PP2A subunit C homologous protein LET-92 in *C.elegans* neuron **Chunhua Zhan** Huazhong University of Science and Technology

899B Microtubule Organization in glia vs neurons **Martin Harterink** Utrecht University

900B Controlling the progression of neurodegenerative diseases: A translational approach to screening small molecule inhibitors targeting aggregate formation **Samantha Hughes** Vrije Universiteit Amsterdam

901B The Sole *Caenorhabditis elegans* Inositol Monophosphatase Homolog Functions in the ALA Neuron to Modulate Stress Induced Sleep **Manuel Alvarez** University of Wisconsin- Madison

902B The neuroprotective properties of *Lacticaseibacillus rhamnosus* HA-114 in *C. elegans* polyglutamine models of Huntington's disease **Samuel Boyer** Université de Montréal

903B Dithianon causes dopaminergic neurotoxicity in *Caenorhabditis elegans* **Sooji Choi** Hallym University

904C Genetic and Circuit Regulation of Experience-dependent Isothermal Tracking Behavior **Tzu-Ting Huang** Neuroscience Institute, Nagoya University, Nagoya, Japan

905C Two distinct interfaces are necessary for synaptotagmin's inhibitory role in synaptic vesicle fusion **Samuel West** University of Utah

906C Molecular mechanisms for activity-dependent insulin signaling that governs sensory neuron development **Nicole Hall** NYU Langone Health

907C Expansion of feeding state complexity is associated with predatory and cannibalistic behaviours in *Pristionchus pacificus* **Guniz Eren** Max Planck Institute for the Neurobiology of Behavior – caesar

908C Transgenerational inheritance of exercise routine: impact on aging-related pathways in *C. elegans* **Christian Grinan Ferre** Institut de Neurociències-Universitat de Barcelona

909C AFF-1 mediates auto-fusion between neurites to sculpt a novel toroid morphology in the *C. elegans* I5 neuron **Lachlan Lu** Queensland Brain Institute, The University of Queensland

910C Study on the piRNA pathway in axon regeneration **Uihyeon Yu** Hallym university

911C The role of guanylyl cyclases of gustatory preferences in *Pristionchus pacificus* **Vivian Vy Le** California State University, Northridge

912C Mapping neuronal homology by genetically encoded calcium sensors in *P. pacificus* **Marisa Mackie** California State University, Northridge

913C Knockout of *DYRK1A* ortholog *mbk-1* in *C. elegans* provides model for studying key Down syndrome related gene **Elysabeth Otte** Indiana University-Purdue University Indianapolis

914C Optogenetic induction of Amyotrophic Lateral Sclerosis (ALS) pathology in *Caenorhabditis elegans* **Kyung Hwan PARK** Hallym University

915C Mitochondrial calcium uniporter mediates odor learning and memory through neuropeptide release **Hee Kyung Lee** Yonsei University Wonju College of Medicine

916C Microbiome modification**:** a novel therapeutic for neurodevelopmental disorders **Jing Wang** Fudan University

917C Control of synapse formation by novel extracellular interactions **Morgane Mialon** MeLis

918C Regulator of lipid metabolism NHR-49 mediates pathogen avoidance and precise control of neuronal activity **Saebom Kwon** Yonsei University Wonju College of Medicine

919C Characterization of IGEG-1, a sleep-specific EGFR ligand **Jesse Jones** California State University, Northridge

920C Dissecting the role of oxidative stress in spinal muscular atrophy: insights from the nematode *Caenorhabditis elegans.* **Paloma Pacheco Torres** University of Hertfordshire

921C A small RNA pathway remotely controls the activities of a sensory neuron in *C. elegans* **Hyeonjeong Hwang** DGIST

922C Circuit mechanisms underlying gait switching in *C. elegans* **Kyeong Min Moon** DGIST

923C Identify the function of Bestrophin calcium-activated chloride channels in *C. elegans* **Jimin Kim** DGIST

924C Identify the function of mechanosensitive channel PEZO-1 in *C. elegans* males **Jihye Cho** DGIST

925C Establishing function for ST7, a conserved family of polytopic membrane proteins, in the *C. elegans* nervous system. **Hanna Schoen** IST Austria

926C Transcription factors driving development of pioneer neurons of the *C. elegans* brain **Laura Sabou** EMBL

927C Molecular targets and bacterial cures of Alzheimer's disease **Ximing Chen** Fudan University

928C Autophagy and spinal muscular atrophy: lessons from the nematode *Caenorhabditis elegans* **Saman Rashid** University of Hertfordshire

929C MEF2 transcription factors prevent protein aggregation in dopaminergic neurons **Erick Sousa** Instituto Biomedicina Valencia - CSIC

930C Roles for Olig genes in neuronal and glial specification in *C. elegans* **G. Robert Aguilar** Columbia University, Howard Hughes Medical Institute

931C Examining the role of extrinsic factors in post-embryonic nervous system maturation of *Caenorhabditis elegans* **Gabrielle Prince** University of Alabama at Birmingham

932C Human calmodulin mutations cause arrhythmia and affect neuronal function in *C. elegans* **Magnus Frantzen** Aalborg University

933C WrmPxlTrcker: An open-source script to investigate the dynamics of attraction and avoidance behaviors of *Caenorhabditis elegans* populations over large timespans. **Francesca Hodge** University of Leeds

934C The post-developmental roles of the netrin receptor UNC-40/DCC in health and disease **Sapir Sela** weizmann institute of science

935C Roles of *sax-7* in the long-term maintenance of neuronal architecture **Marin Pascal** Université du Québec à Montréal

936C An improved *Caenorhabditis elegans* model of Alzheimer's Disease to monitor neuronal signalling activity **Viktoria Bajuszova** University of Leeds

937C A tale of two SAMs: *nrx-1* and *nlr-1* function in monoamine neurons to modulate foraging activity **Brandon Bastien** University of Pennsylvania

938C DBL-1 transforming growth factor-beta signaling protects *C. elegans* from hydrogen peroxide produced by the bacterium *Enterococcus faecium* **Daniel Shaw** Northeastern University

939C Development of a cytoplasmic GABA sensor strain in *C. elegans* **Leonardo Genero** IBENS - ENS - CNRS - INSERM - PSL University

940C *C. elegans* relies on SEK-1 and JKK-1 for effective hydrogen peroxide avoidance **Alyson Fulton** Northeastern University

941C Visualization of neuropeptide release sites using split fluorescent proteins in *C. elegans* **Eva Dunkel** Buchmann Institute for Molecular Life Sciences and Institute of Biophysical Chemistry, Goethe University

942C Voltage imaging reveals defective electrical coupling and aberrant timing in pharyngeal and body wall muscle ensembles in innexin mutants **Christin Wirt** Buchmann Institute for Molecular Life Sciences, Goethe University

943C Regulation of Presynaptic Gene Transcripts During Synaptogenesis **Jackson Rogow** Albert Einstein College of Medicine

944C Investigating the role of functional diversity of postsynaptic mitochondria in modulating glutamate receptor trafficking **Kaz Knight** Colorado State University

945C pOpsicle: An all-optical reporter system for synaptic vesicle recycling, combining pH-sensitive fluorescent proteins with optogenetic stimulation **Marius Seidenthal** BMLS Frankfurt

946C Computational dissection of locomotion reveals developmental progression in *C. elegans* **Cera Hassinan** University of Washington

947C Polycomb Repressive Complex 1 components MIG-32 and SPAT-3 contribute to neuronal development, locomotion and exploration behaviours. **Jevithen Nehru** University of Toronto

948C The investigation of homeotic identity transformation between pharyngeal neurons **Burcu Gulez** Columbia University

949C ODR-10 repression in the AWAs of adult males requires the bHLH transcription factor HLH-3 **Kimberly Goodwin** University of Illinois at Chicago

950C High resolution view of the dynamics of memory formation **Netanel Cohen** Hebrew University

951C WRT-6, a glial hedgehog-related protein, controls sensory neuron properties in *C. elegans* **Elif Magemizoglu** The Rockefeller University

952C Lesion conditioning enhancement of neuroregeneration requires CREB and is largely DLK-independent across several neurons in *C. elegans* **Noa Grooms** Northeastern University

953C The functions of CaMKII and PKC in Wnt-dependent neurite pruning **Menghao Lu** University of British Columbia

954C Glutamate and *nrx-1* dependent synaptic changes in an aversive sensory neuron are required for *npr-1* aggregation behavior **Mara Cowen** University of Pennsylvania

955C A *C. elegans* happy *meal*: Defining the neurocircuitry of avoidance behaviors to longevity promoting bacteria **Nicole Stuhr** University of Southern California

956C Investigation of axonal degeneration pathways in *C. elegans* models of amyotrophic lateral sclerosis **Gilles Tossing** The University of Montreal Hospital Research Centre (CRCHUM)

957C Multiple peptidergic signaling pathways underlying sensitization and dishabituation in *C. elegans* **Alex Yu** University of British Columbia

958C How worms explore 3D space **Thomas Ilett** University of Leeds

959C Lipid extracts from *Rothia* are neuroprotective in a *C. elegans* model of tauopathy **Hiva mesbahi** McMaster University

960C New insights into neuromodulation mechanisms from the neuropeptide connectome of *Caenorhabditis elegans* **Lidia Ripoll-Sánchez** MRC Laboratory of Molecular Biology

961C *C. elegans* avoid a flavonoid, epigallocatechin-3-gallate (EGCG). **YongJin Cheon** DGIST

962C Dauers rewire their nervous system to update behaviour repertoire **Mona (Danxuan) Wang** University of Toronto

963C Investigation of the new serotonin-gated sodium channel LGC-50 **Leona Cesar** Gothenburg University

964C Multifactorial *Caernohabditis elegans* depression model **Dianelena Eugenio-Pérez** Faculty of Chemistry, UNAM

965C DEP-1 is Implicated in Long-Term Associative Memory of *C. elegans* **Noëlle Burri** University of Basel

966C Investigating epilepsy using a novel *unc-49* ($GABA_A$ receptor) mutant. **Ami Gadhia** University of Liverpool

967C Determination of the ADSL deficiency-directed perturbation and mechanism impacting the changes in tyramine level **Sabrina Sony** The Pennsylvania State University

968C Brain-wide representations of behavior spanning multiple timescales and states in *C. elegans* **Adam Atanas** MIT

969C Lateralization of axonal growth in the embryonic nervous system **Khulganaa Buyannemekh** Institut de Biologie du Developpement de Marseille, CNRS, Aix-Marseille University

970C Behavior transition in no-reward situations **Shiori Onoue** Osaka University

971C Loss of the OSM-9 TRP Channel Protein Disrupts Sleep-Dependent Olfactory Memory **Kevin Daigle** UCSF

972C The progeny of C.elegans that have been exposed to high salt conditions in its parent generation avoid high salt conditions **Manami Dote** University of Tokyo

973C High throughput functional metagenomic screening in *C. elegans* **Bonnie Evans** MRC London Institute of Medical Sciences

974C The role of Whole Brain Calcium Dynamics During Memory Consolidation **Mashel Fatema Saifuddin** UCSF

975C Serum- and Glucocorticoid- inducible Kinase 1 (SGK-1) is a master regulator of neuropeptide secretion in *C. elegans* **Sebastian Ciscares Velazquez** Goethe University Frankfurt

976C A novel function of *zoo-1/ZO-1* in controlling synapse patterning **Sydney Ko** The University of British Columbia

977C Investigating the role of the *ceh-43* homeobox gene in *Caenorhabditis elegans* neuronal specification **James Lao** Columbia University

978C The molecular and neural regulation of ultraviolet light phototaxis and its food-associated learning behavioral plasticity in *C. elegans* **Kazuki Ozawa** University of Tsukuba

979C Benzaldehyde/Starvation Learning Produces a Non-Canonical Memory Type **Alexandra Udachina** University of Toronto

980C The role of insulin/IGF-1 signaling in modulating *C. elegans* feeding behavior under adverse conditions **Zion Walker** Columbia University

981C Genus-specific duplication of PRD/OTX homeodomain transcription factors in *Pristionchus pacificus* **Dylan Castro** California State University Northridge

982C Roles of the monoamine transporter CAT-1 in *Pristionchus pacificus* **Megan Hampton** California State University, Northridge

983C GNAO1, Sleep, and Insomnia: Humanization of *C. elegans goa-1* **Jacqueline Cho** Brown University

984C A serotonergic pathway mediating the effects of gut microbes on host feeding behavior **Dina Garmroudi** Yale University

985C A *C. elegans* digital twin **Yunjie Zhu** University of Leeds

986C Uncovering new GABA transporters in *C. elegans* thanks to an atlas of amino acid transporter expression **Louna Schaison** IBENS - ENS - INSERM - CNRS - PSL University

987C A refined, high-threshold evaluation of sex-specific synapses in the *C. elegans* nerve ring **Cristine Kalinski** Columbia University

988C Inter-class axon-axon interaction defines tiled synaptic innervation of DA-class motor neurons in *C. elegans* **Federico Pini** University of British Columbia

989C *In vivo* functional study of an alternative protein encoded by the gene *ZYX/zyx-1* with implications for synaptic development and dystrophinopathies **Noémie Frébault** CERMO-FC Research Center, Université du Québec à Montréal

990C Pathogen infection induces sickness behaviors by reconfiguring the neuropeptide systems that control *C. elegans* sleep **Gurrein Madan** MIT

991C A ventral source of UNC-6/Netrin is not required for dorsal-ventral axon guidance **Kelsey Hooper** University of Kansas

992C Using the million mutation project strains to identify genes regulating sleep **David Raizen** University of Pennsylvania

993C A pan-neuronal alternative splicing event triggers pan-neuronal gene transcription **Eduardo Leyva Diaz** Instituto de Neurociencias, CSIC-UMH

994C Investigating the Intersection of the Dopaminergic Circuit with a Blue-Light Sensing Circuit **Nyaluak Gayluak** Fisk University

995C *CelegansWholeIntegration*: An Open-Source Simulation Platform for *C. elegans* Nervous System and Body **Jimin Kim** University of Washington, Seattle

996C Rotenone induced dopaminergic neurodegeneration requires sustained neuronal ROS production in *C. elegans* **Katherine Morton** Duke University

997C *B. subtilis* induced changes in the *C. elegans* transcriptome that contribute to the protection against α-synuclein aggregation **Samanta Paz Recio** University of Edinburgh

998C The neuropeptide receptor *npr-38* regulates avoidance and recovery sleep **Emily Le** Saint Joseph's University

999V Single-cell profiling reveals striking diversity within adult *C. elegans* motor neurons and new functions for a terminal selector gene **Jayson Smith** University of Chicago

1000V *Caenorhabditis elegans* betaine-sensitive nicotinic receptors: molecular function and physiological roles **Ornella Turani** INIBIBB-CONICET-UNS

1001V Major sperm proteins expressed in ADL chemosensory neurons require the NRDE-3 somatic nuclear RNAi pathway **Maria Ow** Syracuse University

1002V ALK/SCD-2-dependent expression of DAF-7 from the ASJ neurons couples bacterial food ingestion to foraging state dynamics in *C. elegans* **Sonia Boor** Boston Children's Hospital

1003V Neuronal FMRFamide neuropeptide signaling controls the activation of the head mesodermal cell (hmc) during a rhythmic behavior in *C. elegans* **Mingxi Hu** Zilkha Neurogenetic Institute

1004V Neural circuits of oxygen, carbon dioxide, and temperature that generate cold acclimation diversity **Misaki Okahata** Konan University

1005V Lipid metabolism-related genes involved in heat tolerance as revealed by transcriptome analysis of EMB-4 **Akane Ohta** Grad. School of Konan University

1006V Long and short isoforms of the UNC-6/Netrin receptor UNC-5 have distinct roles in VD/DD axon guidance and VD growth cone protrusions in *C. elegans* **Snehal Mahadik** University of Kansas

1007V Neural modulation of behavioral state transitions in foraging strategies in *C. elegans* **Maria Gabriela Blanco** Instituto de Investigaciones Bioquímicas de Bahía Blanca

1008V Temperature regulates glia morphogenesis through thermosensory circuits **Zhiyong Shao** Fudan University

1009V How does *C. elegans* recognize the bacterial odors of its microbiome? **Elizabeth Glater** Pomona College

1010V Investigation of the molecular mechanisms underlying the neuronal preconditioning response to anoxia in *C. elegans* **Heather Bennett** Trinity College

1011V Bioeffects of therapeutic ultrasound in the motor and sensory nervous systems of *C. elegans* **Louise Steele** Kent State University

1012V Roles of a non-canonical hedgehog-like pathway in the assembly of the *C. elegans* nerve ring **Francesca Caroti** EMBL

1013V Understanding the role of gene expression regulation in nicotine induced neuroprotection **Millet Treinin** Hebrew University - Hadassah Medical School

1014V Single-cell RNA-seq analysis reveals extensive sexual dimorphism of the sex-shared PLM neuron **Hagar Setty** Weizmann Institute of Science

1015V Using a TurboID-based approach to investigate how memories form in *C. elegans* **Aelon Rahmani** Flinders University

1016V Sexually dimorphic architecture and function of a mechanosensory circuit in *C. elegans* **Hagar Setty** Weizmann Institute of Science

1017V Body Stiffness Is A Mechanical Cue to Facilitate Contact-mediated Mate Recognition in *C. elegans* **Jen-Wei Weng** Institute of Molecular and Cellular Biology, College of Life Science, National Taiwan University

1018V Real-time dopamine binding during appetitive butanone forgetting assay in *Caenorhabditis elegans* **Anna McMillen** Flinders University

1019V Intrinsic Sex and Vulval Cues Shape Sexually Dimorphic Branching and Functions of PVP interneurons in *C. elegans* **Jia-Bin Yang** Institute of Molecular and Cellular Biology, College of Life Science, National Taiwan University.

1020V Neural Basis of A Sensory-evoked Behavioral State in *C. elegans* Males **Kai-An You** Institute of Molecular and Cellular Biology, College of Life Science, National Taiwan University

1021V The 3'UTR of *kpc-1*/furin promotes dendritic mRNA transport and local protein synthesis to regulate dendrite branching and self-avoidance of a nociceptive neuron **Mushaine Shih** University of Illinois at Chicago

1022V Chemosensory integration of food availability and crowdedness during developmental decision-making relies on insulin-like neuropeptide signaling **Mark Zhang** California Institute of Technology

1023V Elucidating the sensory mechanism and ecological relevance of a *C. elegans* maternal egg-laying behavior in 3D environments **Eunha Chang** Yonsei University

1024V Altered gravity force hinders proper development of multi-dendritic arborization in the PVD neuron in *C. elegans* **Je-Hyun Moon** Division of Biological Science and Technology, Yonsei University Mirae Campus

1025V RNAi screening of novel dendrite regeneration pathways using an efficient neurite injury method **Pallavi Singh** National Brain Research Centre

1026V Novel role of *lim-7* on the development of a sleep-controlling neuron in *Caenorhabditis elegans* **Fujia Han** University of Wisconsin-Madison

1027V Neural signals that potentiate response to serotonin to modulate neural circuit activity in *C. elegans* **Shavanie Prashad** Yale University

1028V Hydrogen peroxide positively regulates intestinal neuropeptide secretion during a gut-neural axis mediated oxidative stress response **Qi Jia** Zilkha Neurogenetic Institute

1029V Determining the role of the protein kinase C target RIC-4/SNAP25 in ROS-dependent neuropeptide secretion. **Qixin Zhang** Zilkha Neurogenetic Institute

1030V A candidate of GPCR-type thermoreceptor involved in heat tolerance of *C. elegans* **Chinatsu Morimoto** Inst. for Integrative Neurobio., Konan univ., Japan

1031V Geraniol protects against oxidative stress and proteotoxicity in *Caenorhabditis elegans* Parkinson's disease models **Stéfano Romussi** Instituto de Investigaciones Bioquímicas de Bahía Blanca (INIBIBB-CONICET). Departamento de Biología, Bioquímica y Farmacia (UNS)

1032V Propionate Regulates the Sexual Motivation through Gut-brain Axis in *C. elegans* Males **Yi Sin Wang** Institute of Molecular and Cellular Biology, College of Life Science, National Taiwan University

1033V The metabotropic glutamate receptor homologs MGL-1 and MGL-2 are key for sensing nutritional status in *C. elegans* **Ailin Lacour** Instituto de Investigaciones Bioquímicas de Bahía Blanca, Departamento de Biología, Bioquímica y Farmacia (CONICET-UNS)

1034V Effects of temperature on mechanosensation and neurodegeneration **victoria collio** Universidad de Valparaíso

1035V The role of gap junction molecule inx-19 in post-embryonic post-mitotic neuronal maturation **Molly Reynolds** University of Alabama at Birmingham

1036V Inflammation's Affect on Regulation of ADM-4 and Downstream Targets of Notch Signaling **Julia Zickus** Elmhurst University

1037V Vanilloids impedes the nocifensive response of *Caenorhabditis elegans* to noxious heat, and proteomics revealed specific signaling and metabolic pathway are involved **Nkambeu Bruno** University of Montreal - Faculty of veterinary science

1038V The Ketone Body β-hydroxybutyrate ameliorates neurodevelopmental deficits in the GABAergic system of *daf-18/PTEN Caenorhabditis elegans* mutants. **Sebastián Giunti** Instituto de Investigaciones Bioquímicas de Bahía Blanca, Departamento de Biología, Bioquímica y Farmacia (CONICET - UNS)

1039V Reconstruction of *C. elegans* locomotion by optimal fluid control **Yongxing Wang** University of Leeds

1040V Neural modulation of systemic stress response requires the insulin like-peptide INS-3 **Tania Veuthey** Instituto de Investigaciones Bioquímicas de Bahía Blanca (INIBIBB)

1041V Bacterial diets are able to modulate life-history treats in *C. elegans* models of neurodegenerative diseases **Tania Veuthey** Instituto de Investigaciones Bioquímicas de Bahía Blanca (INIBIBB)

1042V Low abundance of propionate promotes α-synuclein-induced neurodegeneration in *C. elegans* through intestine-neuron signaling **chenyin wang** The University of Hong Kong

1043V Turning related neurons RIV, SMB, and SAA gates behavior context dependent processing of mechanosensory stimuli in *C. elegans* **Sandeep Kumar** Princeton University

1044V The synergistic role of tau and α-synuclein in neurodegeneration and cognitive decline in both Alzheimer's and Parkinson's diseases **Julie Vincent** Medical College of Georgia at Augusta University

1045V Glutamate signaling mediates *C. elegans* behavioral plasticity to pathogens **Howard Chang** Rowan University SOM

1046V Indole glucosides act as a gut-to-brain signal to drive microbially-influenced locomotory escape responses **Julia Balch** Yale University

1047V Cool worms delay forgetting – Bi-Polar Switch For Turning Forgetting ON and OFF In *C. elegans* Nematodes **Dana Landschaft Berliner** Tel Aviv University

1048V Suppression of Parkinson's disease in *C. elegans* by the probiotics isolated from fermented foods through the gut-nerve ring connection **Seunghun Kang** Myongji University

1049V Electronic stimulation as a treatment for Parkinson's disease using *C. elegans* model system **Seungeun Lim** Myongji University

1050V Molecular analysis of synapse elimination in GABAergic DD motor neurons **Samuel Liu** University of Massachusetts Chan Medical School

1051V Monoaminergic modulation of intestinal calcium waves **Mark Alkema** Umass Chan Medical School

1052V Synapse organization and circuit function of dual-transmitter neurons **Andrea Cuentas Condori** Yale University

1053V One Carbon Metabolism governs efficient neuronal regeneration in *C. elegans*. **Christopher Gabel** Boston Univ Sch Medicine

1054V Imaging the breakdown of nervous system dynamics with age and neurodegeneration in *C. elegans* **Christopher Gabel** Boston Univ Sch Medicine

1055V Discovering the Neuroprotective Role of HSP12.6 in the Dopaminergic Neurons of *C. elegans* **Sarah Shehreen** Fisk University

1056V Glucose-6-phosphate isomerase isoforms differentially regulate presynaptic glycolysis via genetically-encoded differences in subcellular localization **Ian Gonzalez** Yale University

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1064A A robotic platform for fully automated ageing studies in *C. elegans* **Elena Katsyuba** Nagi Bioscience SA

1065A Rescuing synaptic defects in mitochondrial Complex I deficiency models with natural compounds **Silvia Maglioni** IUF Leibniz Research Institute EnvironmentalMed

1066A Age-dependent nuclear lipid droplet accumulation is a cellular hallmark of ageing **Christina Ploumi** Department of Physiology, National and Kapodistrian University of Athens

1067A Lactate promotes longevity via remodeling of metabolic signals in *C. elegans.* **Arnaud Tauffenberger** Boyce Thompson Institute

1068A Genetic dissection of NHR-49-driven stress resistance pathways **Kelsie Doering** The University of British Columbia

1069A *mul-1* integrates DNA damage and oxidative stress responses in *C. elegans* **Emilio Carranza-Garcia** Center for Genome Integrity, Institute for Basic Science

1070A Sleep deprivation exacerbates amyloid beta aggregation **Priscila Yumi Tanaka Shibao** University of Bremen

1071A A dicer-related helicase opposes the age-related pathology from SKN-1 activation in ASI neurons **Chris Turner** University of Southern California

1072A Crosstalk between viral dynamics and host responses in the *C. elegans*-Orsay virus pathosystem **María Victoria García Castiglioni** Institute for Integrative Systems Biology

1073A Is there an advantage to polyploidy in animals? Consequences of whole genome duplication in a synthetic *C. elegans* tetraploid **Laetitia Chauve** Trinity College Dublin

1074A Non-vesicular transport of cholesterol in XXX cells regulates dauer formation in *C. elegans* **Raihanah Harion** Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

1075A Unravelling effects of anti-aging drugs on *C. elegans* using liposomes **Aihan Zhang** University College of London

1076A Investigating kynurenine-pathway mediated neuroprotection in ageing **Anna Ainslie** University Medical Center Groningen

1077A An AI apporach to quantifying *Nematocida parisii* infection within *C. elegans* **Edward James** University of Toronto

1078A Bacterial expression cloning reveals *C. elegans* and tardigrade proteins that can protect drying cells **Jon Hibshman** The University of North Carolina at Chapel Hill

1079A LEA motifs promote desiccation tolerance in vivo **Jon Hibshman** The University of North Carolina at Chapel Hill

1080A Different gametogenesis states uniquely impact longevity in *C. elegans* **Amaresh Chaturbedi** Cornell University

1081A Identifying core gene regulatory networks involved in host-gut bacterium interactions in *C. elegans* **Alejandra Zarate Potes** Lancaster University

1082A Dietary bacteria reduce *C. elegans* fat content via pathways converging at phosphotidylcholine **Hsiao-Fen Han** Institute of Molecular and Cellular Biology, National Taiwan University

1083A Age-dependent associations between gut microbiota composition host gene expression. **Rahul Bodkhe** UC Berkeley

1084A Effects on healthspan of exposure to environmental pollutants causing mitochondrial DNA damage and depletion **Javier Huayta** Duke University

1085A Using *C. elegans* to study the interaction of microbiome and parasitic worms' anaerobic metabolism **Marina Musa** University of Toronto, Donnelly Centre for Cellular and Biomolecular Research

1086A Heat shock stress elicits a defined metabolomic response **Alexander Munden** University of Massachusetts Chan Medical School

1087A High-throughput drug screening in *C. elegans* uncovers new classes of anthelmintics targeting rhodoquinone-dependent metabolism **Xenia Serrat** Donnelly Centre (University of Toronto)

1088A Distinct Effects of Diverse Bacteria on the Transmission of Orsay Virus in *C. elegans* **Noemie Scheidel** Boston Children's Hospital

1089A Regulation of *C. elegans* longevity by sodium **Franziska Pohl** Washington University in St. Louis

1090A Decreased spliceosome fidelity inhibits mTOR signalling and promotes longevity **Wenming Huang** Max Planck Institute for Biology of Ageing

1091A BAZ-2 is a negative regulator of cell non-autonomous proteostasis via acetylcholine signalling **Christian Gallrein** Institute for Genome Stability in Aging and Disease, CECAD Research Institute, University and University Hospital of Cologne

1092A Identification of neuronal and epidermal determinants of immune signaling underlying oomycete recognition in *C. elegans* **Manish Grover** Imperial College London

1093A Mitochondrial import of non-coding RNAs regulates stress resistance and longevity in *C. elegans* **Emiko Okabe** RIKEN Center for Biosystems Dynamics Research

1094A DAF-16 is required specifically during arrest to allow fast recovery from L1 starvation **Marta Munoz-Barrera** University of Seville

1095A Bacteria-derived RNA and inter-tissue communication promotes proteostasis in *C. elegans* **Emmanouil Kyriakakis** University of Basel

1096A 5-Fluorouracil enhances cold survival by inducing alternative protein turnover pathways **Abhishek Dubey** IIMCB, Warsaw

1097A *tts-1* lncRNA represses *daf-2* mutant longevity in *C. elegans* **Emily Mathew** The University of North Carolina at Chapel Hill

1098A Functions of Chloride intracellular channel proteins EXL-1 in Heat Stress in *C. elegans* **Jun Liang** Borough of Manhattan Community College, CUNY

1099A Identifying bacterial genes and pathways controlling intracellular filamentation during *B. atropi* infection **Serena Meadows-Graves** San Diego State University

1100A Complementary CRISPR-based approaches reveal allele and tissue-specific mechanisms of mitochondrial disease **Peter Kropp** Kenyon College

1101A A Genome-Wide Survey on the Host Factors that Modulate Intestine Permeability **Rui Xiao** University of Florida

1102A Translating the effects of high glucose diets using systems biology approach in *C. elegans* **Chao-Wen Wang** Institute of Plant and Microbial Biology, Academia Sinica

1103A Persistent TFIIH binding to DNA damage impairs neuron functionality **Hannes Lans** Erasmus MC

1104A Can we untie the linkage between life extension and a decline in healthspan via healthy mitophagy? **Einav Gross** Hebrew University of Jerusalem

1105A High-Glucose Diet Reduces Male Fertility by Reducing Sperm Size, Competitiveness, and Quality **Michelle Mondoux** College of the Holy Cross

1106A Octopamine-MAPK-SKN-1 signaling suppresses mating-induced oxidative stress in *Caenorhabditis elegans* gonads to protect fertility **Yu Tsai** Academia Sinica

1107A *C. elegans* TFIIH subunit GTF-2H5/TTDA is a non-essential transcription factor indispensable for DNA repair **Karen Thijssen** Erasmus MC Rotterdam

1108A Regulation of an effector triggered immune response in *C. elegans* against the mitis group streptococci **Ransome van der Hoeven** The University of Texas Health Science Center at Houston, School of Dentistry

1109A Screening compounds for impacts on innate immunity and inflammatory signaling in Parkinson's Disease in *C. elegans* **Denise Flaherty** Eckerd College

1110A Parental dietary vitamin b12 causes intergenerational growth acceleration and protects offspring from microsporidian and bacterial pathogens **Winnie Zhao** University of Toronto

1111A Dietary bacteria regulate *C. elegans* lipid metabolism through Lysosome-related organelles **Shao-Fu Nien** Institute of Molecular and Cellular Biology, National Taiwan University

1112A The role of MTCH2/MTCH-1 in lipid homeostasis, fertility and aging **Veerle Rottiers** UC Berkeley

1113A The hormones and neuronal circuit that mediate the gut-to-brain longevity signal. **Ao-Lin Hsu** National Yang Ming Chiao Tung University

1114A Neuronal H3K4 methylation is essential for activation of the mitochondrial Unfolded Protein Response **Gino Poulin** University of Manchester

1115A Exploring the link between coregulatory protein SIN-3, mitochondrial homeostasis and metabolism **Francesca Palladino** Ecole Normale Supérieure de Lyon, Lyon University

1116A Phenotypic expansion of *ATP5F1A* supported with functional studies of dominant missense variants associated with intellectual disability and developmental delay not previously observed with recessive variants **Sara Fielder** Washington University School of Medicine

1117A Base Excision Repair drives age-related neurodegeneration in Parkinson's disease models **Francisco Jose Naranjo Galindo** University of Oslo

1118A An Ortholist-RNAi screen identifies new transcription factors and epigenetic regulators of the mitochondrial unfolded protein response upon prohibitin depletion **Jesus Fernandez-Abascal** Andalusian Centre for Developmental Biology, Consejo Superior de Investigaciones Científicas/Junta de Andalucía/Universidad Pablo de Olavide

1119A The DREAM complex regulates DNA repair capacity in somatic tissues **Arturo Bujarrabal** Institute for Genome Stability in Ageing and Disease, Medical Faculty, University of Cologne

1120A Characterizing the role of Protein Kinase G (PKG/EGL-4) in the hypoxia stress response **Tatiana Popovitchenko** Rutgers University

1121A Using forward genetic screens to probe the neuronal-mediated *C. elegans* immune response to oomycete exposure **Domenica Ippolito** Imperial College London

1122A Non-autonomous induction of the endoplasmic reticulum unfolded protein response by COL-75 missense variants **Patrick Hu** Vanderbilt University Medical Center

1123A Nucleotide excision repair protects from endogenous and exogenous formaldehyde-induced DNA damage in *C. elegans* **Matthias Rieckher** Institute for Genome Stability in Ageing and Disease, Medical Faculty, University of Cologne, and Cologne Excellence Cluster for Cellular Stress Responses in Aging-Associated Diseases (CECAD)

1124A Modelling human diseases in *C. elegans*: facts and challenges **Julián Cerón** Bellvitge Biomedical Research Institute - IDIBELL

1125A Notch signaling in germline stem cells controls reproductive aging in *C. elegans* **Aaron Anderson** Washington University School of Medicine

1126B Photoconvertible fluorescent protein-tagged tau exhibits exceptional stability in a *C. elegans* model of tau proteostasis **Aleen Saxton** Geriatrics Research Education and Clinical Center, Veterans Affairs Puget Sound Health Care System

1127B The death of lifespan: Using movement to measure ageing **David Weinkove** Durham University

1128B The loss of gap junctions in excitable cells promotes mitochondrial stress-induced longevity in *C. elegans* **Karl Emanuel Busch** Faculty of Medicine, HMU Health and Medical University, Potsdam

1129B Coelomocytes activate by mobilizing and ramifying in response to alcohol **Jon Pierce** The University of Texas at Austin

1130B SAM deficiency in the mitochondria induces longevity through mitochondrial unfolded protein response **Tsui-Ting Ching** National Yang Ming Chiao Tung University

1131B Intestine-specific mitochondrial stress response protects against alcohol-mediated movement impairment **Hongkyun Kim** Chicago Medical School, Rosalind Franklin University

1132B Vitamin A extends lifespan in *Caenorhabditis elegans* via DAF-16/FOXO and SKN-1/Nrf2 pathways-mediated reduction of oxidative stress **Ilya A. Vinnikov** Shanghai Jiao Tong University

1133B A gain-of-function mutation in chondroitin polymerizing factor extends lifespan and healthspan **Yukimasa Shibata** Kwansei Gakuin Univ

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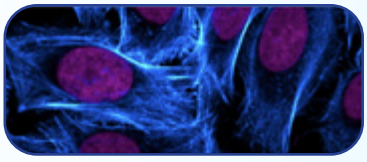
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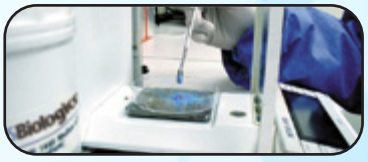
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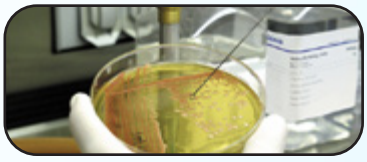
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