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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.

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| Piya Ghose, *University of Texas, Arlington* | Jared Young, *Mills College* |
| Tina Gumienny, *Texas Women’s University* | |

### Worm Art Show Organizer

Ahna Skop, *University of Wisconsin-Madison*

### Worm Variety Show Organizers

| Morris Maduro, *University of California, Riverside* | Curtis Loer, *University of San Diego* |
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C. elegans
Board 2021
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Shohei Mitani, Knockout Consortium PI
Erik Anderson, Nematode Genome PI
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Piali Sengupta, IWM Current Organizer (2021)
Julie Ahringer, IWM Past Organizer (2019)
Michael Koelle, IWM Past Organizer (2019)
Genetics Society of America and the organizers gratefully acknowledge the following sponsors:

Premier Sponsors

Sponsors
Schedule of Events
All times are listed in Eastern Daylight Time (EDT)

### FRIDAY, June 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Session Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am - 11:00 am</td>
<td>Worm21 Early Career Leadership Program Welcome and Conference Success</td>
<td>Erin Suderman</td>
</tr>
<tr>
<td>11:15 am - 12:15 pm</td>
<td>Getting Involved in GSA’s Early Career Professional Development Programs</td>
<td>Erin Suderman</td>
</tr>
<tr>
<td>1:00 pm - 3:00 pm</td>
<td>Multilingual Networking</td>
<td>Jessica Velez</td>
</tr>
<tr>
<td>2:00 pm - 4:00 pm</td>
<td>Career Exploration Panel</td>
<td>Jessica Velez</td>
</tr>
<tr>
<td>4:00 pm - 5:00 pm</td>
<td>Careers in Academia</td>
<td>Teresa Lee and Jessica Velez</td>
</tr>
</tbody>
</table>

### MONDAY, June 21

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speakers/Session Chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:45 am - 11:35 am</td>
<td>Opening Plenary</td>
<td>Luisa Cochella, Oded Rechavi, Emily Troemel</td>
</tr>
<tr>
<td>12:00 pm - 2:00 pm</td>
<td>Concurrent Platform</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aging and stress I</td>
<td>John Labbadia; María Olmedo</td>
</tr>
<tr>
<td></td>
<td>Mitosis, Meiosis, &amp; the Cytoskeleton</td>
<td>Jessica Feldman; Yumi Kim</td>
</tr>
<tr>
<td></td>
<td>Synaptic Function and Circuits</td>
<td>Steven Flavell; Misako Okumura</td>
</tr>
<tr>
<td></td>
<td>Transcriptional and post-transcriptional gene regulation</td>
<td>Colin Conine; Inna Nechipurenko</td>
</tr>
<tr>
<td>2:15 pm - 3:15 pm</td>
<td>Poster and Exhibits Session - Even numbered “A” posters</td>
<td></td>
</tr>
<tr>
<td>3:15 pm - 4:15 pm</td>
<td>Poster and Exhibits Session - Odd numbered “A” posters</td>
<td></td>
</tr>
<tr>
<td>4:30 pm - 6:00 pm</td>
<td>Concurrent Workshops</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modeling Rare Human Diseases in C. elegans</td>
<td>Andrew Golden</td>
</tr>
<tr>
<td></td>
<td>Utilizing neuron-specific gene expression data from the CeNGEN project</td>
<td>David Miller; Seth Taylor; Marc Hammarlund</td>
</tr>
</tbody>
</table>
### MONDAY, June 21 (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 6:15 pm - 7:15 pm  | Meet-ups
  The first hour will be in Zoom breakout rooms and then you can continue the conversation in Remo for a smaller group chat. All career stages are welcome. |
| 7:15 pm - 8:15 pm  | Meet up in Remo for smaller group discussions                           |

### TUESDAY, June 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 7:45 am - 8:45 am  | COPAS VISION™: The worm sorter that takes pictures. Presented by Union Biometrica
  Session Chairs: Rock Pulak; and Deborah Frenkel |
| 7:50 am - 8:45 am  | Meet-ups                                                                |
| 9:00 am - 11:00 am | Concurrent Platform
  Behavior
  Session Chairs: Monika Scholz; and Asuka Takeishi
  
  Epigenetics and Genome Organization
  Session Chairs: Daphne Cabianca; and John Calarco
  
  Intracellular Trafficking, Organelles, & Cell Polarity
  Session Chairs: Diego Rayes; and Anne-Cécile Reymann
  
  Pathogenesis
  Session Chairs: Jon Karpel; and Dengke Ma |
| 11:30 am - 1:00 pm | Concurrent Workshops
  Embracing the microbial side: 3rd *C. elegans* microbiome workshop
  Session Chair: Buck Samuel
  
  Publishing Workshop
  Session Chair: Ruth Isaacson
  
  Spatiotemporal control of gene expression and protein levels
  Session Chairs: Peter Askjaer; David Q. Matus; and Jordan D. Ward
  
  The diversity of data in WormBase; how to find it and use it
  Session Chairs: Ranjana Kishore; and Chris Grove |
| 1:15 pm - 2:15 pm  | Building an equitable scientific community: lessons from *C. elegans*
  researchers involved in DEI initiatives
  Session Chair: Anna Allen |
### TUESDAY, June 22 (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:45 am - 3:45 pm</td>
<td>Poster and Exhibits Session – Even numbered “B” posters</td>
</tr>
<tr>
<td>3:45 pm - 4:45 pm</td>
<td>Poster and Exhibits Session – Even numbered “B” posters</td>
</tr>
</tbody>
</table>
| 5:00 pm - 6:00 pm | Active learning mentorship for postdocs and junior faculty: the PALM Network  
  Session Chairs: Teresa Lee; and Jennifer Schisa |
| 5:15 pm - 6:15 pm | Meet-ups  
  *The first hour will be in Zoom breakout rooms and then you can continue the conversation in Remo for a smaller group chat. All career stages are welcome.* |
| 6:15 pm - 7:15 pm | Meet up in Remo for smaller group discussions                       |

### WEDNESDAY, June 23

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:45 am - 8:45 am</td>
<td>Automating <em>C. elegans</em> lifespan, stress, and behavior studies with NemaLife</td>
</tr>
<tr>
<td>7:50 am - 8:45 am</td>
<td>Meet-ups</td>
</tr>
<tr>
<td>9:00 am - 11:00 am</td>
<td>Concurrent Platform</td>
</tr>
</tbody>
</table>
|                 | **Aging and stress II**  
  *Session Chairs:* Yee Lian Chew; and Benjamin Towbin                 |
|                 | **Germline, Sex determination and Signaling**  
  *Session Chairs:* John Murray; and Suzan Ruijtenberg                 |
|                 | **Neuronal development and novel methods**  
  *Session Chairs:* Kavita Babu; and Heather Bennett                   |
|                 | **RNA interference and non-coding RNAs**  
  *Session Chairs:* Katherine McJunkin; and Benjamin Weaver            |
| 11:30 am - 1:00 pm | Concurrent Workshops                                               |
|                 | **Applying for the NSF CAREER Grant for Assistant Professors**  
  *Session Chairs:* Matthew Buechner; Steven L. Klein; and Paulynn Cartwright |
|                 | **Live RNA Imaging Strategies in *C. elegans***  
  *Session Chairs:* Christopher M. Hammell; Erin Nishimura; and Sevinc Ercan |
|                 | **The male *C. elegans* nervous system: connectomics, molecular maps, and functional analysis**  
  *Session Chair:* Robert W. Fernandez |
## WEDNESDAY, June 23 (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 2:30 pm</td>
<td>Poster and Exhibit Session - Even numbered “C” posters</td>
</tr>
<tr>
<td>2:30 pm - 3:30 pm</td>
<td>Poster and Exhibit Session - Odd numbered “C” posters</td>
</tr>
<tr>
<td>3:45 pm - 4:45 pm</td>
<td>Worm Variety Show</td>
</tr>
<tr>
<td>5:15 pm - 6:15 pm</td>
<td>Meet-ups&lt;br&gt;The first hour will be in Zoom breakout rooms and then you can continue the conversation in Remo for a smaller group chat. All career stages are welcome.</td>
</tr>
<tr>
<td>6:15 pm - 7:15 pm</td>
<td>Meet up in Remo for smaller group discussions</td>
</tr>
</tbody>
</table>

## THURSDAY, June 24

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:45 am - 8:45 pm</td>
<td>Meet-ups</td>
</tr>
<tr>
<td>9:00 am - 11:00 am</td>
<td><strong>Concurrent Platform</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Cell fate, patterning and morphogenesis</strong>&lt;br&gt;Session Chairs: Ye Tian; and Sughong Xu</td>
</tr>
<tr>
<td></td>
<td><strong>Metabolism &amp; Dauer Larvae</strong>&lt;br&gt;Session Chairs: Lesley MacNeil; and Javier Apfeld</td>
</tr>
<tr>
<td></td>
<td><strong>Natural Variation, Evolution, and the Microbiome</strong>&lt;br&gt;Session Chairs: Marina Ezcurra; and Buck Samuel</td>
</tr>
<tr>
<td></td>
<td><strong>Regeneration and Degeneration</strong>&lt;br&gt;Session Chairs: Kyung Won (Kai) Kim; and Meital Oren</td>
</tr>
<tr>
<td>11:30 am - 12:15 pm</td>
<td>Presentation of Art Show Awards and GSA Poster Awards</td>
</tr>
<tr>
<td>12:30 pm - 1:30 pm</td>
<td><strong>Closing Plenary Session – Past, Present, and future of worms: Our community and our research</strong>&lt;br&gt;Session Chairs: Julie Ahringer; and Needhi Bhalla</td>
</tr>
<tr>
<td>1:45 pm - 2:45 pm</td>
<td><strong>Worming into Relevance – Disease modeling using humanized C. elegans models.</strong>&lt;br&gt;Presented by InVivo Biosystems</td>
</tr>
<tr>
<td>3:30 pm - 6:45 pm</td>
<td><strong>5th Parasitic Nematode Workshop: Bridging the Divide</strong></td>
</tr>
<tr>
<td>3:30 pm - 5:30 pm</td>
<td><strong>Teaching Workshop</strong></td>
</tr>
</tbody>
</table>

All times are listed in Eastern Daylight Time (EDT)
Conference App

To attend the conference presentations, you will need to sign into the Conference App using your registration badge ID number and last name. The App will be available in two formats: Desktop App (for desktop and laptop computers), or Mobile App (for Apple iOS and Android mobile devices).

You can find your registration badge number in your conference registration confirmation email, which was sent from the address NoReply@Convention-Mail.com.

Access the app at:

[genetics-gsa.org/celegans-2021/conference-app/](genetics-gsa.org/celegans-2021/conference-app/)

Oral Presenters

Please log into your session ten minutes before the start of your session (not your talk) using the special link you received in an email from worm21 Zoom. A final video/audio/screen share check will be conducted.

View the oral presenter instructions here:

[genetics-gsa.org/celegans-2021/for-presenters/oral-presenter-guidelines/](genetics-gsa.org/celegans-2021/for-presenters/oral-presenter-guidelines/)

Poster Presenters

Poster presenters should enter Remo using the “Live Poster Hall” link on the App home screen (also available from the “More” tab). You should log in to Remo using the same email address as you used to register for the conference.

When you enter the Remo session, you will be assigned to a random table and floor in the appropriate “building”. You must now navigate to your correct floor and table. Move to your poster table by double-clicking it. Once you are at your table, click “Whiteboard” at the bottom of the screen to upload a pdf of your poster. Note that uploading your poster to the App does not upload it to Remo. There are two poster sessions each day, be sure you are in the correct session.

View the poster presenter instructions here:

[genetics-gsa.org/celegans-2021/for-presenters/virtual-poster-presentations/](genetics-gsa.org/celegans-2021/for-presenters/virtual-poster-presentations/)
**Viewing Oral Sessions**

Registrants will access all live sessions through the App. Five minutes before an oral session starts, log in using your registration badge number and last name. Tap the “Join Webinar” button on your chosen session. The Join Webinar button will be visible ten minutes before the start of the session.

A recording of each session will be available, in the session listings on the App, around 24 hours after the session ends. The recordings will be available until July 16.

View full instructions for joining oral sessions here:

[genetics-gsa.org/celegans-2021/poster-attendee-guidelines/](genetics-gsa.org/celegans-2021/poster-attendee-guidelines/)

**Attending Live Poster Sessions**

Access the live poster sessions on Remo using the “Live Poster Hall” link on the App home screen (also available from the “More” tab). You will need to log in to Remo with the email address you used to register for the conference. The first time you join Remo you will also be asked to create a password. Once you enter the site, you will be assigned to a random table and floor. You can move between posters by double clicking on any table. Please share your video and microphone so poster presenters can see everyone who is attending.

In addition to the live poster sessions, poster files will be available via the App for the duration of the conference.

Note that you cannot participate in the live poster sessions using an iPad or tablet device.

View full instructions for live poster sessions here:

Live Poster Session Schedule

All live poster sessions will be held in the Remo platform, which can be accessed using the “Live Poster Hall” link in the App. There are three buildings for each session so be sure to visit all buildings and all nine floors. Within Remo, the grid on the left will allow you to move between floors. On the left hand side of the floor plan there are links to move to the other two buildings. Posters in the Remo platform will be removed at the end of each session.

If you are unable to attend the Live Poster Sessions, you can also leave questions for presenters on the app in the “Discussion” field at the bottom of the poster entry.

<table>
<thead>
<tr>
<th>Building 1</th>
<th>Building 2</th>
<th>Building 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floors 1-3 - Cell Biology</td>
<td>Floors 1-3 Gene Regulation</td>
<td>Floor 1 - Neurobiology and Physiology</td>
</tr>
<tr>
<td>Floors 3-6 Development</td>
<td>Floor 3-9 Neurobiology</td>
<td>Floors 2-6 Physiology</td>
</tr>
<tr>
<td>Floors 7-8 Ecology and Evolution</td>
<td></td>
<td>Floor 7 Physiology and Other</td>
</tr>
<tr>
<td>Floor 8 Education</td>
<td></td>
<td>Floor 8 Other</td>
</tr>
<tr>
<td>Floor 9 Gene Regulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Monday, June 21 Poster Presentations (Group A)
Even numbered 2:15 p.m. - 3:15 p.m.
Odd numbered 3:15 p.m. - 4:15 p.m.

<table>
<thead>
<tr>
<th>Building 1</th>
<th>Building 2</th>
<th>Building 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor 1</td>
<td>172A-211A</td>
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<tr>
<td>Floor 2</td>
<td>214A-253A</td>
<td>Floor 2</td>
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<tr>
<td>Floor 3</td>
<td>256A-295A</td>
<td>Floor 3</td>
</tr>
<tr>
<td>Floor 4</td>
<td>298A-337A</td>
<td>Floor 4</td>
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<td>Floor 5</td>
<td>340A-379A</td>
<td>Floor 5</td>
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<td>Floor 6</td>
<td>382A-421A</td>
<td>Floor 6</td>
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<td>Floor 7</td>
<td>424A-469A</td>
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<tr>
<td>Floor 9</td>
<td>514A-556A</td>
<td>Floor 9</td>
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## Tuesday, June 22 Poster Presentations (Group B)
Even numbered 2:45 p.m. - 3:45 p.m.
Odd numbered 3:45 p.m. - 4:45 p.m.

<table>
<thead>
<tr>
<th>Building 1</th>
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<th>Building 3</th>
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<tbody>
<tr>
<td>Floor 1</td>
<td>173B-212B</td>
<td>Floor 1</td>
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<tr>
<td>Floor 2</td>
<td>215B-254B</td>
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<td>Floor 3</td>
<td>257B-296B</td>
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<td>Floor 4</td>
<td>299B-338B</td>
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<td>Floor 5</td>
<td>341B-380B</td>
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<tr>
<td>Floor 6</td>
<td>383B-422B</td>
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<tr>
<td>Floor 7</td>
<td>425B-464B</td>
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<tr>
<td>Floor 8</td>
<td>470B-515B</td>
<td>Floor 8</td>
</tr>
<tr>
<td>Floor 9</td>
<td>518B-557B</td>
<td>Floor 9</td>
</tr>
</tbody>
</table>

## Wednesday, June 23 Poster Presentations (Group C)
Even numbered 1:30 p.m. - 2:30 p.m.
Odd numbered 2:30 p.m. - 3:30 p.m.

<table>
<thead>
<tr>
<th>Building 1</th>
<th>Building 2</th>
<th>Building 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor 1</td>
<td>174C-213C</td>
<td>Floor 1</td>
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<tr>
<td>Floor 2</td>
<td>216C-255C</td>
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<tr>
<td>Floor 3</td>
<td>258C-297C</td>
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<td>Floor 4</td>
<td>300C-339C</td>
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<td>Floor 5</td>
<td>342C-381C</td>
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<td>Floor 7</td>
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<tr>
<td>Floor 8</td>
<td>468C-507C</td>
<td>Floor 8</td>
</tr>
<tr>
<td>Floor 9</td>
<td>510C-549C</td>
<td>Floor 9</td>
</tr>
</tbody>
</table>
Sponsor and Exhibitor Education Sessions

GENETICS and G3 - Publishing Workshop
Join Tracey DePellegrin, Executive Editor of GENETICS and G3, Howard Lipshitz, Editor in Chief of GENETICS and David Fay, Senior Editor, G3 at the Publishing Workshop on Tuesday, June 22, 11:30 a.m. - 1:00 p.m. EDT.

Development - Publishing Workshop
Join Swathi Arur and editors from other journals at the Publishing Workshop on Tuesday, June 22, 11:30 a.m. - 1:00 p.m. EDT.

eLife - Publishing Workshop
Join Piali Sengupta and editors from other journals at the Publishing Workshop on Tuesday, June 22, 11:30 a.m. - 1:00 p.m. EDT.

InVivo Biosystems - Worming into Relevance – Disease modeling using humanized C. elegans models
Thursday, June 24, 1:45 - 2:45 p.m. EDT
Ellen Gregory from UC Davis and Dr. Ken Dawson-Scully from Florida Atlantic University will discuss how humanized C. elegans models and novel assays are used for disease modeling with the goal of assaying the clinical significance of predicted disease-causing variants and for uncovering neurotoxins and biowarfare antidotes. Also be sure and visit us at the Poster and Exhibits sessions on Monday, Tuesday and Wednesday in Building 2, Floor 1.

Nemalife - Automating C. elegans lifespan, stress, and behavior studies
Wednesday, June 23, 7:45 - 8:45 a.m. EDT
NemaLife, Inc invites you to experience how our hardware and software solutions can help improve the experimental throughput of your lab. We will demonstrate how our microfluidic platforms reduce the need for intensive manual assays. We will also highlight how our new software tools can speed up data analyses. Retire your worm picks with us! Stop by and visit us during the Poster and Exhibit sessions on Monday, Tuesday and Wednesday in Building 2, Floor 2!

PALM Network - Active learning mentorship for postdocs and junior faculty
Tuesday, June 22, 5:00 - 6:00 p.m. EDT
Learn how to advance your teaching skills through the Promoting Active Learning and Mentoring (PALM) Network. We will examine why to use active learning, key features of PALM, examples of PALM Fellow projects, how to get matched with a mentor, and the fellowship application form.

Union Biometrica - COPAS VISION™: The worm sorter that takes pictures
Tuesday, June 22, 7:45 - 8:45 a.m. EDT
COPAS VISION is a flow cytometer that can analyze and sort all stages of C. elegans and collect brightfield images of those worms. This lets the researcher screen through populations for rare variants, selecting differences in fluorescence levels, and dispensing worms to wells for various assays. All this and worm snapshots! Also be sure and visit us at the Poster and Exhibits sessions on Monday, Tuesday and Wednesday in Building 1, Floor 2.
Daily Meet-ups via Zoom and Remo

Socials will be held each day giving an opportunity to meet with professors, or participate in a hosted, themed virtual discussion on scientific, professional development, and community topics. The first hour will be in Zoom breakout rooms and then you can continue the conversation in Remo for a smaller group chat. All career stages are welcome. The below schedule shows the times and topics. In addition to the topics listed, at each Meet-up, there will be rooms for undergraduate and graduate students, postdocs and Meet the Professors.

<table>
<thead>
<tr>
<th>Monday, June 21</th>
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<tbody>
<tr>
<td>6:15 - 7:15 p.m.</td>
<td>Cell Biology and Growth</td>
</tr>
<tr>
<td>6:15 - 7:15 p.m.</td>
<td>Immunity and Microbiome</td>
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<td>6:15 - 7:15 p.m.</td>
<td>Applying to graduate school</td>
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<tr>
<td>6:15 - 7:15 p.m.</td>
<td>Parents in science</td>
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<tr>
<th>Tuesday, June 22</th>
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<tbody>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Cell Stress and death</td>
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<td>7:45 - 8:45 a.m.</td>
<td>Evolution and Population Genetics</td>
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<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Doing science and teaching at a PUI</td>
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<tr>
<td>7:45 - 8:45 a.m.</td>
<td>LGBTQ+ in science</td>
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<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Development, patterning, morphogenesis and organogenesis</td>
</tr>
<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Ecology, biotic interactions, chemical signaling</td>
</tr>
<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Careers in academia</td>
</tr>
<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Science Communication</td>
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<tr>
<th>Wednesday, June 23</th>
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<tbody>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Gene Regulation and expression</td>
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<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Neural Development and Physiology</td>
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<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Careers in industry</td>
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<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Diversity, equity and inclusion</td>
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<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Neural circuits and behavior</td>
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<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Reproduction and gametogenesis</td>
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<tr>
<td>5:15 - 6:15 p.m.</td>
<td>Disability in science</td>
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<tr>
<th>Thursday, June 24</th>
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<tbody>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Physiology, metabolism and aging</td>
</tr>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Chromatin, epigenetics and genomics</td>
</tr>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Models of Human Disease</td>
</tr>
<tr>
<td>7:45 - 8:45 a.m.</td>
<td>Applying to post-doc positions</td>
</tr>
</tbody>
</table>
General Information

Viewing Virtual Posters on the App

Poster files (with 2-minute audio overviews) will be available to view via the App between June 19 and June 24. Look for the “Virtual Poster” link near the bottom of each poster’s entry in the App.

View full instructions for viewing virtual posters here:

genetics-gsa.org/celegans-2021/poster-attendee-guidelines/#virtual-posters

Slack Chat Channels

The Worm21 Slack workspace is the place to meet other attendees during the conference. You can join and create chat channels based on your interests. There are channels for getting technical help, discussing new papers and preprints, sharing job ads, and connecting with other attendees around shared interests.

Learn more about Worm 21 Slack at: genetics-gsa.org/celegans-2021/worm21-slack/

Job Postings

Employers are welcome to add PDFs of job opportunities on the “Job Posting” table’s whiteboard in the Poster Sessions and in the a_jobs channel in the Worm21 Slack workspace. Employers can also post student and postdoc positions for free at the GSA Job Board online: jobboard.genetics-gsa.org

Presenting Author Index

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

Access the app at:

genetics-gsa.org/celegans-2021/conference-app/
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 conference, including but not limited to keynote presentations, concurrent sessions, live poster Q&A sessions, workshops, and all conference Slack channels. Because of the virtual nature of the conference, our Code of Conduct extends to communications related to the meeting and its attendees, presenters, exhibitors, sponsors, staff, and vendors. These types of communications include Zoom chat, Zoom Q&A window, live poster Q&A, Slack, email, social media, and texts.

Unacceptable Behaviors

Unacceptable behaviors include, but are not limited to:

- Intimidating, harassing, abusive, discriminatory, derogatory, or demeaning speech or actions by any participant and at all related events
- Harmful or prejudicial verbal or written comments or visual images related to gender, gender expression, gender identity, marital status, sexual orientation, race, religion, political orientation, socioeconomic, 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 and Slack channels without warning
- Restrictions from future GSA meeting attendance
- Termination of GSA membership or positions on GSA Boards or Committees
- Incidents may be reported to the proper authorities

Accessibility

GSA is committed to assisting attendees with special needs. If you have accessibility questions or requests, please email gsaconferences@genetics-gsa.org.

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 groups traditionally underrepresented in science.

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.
InVivo Biosystems

InVivo Biosystems, an expert in CRISPR genome editing, creates custom genome edited *C. elegans* and zebrafish models to enable aging, developmental and disease studies. InVivo Biosystems also develops and manufactures genotyping and phenotyping products, including instruments, reagents and consumables to allow researchers to explore and discover new phenotypes. Be sure and attend our Worming into Relevance – Disease modeling using humanized *C. elegans* models session on Thursday, June 24, 1:45 p.m. - 2:45 p.m. EDT and visit our table during the Poster and Exhibit Sessions on Monday, Tuesday and Wednesday.

Nemalife

NemaLife, Inc. is a dynamic biotechnology company that offers hardware and software solutions to academic labs for automating a variety of assays using *C. elegans*. Our platforms enable high-throughput data acquisition and analysis while allowing precise whole-life control of the environment of the worm. Be sure and attend our Automating *C. elegans* lifespan, stress, and behavior studies with NemaLife session on Wednesday, June 23, 7:45 am – 8:45 am EDT and visit us at our table in the Poster Sessions, Monday, Tuesday and Wednesday.

Union Biometrica

Union Biometrica provides flow cytometry for objects that are too large / fragile for traditional cytometers and offer an alternative to manual sorting (under a microscope). These systems sort and dispense objects based on size and fluorescent parameters. Automating this process offers increased speed, sensitivity, quantification, and repeatability of experiments. Be sure and attend our COPAS VISION™: The worm sorter that takes pictures session on Tuesday, June 22, 7:45 a.m. - 8:45 a.m. EDT and visit our table during the Poster Sessions on Monday, Tuesday and Wednesday.

WormAtlas

WormAtlas offers detailed descriptions of the anatomy and physiology of hermaphrodite, male, dauer, embryo and aging *C. elegans*. We have expanded to include a section on the nematode Pristionchus pacificus. During the poster sessions we will demonstrate our content and provide guidance on new functions and features for both WormAtlas and WormImage, our website that provides access to an extensive collection of EM images. Be sure and visit us at our table in the Poster and Exhibit Sessions on Monday, Tuesday and Wednesday.
Oral Presentation and Workshop Session Listings
New Faculty Workshop

This event is designed to help new faculty (those within their first five years of appointment) and postdocs network, learn, and find support. In the past, topics covered in this event included tools and techniques for managing budgets effectively, tips for negotiating and establishing relationships with vendors, and tips on being a supportive mentor. Advance registration is required.

1. Introductions to first panel
2. 55 min Panel: setting up a lab with R01 and PUI
   1. Panel: 
      1. Teresa Lee
      2. Nicole Crown
      3. Derek Applewhite
   2. Moderator
      1. Justin DiAngelo
3. 5 min break
4. Introductions to second panel
5. 55 min Panel: teaching at an R01 and PUI
   1. Panel: 
      1. Rob Ward
      2. Julie Hall
      3. Te-Wen Lo
   2. Moderator
      1. Justin DiAngelo
6. 5 min break
7. 30 minutes networking break
   1. Breakout rooms
      1. Research-intensive (Rob Ward and Nicole Crown)
      2. 50/50 research/teaching (Teresa Lee and Justin DiAngelo)
      3. Teaching-intensive (Te-Wen Lo and Julie Hall)

Grants and Funding

This workshop provides attendees with important and useful information related to applying for research funding. Attendees hear talks from experienced investigators and program officers, and they have a chance to ask questions in a friendly, low-stress environment. Advance registration is required.

Panelists:

- Dr. Arcady Mushegian, National Science Foundation Program Director
- Dr. Bob Coyne, National Institute of General Medical Sciences Program Director - Developmental and Cellular Processes
- Dr. Victoria McGovern, Burroughs Wellcome Fund Senior Program Officer
- Dr. Janka Mátrai, European Research Council Executive Agency Scientific Officer
- Etsuko Kifune, Japan Society for the Promotion of Science Deputy Director, Washington, D.C. Office
- Dr. Christopher McMaster, Canadian Institutes of Health Research Institute of Genetics Director
**Worm21 Early Career Leadership Program Welcome and Conference Success**

*Session Chair: Erin Suderman, Genetics Society of America*

This event helps attendees make the most of the conference. Topics covered may include: introduction to organizers of the meeting, advice on having meaningful interactions in a virtual space, a chance to meet other attendees in an informal setting, and an introduction to events in the scientific and other programming. Registration required.

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**Getting Involved in GSA’s Early Career Professional Development Programs**

*Session Chair: Erin Suderman, Genetics Society of America*

GSA Early Career Leadership Program members will join us in sharing how to get involved in the ECLP focusing on how the program has advanced their scientific skill sets and careers. GSA will walk through how and when to apply and showcase programming Early Career Scientists can participate in throughout the year. Registration required. For undergrads, grads and postdocs.
**Multilingual Networking**  
*Session Chair: Jessica Velez, Genetics Society of America*

This multilingual networking event is where fellow #Worm21 participants who speak languages other than English will have a chance to network and talk science in their native language or language of choice with other participants. Join us for this exciting event to network in the language of your choice! Advance registration required.

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**Career Exploration Panel**  
*Session Chair: Jessica Velez, Genetics Society of America*

A panel of individuals from multiple career paths will show the broad options available to those with a PhD. The career sectors highlighted will be: academic research, government research, science communication and writing, science policy, non-profit, business, outreach, and academic administration.
Careers in Academia

Session Chair:
Jessica Velez, Genetics Society of America

This event for graduate students and postdocs will show the broad options available to those with a PhD by hosting a panel of individuals from multiple career paths.

Moderator:
Teresa Lee, University of Massachusetts, Lowell

Panelists:
Swathi Arur, The University of Texas MD Anderson Cancer Center
Oliver Hobert, Columbia University
Jane Hubbard, NYU Grossman School of Medicine, Skirball Institute
Jordan Ward, University of California, Santa Cruz

Opening Plenary

1  9:45 am  Welcome and Opening Remarks from Conference Chairs. Barbara Conradt and Piali Sengupta
2  9:51 am  GSA Welcome. Jane Hubbard, NYU Grossman School of Medicine
3  9:55 am  CGC and tribute to Don Moerman. Ann Rougvie, University of Minnesota
4  10:00 am  The diversity of data in Wormbase; how to find it and use it. Paul Sternberg
5  10:05 am  Roles of miRNAs in C. elegans development. Luisa Cochella
6  10:30 am  Worms frozen in time. Oded Rechavi, Tel Aviv University
7  10:55 am  Worm Health Organization: Understanding the pandemics facing C. elegans. Emily Troemel, University of California, San Diego
8  11:20 am  Speaker Question and Answer
Monday, June 21
12:00 pm - 2:00 pm

Mitosis, Meiosis, & the Cytoskeleton

*Session Chairs:*
Jessica Feldman, Stanford University
Yumi Kim, Johns Hopkins University

9 12:00 pm  Rewiring quality control in *C. elegans* meiosis using a new chemically-induced proximity system. **Chenshu Liu**, University of California, Berkeley

10 12:18 pm  R-loop-induced irreparable DNA damage in *C. elegans* meiosis. **Tara Hicks**, University of Iowa

11 12:30 pm  Multiple levels of regulation ensure robust cell cycle exit during *C. elegans* vulva formation. **Vincent Portegijs**, Utrecht University

12 12:42 pm  The Ran pathway uniquely regulates cytokinesis in cells with different fates in the early *C. elegans* embryo. **Imge Ozugergin**, Concordia University

13 12:54 pm  DNA repair is altered during *C. elegans* germline aging. **Erik Toraason**, University of Oregon

14 1:06 pm  Deciphering the mechanism of mitotic spindle orientation in *Caenorhabditis elegans* germline stem cells. **Réda M. Zellag**, Université de Montréal

15 1:18 pm  Characterising single-stranded telomere binding proteins in *C. elegans*. **Helder Ferreira**, University of St Andrews

16 1:30 pm  Using the *C. elegans* zygote to study principles of actin cytoskeleton self-organization. **Sarah Yde**, University of Chicago

17 1:42 pm  Identification of factors regulating the localization of a microtubule regulator EFA-6. **Xiaohui Lyu**, University of California San Diego

18 1:54 pm  Speaker Question and Answer

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Monday, June 21
12:00 pm - 2:00 pm

Synaptic Function and Circuits

*Session Chairs:*
Steven Flavell, MIT, USA
Misako Okumura, Hiroshima University, Japan

19 12:00 pm  Nerve ring reconstructions reveal principles of brain organization across larval development. **Christopher Brittin**, Memorial Sloan Kettering Cancer Center

20 12:18 pm  A computational approach linking neuron-specific gene expression with connectivity. **Erdem Varol**, Columbia University

21 12:30 pm  The HSPG Syndecan is a core organizer of cholinergic synapses in *C. elegans*. **Xin Zhou**, University of Lyon, Institute Neuromyogene

22 12:42 pm  Mapping the neuropeptidergic connectome of *Caenorhabditis elegans*. **Lidia Ripoll-Sánchez**, MRC Laboratory of Molecular Biology

23 12:54 pm  The molecular atlas of *C. elegans* glia across sex and age. **Maria Purice**, Fred Hutchinson Cancer Research Center

24 1:06 pm  Insulin-like signaling regulates left/right asymmetric synaptic connection. **Leo Tang**, Albert Einstein College of Medicine

25 1:18 pm  Sexually-dimorphic responses to noxious stimuli in *C. elegans* result from differences in interneuron connectivity rather than in sensory processing. **Vladyslava Pechuk**, The Weizmann Institute of Science

26 1:30 pm  Age-related decline of neuronal function is linked to a loss of inhibitory signaling in *C. elegans*. **Gregory Wirak**, Boston University School of Medicine

27 1:42 pm  The DEG/ENaC ion channel DEL-4 maintains neuronal ionstasis and promotes neuronal survival under stress. **Dionysia Petratou**, Institute of Molecular Biology and Biotechnology

28 1:54 pm  Speaker Question and Answer
### Oral Presentation and Workshop Session Listings

**Monday, June 21**  
**12:00 pm - 2:00 pm**

#### Aging and stress I

**Session Chairs:**
- **John Labbadia**, University College London, UK  
- **Maria Olmedo**, University of Sevilla, Spain

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>29</td>
<td>12:00 pm</td>
<td>End-of-life targeted auxin-mediated degradation of DAF-2 Insulin/IGF-1 receptor promotes longevity free from growth-related pathologies.</td>
<td><strong>Collin Ewald</strong>, ETH Zurich</td>
<td></td>
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<tr>
<td>31</td>
<td>12:30 pm</td>
<td>A single-cell expression atlas of <em>C. elegans</em> adulthood uncovers new aging trajectories.</td>
<td><strong>Antoine Roux</strong>, Calico Life Sciences LLC</td>
<td></td>
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<tr>
<td>32</td>
<td>12:42 pm</td>
<td>A daf-18/PTEN variant uncouples longevity from impaired fitness via differentially calibrating the activities of DAF-16 and SKN-1.</td>
<td><strong>Hae-Eun Park</strong>, Korea Advanced Institute of Science and Technology</td>
<td></td>
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<tr>
<td>33</td>
<td>12:54 pm</td>
<td>Intergenerational adaptations to stress are evolutionarily conserved, stress specific, and have deleterious trade-offs.</td>
<td><strong>Nick Burton</strong>, University of Cambridge</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>1:06 pm</td>
<td><em>C. elegans</em> provide milk for their young.</td>
<td><strong>Carina Kern</strong>, Genetics, Evolution and Environment, University College London</td>
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<tr>
<td>35</td>
<td>1:18 pm</td>
<td>The DRM complex functions as master regulator of somatic DNA repair capacities.</td>
<td><strong>Arturo Bujarrabal</strong>, CECAD, Institute for Genome Stability in Ageing and Disease, University of Cologne</td>
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<tr>
<td>36</td>
<td>1:30 pm</td>
<td>A robotic system for automated manipulation of <em>C. elegans</em> on agar media.</td>
<td><strong>Zihao Li</strong>, University of Pennsylvania</td>
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<tr>
<td>37</td>
<td>1:42 pm</td>
<td>Transcriptomic analyses of hermaphrodite responses to the male pheromone.</td>
<td><strong>David Angeles-Albores</strong>, Northwestern University</td>
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<tr>
<td>38</td>
<td>1:54 pm</td>
<td>Speaker Question and Answer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monday, June 21
12:00 pm - 2:00 pm

Transcriptional and post-transcriptional gene regulation

Session Chairs:
Colin Conine, University of Pennsylvania School of Medicine, USA
Inna Nepochureno, Worcester Polytechnic Institute

39 12:00 pm Transcription rates in the early embryo. Priya Sivaramakrishnan, University of Pennsylvania

40 12:18 pm Translation dependency of *erm-1* mRNA localization to the cell cortex in the early *C. elegans* embryo. Lindsay Winkenbach, Colorado State University

41 12:30 pm A genome-wide analysis of developmentally regulated alternative splicing across *C. elegans* tissues. Bina Koterniak, University of Toronto

42 12:42 pm Principles of mRNA Cleavage and Polyadenylation in *C. elegans*. Marco Mangone, Arizona State University

43 12:54 pm Critical contribution of 3' non-seed base pairing to the *in vivo* function of the evolutionarily conserved *let-7a* microRNA. Ye Duan, UMass Medical School

44 1:06 pm *In vivo* DNA Topology and Transcriptional Regulation in *Caenorhabditis elegans*. Bolaji Isiaka, University of Bern

45 1:18 pm Spliceosomal component PRP-40 regulates alternative splicing of microexons. Bikash Choudhary, Southern Methodist University

46 1:30 pm A nutrient-dependent epigenetic priming mechanism by the pioneer factor BLMP-1 modulates transactional output to control gene dosage during temporal patterning *in C. elegans*. Kelly Hills-Muckey, Cold Spring Harbor Laboratory

47 1:42 pm Cytoplasmic polyadenylation by TENT-5 regulates the innate immune response in worms. Vladyslava Liudkovska, International Institute of Molecular and Cell Biology in Warsaw

48 1:54 pm Speaker Question and Answer
Monday, June 21
4:30 pm - 6:00 pm

**Modeling Rare Human Diseases in *C. elegans***

*Session Chair:*
Andrew Golden, NIDDK/NIH

There are ~7000 rare human diseases, the majority of which are monogenic diseases. Less than 5% have therapies and for most, the mechanism of disease is not understood. For the majority of disease genes, there exists a *C. elegans* ortholog. Modeling these rare diseases in *C. elegans* has revealed a better understanding of the cell biology of these mutations as well as novel therapies based on drug or genetic suppressor screens. This program will highlight a variety of approaches used to model these rare diseases.

**Speakers**
Catherine Rankin, University of British Columbia, The success of the Canadian Rare Disease Models and Mechanisms program

Todd Lamitina: TBD

Oliver Blacque: Interpreting ciliopathy patient mutations using *C. elegans* knock-in models

Monday, June 21
4:30 pm - 6:00 pm

**Utilizing neuron-specific gene expression data from the CeNGEN project**

*Session Chairs:*
David Miller, Vanderbilt University
Seth Taylor, Vanderbilt University
Marc Hammarlund, Yale University

This workshop will provide a practical guide for exploiting neuron-specific RNA seq data sets from CeNGEN (C. elegans Neuronal Gene Expression Map & Network). The CeNGEN project has produced a single-cell RNA-seq profile of every type (128) of neuron in the *C. elegans* nervous system. We will describe methods for generating and annotating these scRNA-Seq results, a website for data analysis (CeNGENapp), a complementary bulk RNA-Seq strategy for neuron-specific whole transcriptome data, and a computational approach that links neuron-specific gene expression to the wiring diagram.
Tuesday, June 22
7:45 am - 8:45 am

**COPAS VISION™: The worm sorter that takes pictures. Presented by Union Biometrica**

*Session Chairs:*
**Rock Pulak,** Union Biometrica  
**Deborah Frenkel,** Union Biometrica

COPAS VISION is a flow cytometer that can analyze and sort all stages of *C. elegans* and collect brightfield images of those worms. This lets the researcher screen through populations for rare variants, selecting differences in fluorescence levels, and dispensing worms to wells for various assays. All this and worm snapshots!

Also be sure and visit us at the Poster and Exhibits sessions on Monday, Tuesday and Wednesday.
Tuesday, June 22
9:00 am - 11:00 am

Intracellular Trafficking, Organelles, & Cell Polarity

Session Chairs:
Diego Rayes, INIBIBB, Universidad Nacional del Sur, Argentina
Anne-Cécile Reymann, IGBMC, France

49 9:00 am Impaired peroxisomal import triggers a peroxisomal retrograde signaling. Stephane Rolland, Institute for Basic Science - Center for Genomic Integrity

50 9:18 am Deciphering the ciliary extracellular vesicle (EV) proteome. Inna Nikonorova, Rutgers University

51 9:30 am Ectosome uptake by glia sculpts Caenorhabditis elegans sensory cilia. Adria Razzauti Sanfeliu, Universite Libre de Bruxelles

52 9:42 am A three-step activation of autoinhibited RME-8 controls recycling and degradative activities on the endosome. Anne Norris, Rutgers University


54 10:06 am Imaging of native transcription and transcriptional dynamics in vivo using a tagged Argonaute protein. Antoine Barriere, CNRS/IBDM

55 10:18 am Loss of a conserved protease can suppress molting defects. Braveen Joseph, University of Wyoming

56 10:30 am PAR polarity proteins buffer against epithelial assaults to create a continuous and functional intestinal lumen. Maria Sallee, Stanford University

57 10:42 am DAPC and Wnt pathways pattern distinct planar-polarized membrane domains in C. elegans muscles. Alice Peysson, INMG

58 10:54 am Speaker Question and Answer
Tuesday, June 22
9:00 am - 11:00 am

Behavior
Session Chairs:
Monika Scholz, Research Institute Caesar, Germany
Asuka Takeishi, RIKEN, Japan

59  9:00 am  Forgetting generates a novel brain state that can reactivate memory. He Liu, Beijing Normal University at Zhuhai

60  9:18 am  Sleep is required for odor exposure to consolidate memory and remodel olfactory synapses. Rashmi Chandra, University of California

61  9:30 am  Arrestin-mediated Desensitization Enables Olfactory Discrimination in C. elegans. Daniel Merritt, University of Toronto


63  9:54 am  Experience-dependent gene expression changes across a defined neural circuit in C. elegans. Giulio Valperga, IST Austria

64  10:06 am  Mechanosensitive Piezo Channel, PEZO-1, regulates food deglutition in C. elegans. YeonJi Park, DGIST

65  10:18 am  Diverse sensory cues and internal state converge on AWA chemoreceptor expression to enhance sensitivity to food odors. Ian McLachlan, Massachusetts Institute of Technology

66  10:30 am  A genetically linked gene pair determines organismal self-identity in predatory nematodes. James Lightfoot, caesar institute - Center of Advanced European Studies and Research

67  10:42 am  Toward the understanding of molecular mechanism of electrical sensation and response. Ling Fei Tee, Nagoya City University

68  10:54 am  Speaker Question and Answer
### Oral Presentation and Workshop Session Listings

**Tuesday, June 22**  
9:00 am - 11:00 am

**Pathogenesis**

*Session Chairs:*

**Jon Karpel**, Southern Utah University  
**Dengke Ma**, University of California, San Francisco

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
<th>Institution</th>
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<tbody>
<tr>
<td>69</td>
<td>9:00 am</td>
<td>A novel in vitro <em>Caenorhabditis elegans</em> transcription system.</td>
<td>Jingru Sun</td>
<td>Washington State University</td>
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<tr>
<td>70</td>
<td>9:18 am</td>
<td>The purine nucleoside phosphorylase <em>pnp-1</em> regulates epithelial cell resistance to infection in <em>C. elegans</em>.</td>
<td>Eileen Tecle</td>
<td>UCSD</td>
</tr>
<tr>
<td>71</td>
<td>9:30 am</td>
<td>Hyperactive SKN-1 drives an innate immune response but inhibits the ability to learn pathogen avoidance.</td>
<td>James Nhan</td>
<td>University of Southern California</td>
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<tr>
<td>72</td>
<td>9:42 am</td>
<td>The <em>alg-1</em> gene is necessary for Orsay virus infection of <em>Caenorhabditis elegans</em>.</td>
<td>Ciro Cubillas</td>
<td>Washington University in St. Louis, School of Medicine</td>
</tr>
<tr>
<td>73</td>
<td>9:54 am</td>
<td>Rotenone modulates the <em>Caenorhabditis elegans</em> immunometabolism and pathogen susceptibility.</td>
<td>Danielle Mello</td>
<td>Duke University</td>
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<tr>
<td>74</td>
<td>10:06 am</td>
<td>NHR-49/PPAR-α and HLH-30/TFEB cooperate for <em>C. elegans</em> host defense via a flavin-containing monooxygenase.</td>
<td>Khursheed Wani</td>
<td>University of Massachusetts Medical School</td>
</tr>
<tr>
<td>75</td>
<td>10:18 am</td>
<td>Nuclear hormone receptors mediate adaptive responses to the mold <em>Penicillium brevicompactum</em>.</td>
<td>Sean Wallace</td>
<td>The Rockefeller University</td>
</tr>
<tr>
<td>76</td>
<td>10:30 am</td>
<td>A parental transcriptional response to microsporidia infection induces inherited immunity in offspring.</td>
<td>Alexandra Willis</td>
<td>University of Toronto</td>
</tr>
<tr>
<td>77</td>
<td>10:42 am</td>
<td>Regulation of DNA repair mechanism by NPR-8.</td>
<td>Mahamudul Haque</td>
<td>Washington State University</td>
</tr>
<tr>
<td>78</td>
<td>10:54 am</td>
<td>Speaker Question and Answer</td>
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<td></td>
</tr>
</tbody>
</table>
Tuesday, June 22
9:00 am - 11:00 am

**Epigenetics and Genome Organization**

*Session Chairs:*

**Daphne Cabianca**, Helmholtz Center Munich, Germany

**John Calarco**, University of Toronto, Canada

79 9:00 am Chromo domain proteins maintain germline immortality and restrict transgenerational RNAi inheritance. **Arneet Saltzman**, University of Toronto

80 9:18 am A novel sperm-specific compartment secures a cytoplasmic Argonaute protein for paternal epigenetic inheritance of small RNA-mediated gene silencing. **Jan Schreier**, Institute of Molecular Biology

81 9:30 am Regulation of transgenerational epigenetic H3K27me3 inheritance. **Isa Oezdemir**, University of Geneva

82 9:42 am Interrogating the role of paternally contributed tRNA fragments in *C. elegans* fertilization and development. **Olivia Crocker**, University of Pennsylvania

83 9:54 am Concentrates of histone methyltransferase MET-2 promotes gene silencing independent of its H3K9 methyltransferase catalytic activity. **Colin Delaney**, Friedrich Miescher Institute for Biomedical Research (FMI)

84 10:06 am Dissecting the functional genomic landscape of epidermal patterning in *C. elegans* using Targeted-DamID. **Dimitris Katsanos**, Imperial College London

85 10:18 am Condensin DC spreads linearly and bidirectionally from recruitment sites to create loop-anchored TADs in C. elegans. **David Jimenez**, NYU

86 10:30 am Mis-regulation of mtDNA 6mdA methylation causes enhanced oxidative stress and ageing in *C. elegans*. **Anne Hahn**, Queensland Brain Institute - University of Queensland

87 10:42 am *C. elegans* as a Nestor Guillermo Progeria Syndrome Model. **Raquel Romero Bueno**, Centro Andaluz de Biologia del Desarrollo

88 10:54 am Speaker Question and Answer
Tuesday, June 22
11:30 am - 1:00 pm

**Publishing Workshop**

*Session Chair:*
**Ruth Isaacson**, Genetics Society of America

Not ready to publish yet, but curious about the peer review process? Join us for an overview of peer review presented by the Executive Editor of GSA Journals GENETICS and G3: Genes | Genomes | Genetics. Editors from multiple journals, including GENETICS, G3, eLife and Development will then participate in a panel discussion answering attendee questions about the entire process—from submission to review to publication. Students and postdocs are invited to attend. All questions welcome!

Tracey DePellegrin, Executive Editor, GENETICS and G3, Publishing Overview

**Panel Members**
Swathi Arur, Editor, Development
David Fay, Senior Editor, G3
Howard Lipshitz, Editor in Chief, GENETICS
Piali Sengupta, Senior Editor, eLife
Spatiotemporal control of gene expression and protein levels

Session Chairs:
Peter Askjaer, Andalusian Centre for Developmental Biology
David Q. Matus, Stony Brook University
Jordan D. Ward, University of California

This workshop is dedicated to technological advances that allow precise control of gene expression and protein abundance. Ground breaking work by Andrew Fire and Craig C. Mello on RNAi as a potent tool to silence gene expression has had a tremendous impact on the C. elegans field and beyond. Nevertheless, additional layers of manipulation are important to obtain experimental alternatives that often provide faster, more precise and/or reversible regulation of gene activity. Leading researchers involved in the development of tools for drug inducible gene expression, genome recombination and targeted protein degradation and localization will share their recent advances and experience with the audience through open discussion.

Schedule

11:30 a.m. Introduction by Jordan D Ward, University of California-Santa Cruz

11:34 a.m. Mike Nonet, Washington University School of Medicine, RMCE and RMHE integration approaches and bipartite expression systems

11:41 a.m. Mohammed Al Johani, King Abdullah University of Science and Technology, Efficient germline expression of transgenes

11:48 a.m. Justin Shaffer, Columbia University, FLExon: a FLoxed Exon approach to conditional gene expression

11:55 a.m. Lloyd Davis, University of Edinburgh, Controlling Gene Expression with Light

12:02 p.m. Peter Askjaer, Andalusian Centre for Developmental Biology, Expanding the FLP/Frt Toolkit

12:09 p.m. Theresa Gibney, University of Virginia, Genome engineering methods to visualize and manipulate endogenous proteins with cell-type specificity

12:16 p.m. Maria Sallee, Stanford University, Tissue-specific degradation of endogenous proteins using the ZIF-1/ZF system

12:23 p.m. Kelly Hills-Muckey, Cold Spring Harbor Laboratory, Auxin-TIR1 pair mutation improves efficacy and specificity of the Auxin Induced Degron (AID) system

12:30 p.m. Open discussion
The diversity of data in WormBase; how to find it and use it

*Session Chairs:*
**Ranjana Kishore,** WormBase, California Institute of Technology  
**Chris Grove,** WormBase, California Institute of Technology

This workshop will be an interactive session with talks related to the breadth and depth of data in WormBase, tools for querying and analyzing data and community curation. We will discuss use cases and introduce users to new/improved community curation forms such as our Author First Pass and Phenotype submission forms. A highlight of this workshop will be a discussion about the Alliance of Genome Resources (Alliance; www.alliancegenome.org), of which WormBase is a founding member.

**Schedule**
11:30 a.m. Magdalena Zarowiecki, EMBL-EBI, A whistle-stop tour of all the types of data you can find in WormBase

11:45 a.m. Chris Grove, California Institute of Technology, Researching transcriptional regulation using WormBase transcription factors, TF binding sites and the modENCODE data

12:00 p.m. Ranjana Kishore, California Institute of Technology, Comparative genomics and disease research using Alliance of Genome Resources

12:15 p.m. Daniela Raciti, California Institute of Technology, How can you contribute? Community curation and tools, and the author-first-pass (AFP) pipeline

12:30 p.m. Chris Grove, California Institute of Technology, Open Discussion / Q & A

Embracing the microbial side: 3rd *C. elegans* microbiome workshop

*Session Chair:*
**Buck Samuel,** Baylor College of Medicine

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 third 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.
**Building an equitable scientific community: lessons from C. elegans researchers involved in DEI initiatives**

*Session Chair:*
*Anna Allen*, Howard University

**1:15 pm** The Pipeline CURE: lowering institutional barriers to research by reiteratively incorporating original *C. elegans* experiments throughout a biology curriculum. *David Katz*, Emory University

**1:30 pm** Strategies to improve equity in faculty hiring. *Needhi Bhalla*, University of California, Santa Cruz

**1:45 pm** Building intentional networks and partnerships within and across scientific societies to reach true diversity, equity, and inclusion in STEM. *Pamela Padilla*, Univ North Texas

**2:00 pm** Speaker Question and Answer

*C. elegans* researchers share the work they’re doing to address the lack of diversity within our field at various scientific stages. This session aims to include talks from individuals working at increasing diversity at the undergraduate research level through the professoriate. Our intention is that this session will generate communication within the community, spur individual ideas and actions, and express our plans to continue facilitating these conversations at future Worm meetings. We hope that highlighting these topics communicates that building a diverse, equitable, and inclusive scientific enterprise should be a priority for all scientists, and we want to give our community concrete ideas to take back to the classroom and the lab.

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**Active learning mentorship for postdocs and junior faculty: the PALM Network**

*Session Chairs:*
*Teresa Lee*, University of Massachusetts
*Jennifer Schisa*, Central Michigan University

Are you interested in learning to teach more effectively? Would you like to make your classroom more inclusive and engaging? Could you use guidance on how to implement active learning in your classes? Learn about the PALM Network (Promoting Active Learning and Mentoring), funded by the NSF and sponsored by the GSA and ASCB. This workshop is led by a current PALM Mentor and a former PALM Fellow. We will examine the benefits of active learning strategies, highlight advantages of belonging the PALM Network, describe examples of PALM projects, and discuss how to craft a successful application.
Wednesday, June 23  
7:45 am - 8:45 am

**Automating *C. elegans* lifespan, stress, and behavior studies with NemaLife**

NemaLife, Inc invites you to experience how our hardware and software solutions can help improve the experimental throughput of your lab. We will demonstrate how our microfluidic platforms reduce the need for intensive manual assays. We will also highlight how our new software tools can speed up data analyses. Retire your worm picks with us! Stop by and visit us during the Poster and Exhibit sessions on Monday, Tuesday and Wednesday!

Wednesday, June 23  
9:00 am - 11:00 am

**RNA interference and non-coding RNAs**

*Session Chairs:*

- **Katherine McJunkin**, NIH, USA
- **Benjamin Weaver**, UT Southwestern Medical Center, USA

93  9:00 am  Plasticity of Argonautes and their associated small RNA pathways in nematodes. **Jianbin Wang**, The University of Tennessee, Knoxville

94  9:18 am  A Systematic Analysis of Argonaute Proteins in *C. elegans*. **Uri Seroussi**, University of Toronto

95  9:30 am  Arginine methylation promotes siRNA-binding specificity for a spermatogenesis-specific isoform of the Argonaute protein CSR-1. **Carolyn Phillips**, University of Southern California

96  9:42 am  Reprogramming the piRNA pathway for multiplexed and transgenerational gene silencing in *C. elegans*. **Monika Priyadarshini**, KAUST

97  9:54 am  LOTR-1, the *C. elegans* TDRD5/7 homolog, helps maintain 22G siRNA distribution and fertility. **Elisabeth Marnik**, Husson University

98  10:06 am  Proteolysis dependent gene silencing in *C. elegans* germline. **Takao Ishidate**, UMass Medical School

99  10:18 am  Negative feedback between NHR-23 and *let-7* regulates developmental pace and number of molts in *C. elegans*. **Himani Anand Galagali**, Johns Hopkins University

100  10:30 am  Screening by deep sequencing reveals mediators of miRNA tailing in *C. elegans*. **Karl-Frederic Vieux**, National Institute of Health

101  10:42 am  Independent nuclear and cytoplasmic silencing mechanisms contribute to transgenerational RNAi. **John Paul Ouyang**, The Johns Hopkins University School of Medicine

102  10:54 am  Speaker Question and Answer
Wednesday, June 23
9:00 am - 11:00 am

Germline, Sex determination and Signaling

Session Chairs:
John Murray, University of Pennsylvania, USA
Suzan Ruijtenberg, Utrecht University, Netherlands

103 9:00 am ELT-3 regulates cuticle collagen expression in response to environmental stimuli. Lesley MacNeil, McMaster University

104 9:18 am A single cell multiomics approach to resolve genomic drivers of C. elegans development. Martin Fabry, University of Cambridge

105 9:30 am Oscillatory expression of molting cycle genes is coordinated with pharynx growth in larvae. Timo Louisse, AMOLF

106 9:42 am Analysis of OEF-1 as a potential epigenetic reader of H3K36me3 in the C.elegans germ line. Mariateresa Mazzetto, Yale University

107 9:54 am LOTUS-domain containing proteins recruit C. elegans Vasa to germline granules and control the formation and size of the condensates. Patricia Giselle Cipriani, New York University

108 10:06 am Transgenerational regulation of sex determination. Matthew Eroglu, University of Toronto

109 10:18 am Defining the function of EXC-4/CLIC in Ga-Rac signaling using TurboID to identify physical interactors. Anthony Arena, University of Illinois - Chicago

110 10:30 am The secreted modular calcium binding protein (SMOC-1) can function as both a long-range and a short-range modulator of BMP signaling in C. elegans. Melissa DeGroot, Cornell University

111 10:42 am COP9 signalosome component CSN-5 stabilizes stem cell regulators FBF-1 and FBF-2. Emily Osterli, University of Montana

112 10:54 am Speaker Question and Answer

Wednesday, June 23
9:00 am - 11:00 am

Neuronal development and novel methods

Session Chairs:
Kavita Babu, Indian Inst of Science and IISER Mohali, India
Heather Bennett, Bard University, USA

113 9:00 am An Electron Microscopy Pseudo Time Series of the C. elegans Embryo. Anthony Santella, Sloan Kettering Inst

114 9:18 am A retrograde zippering mechanism regulates neurite placement in the C. elegans nerve ring. Titas Sengupta, Yale University

115 9:30 am Temporal Maturation of the C. elegans Post-Embryonic Nervous System. HaoSheng Sun, Columbia University

116 9:42 am cAMP controls a trafficking mechanism that directs the neuron specificity and subcellular placement of electrical synapses. Sierra Palumbos, Vanderbilt University

117 9:54 am How do neurexins promote presynaptic development? Marcos Schaan Profes, Albert Einstein College of Medicine

118 10:06 am Sensory cilia architecture shapes olfactory response dynamics. Alison Philbrook, Brandeis University

119 10:18 am Mechanisms of selective neuron-glial attachment. Leigh Wexler, Boston Childrens Hospital/Harvard Medical School

120 10:30 am The optogenetic voltage clamp (OVC) – A closed-loop all-optical approach for true optogenetic control of muscles and neurons in live animals. Amelie Bergs, Goethe University Frankfurt

121 10:42 am Real-time volumetric whole-animal imaging at cellular resolution with SCAPE microscopy in NeuroPAL worms. Wenwei Richard Yan, Columbia University

122 10:54 am Speaker Question and Answer
Wednesday, June 23
9:00 am - 11:00 am

Aging and stress II

Session Chairs:
Yee Lian Chew, Flinders University, Adelaide, Australia
Benjamin Towbin, University of Bern, Switzerland

123 9:00 am  HPK-1 prevents the decline of proteostasis through neuroendocrine control of the proteostatic network. Maria Lazaro-Pena, University of Rochester Medical Center

124 9:18 am  What C. elegans can tell us about the misfolded tau toxicity? Carmina Natale, Istituto di Ricerche Farmacologiche Mario Negri IRCCS

125 9:30 am  The Mitochondrial Permeability Transition Pore Activates a Maladaptive Mitochondrial Unfolded Protein Response. Suzanne Angeli, Buck Institute for Research on Aging

126 9:42 am  TCER-1-regulated alternative splicing promotes stress resilience. Francis RG Amrit, University of Pittsburgh

127 9:54 am  Embryo Integrity Regulates Maternal Proteostasis and Stress Resilience. Ambre Sala, Northwestern University

128 10:06 am  A neuronal thermostat controls membrane fluidity in C. elegans. Laetitia Chauve, Babraham Institute


130 10:30 am  Caenorhabditis elegans processes sensory information to choose between freeloading and self-defense strategies. Jodie Schiffer, Northeastern University

131 10:42 am  Inheritance of associative memories in C. elegans. Noa Deshe, The Hebrew University of Jerusalem

132 10:54 am  Speaker Question and Answer

Wednesday, June 23
11:30 am - 1:00 pm

The male C. elegans nervous system: connectomics, molecular maps, and functional analysis

Session Chair:
Robert W. Fernandez, Columbia University

Over the past few years, a number of technological advancements to study the male C. elegans nervous system have been established. First, there is the male nervous system connectome, established by Scott Emmons and colleagues. Second, there are now tools to effectively manipulate gene function and visualize neuronal activity. Third, in unpublished work, the Hobert lab has established a multicolor atlas, NeuroPAL, that color-codes all male-specific neurons which hugely facilitates the identification of gene expression patterns, cell fate analysis and neuronal activity imaging in the male tail. Our panelists will discuss these tools to study the development and function of the C. elegans male nervous system.

SCHEDULE
11.30 a.m. Scott W. Emmons, Albert Einstein College of Medicine, Studies on the C. elegans male, how we got to where we are today

11.45 a.m. Arantza Barrios, University College London, Switching odour preferences through neuromodulation

12.00 p.m. Vladislav Susoy, Harvard University, Brain-wide functional analysis of mating behavior

12.15 p.m. Tessa Marie Tekieli, Columbia University, Visualizing the organization of the male-specific nervous system of C. elegans

12.30 p.m. Chen Wang, Columbia University, Mutant analysis of the DM-domain transcription factors using C. elegans male gene expression atlases

12.45 p.m. Questions from the audience
Live RNA Imaging Strategies in \textit{C. elegans}

\textit{Session Chairs:}
\textbf{Christopher M. Hammell}, Cold Spring Harbor Laboratory
\textbf{Erin Nishimura}, Colorado State University
\textbf{Sevinc Ercan}, New York University

Imaging single molecules in intact cells has the potential to reveal features of gene expression that are not possible to measure using standard, ensemble-based strategies. While a number of model organisms have successfully employed aptamer-based transcript imaging systems (MS2, PP7, etc.) to track individual RNAs in real time, these approaches have had only limited success in \textit{C. elegans}. This workshop intends to build momentum toward establishing these systems throughout \textit{C. elegans} research community which will complement this powerful genetic model and enable aspects of RNA transcription, export, localization, translation, and turnover to be studied in detail.

\textbf{SCHEDULE}
11:30am -- Introduction: C.M. Hammell (CSHL), Sevinc Ercan (NYU, and Erin Osborne Nishimura (CSU).

11:35am -- ChangHwan Lee (SUNY Albany), “Capturing dynamics of transcriptional bursting \textit{in vivo} using the MS2 system.”


12:15pm -- Wolfgang Keil, Curie Institute, “Monitoring spatiotemporal patterns of post-embryonic miRNA transcription using the MS2 system.”

12:35pm -- Erin Osborne Nishimura, Colorado State University, “Best practices in mRNA live imaging.”

12:45pm -- General Discussion and Panel Questions.
Thursday, June 24
9:00 am - 11:00 am

Natural Variation, Evolution, and the Microbiome

Session Chairs:
Marina Ezcurra, University of Kent, UK
Buck Samuel, Baylor College of Medicine, USA

133 9:00 am Repeated Sampling of Caenorhabditis elegans Across the Hawaiian Islands Reveals Spatiotemporal Patterns of Genetic Diversity. Tim Crombie, Northwestern University

134 9:18 am Natural genetic variation in irld genes modifies insulin signaling to influence starvation resistance. Amy Webster, Duke University

135 9:30 am Complex interactions among quantitative trait loci explain natural variation in C. elegans germ stem cell niche activity. Sarah Fausett, University of North Carolina Wilmington

136 9:42 am Genomic analysis of natural Stenotrophomonas bacteria and their effects on wild and domesticated C. elegans. Michael Herman, University of Nebraska-Lincoln

137 9:54 am Dissecting the Sequential Evolution of a Selfish Mitochondrial Genome in Caenorhabditis elegans. Joseph Dubie, Texas A&M

138 10:06 am T-box radiation: A window into evolution in real time. Emily Baker, University of Oxford

139 10:18 am Genetic determinants of host-microbiome interactions in Caenorhabditis elegans. Dana Blackburn, Baylor College of Medicine

140 10:30 am Commensal versus pathogenic bacterial adherence to the intestinal epithelium of C. elegans. Dalaena Rivera, San Diego State University

141 10:42 am A closer look at cuticle-resident microbes and their impact on host physiology. Nadia Haghani, Salk Institute for Biological Sciences

142 10:54 am Speaker Question and Answer
Oral Presentation and Workshop Session Listings

Thursday, June 24
9:00 am - 11:00 am

**Cell fate, patterning and morphogenesis**

*Session Chairs:*
Ye Tian, Chinese Academy of Sciences, China
Sughong Xu, Zhejiang University, China

143 9:00 am  Cell fate plays critical roles in promoting collective cell movements in *C. elegans* gastrulation and ventral cleft closure during embryogenesis. **Amanda Zacharias**, Cincinnati Children’s Hospital Med Ctr

144 9:18 am  A novel biosensor reveals the timing and dynamics of LIN-12/Notch activation underlying resolution of the AC/VU decision during gonadogenesis. **Justin Shaffer**, Columbia University

145 9:30 am  Translation-dependent mRNA localization to *Caenorhabditis elegans* adherens junctions. **Cristina Tocchini**, Biozentrum

146 9:42 am  A folder mechanism ensures size uniformity among *C. elegans* individuals by coupling growth and development. **Benjamin Towbin**, University of Bern

147 9:54 am  The mitotic spindle and the cytokinetic furrow cooperatively align the dorsoventral axis with embryo geometry. **Teije Middelkoop**, MPI-CBG & Biotec/Tu Dresden

148 10:06 am  BBLN-1 is essential for intermediate filament organization and apical membrane morphology. **Sanne Remmelzwaal**, Utrecht University

149 10:18 am  Developmentally programmed H3 expression changes embryonic plasticity and reinforces cell fate specification. **Ryan Gleason**, Johns Hopkins University

150 10:30 am  A molecular clock to control skin regeneration. **Helge Grosshans**, Friedrich Miescher Institute for Biomedical Research (FMI)

151 10:42 am  Conserved extracellular proteins determine mechanoelectrical transduction channel localization and function in *C. elegans* touch receptor neurons. **Alakananda Das**, Stanford University

152 10:54 am  Speaker Question and Answer
**Regeneration and Degeneration**

**Session Chairs:**

*Kyung Won (Kai) Kim*, Hallym University, Korea  
*Meital Oren*, Weizmann Institute, Israel

153  9:00 am  Intracellular calcium management is key in diapause-induced neuroprotection. **Scarlett Delgado**, University of Valparaiso

154  9:18 am  B-Raf contribution to motoneuron degeneration. **Federica Cieri**, National Research Council of Italy - Institute of Biosciences and Bioresources

155  9:30 am  Dendrite regeneration in PVD neuron is controlled by the RAC GTPase CED-10 and the RhoGEF TIAM-1. **Harjot Kaur Brar**, National Brain Research Centre

156  9:42 am  The metalloprotease ADAM17/ADM-4 promotes regenerative axonal fusion by stabilising the fusogen EFF-1. **Xue Yan Ho**, The University of Queensland

157  9:54 am  The extracellular matrix protein MIG-6/papilin mediates the maintenance of neuronal architecture. **Malika Nadour**, Universite du Quebec A Montreal

158  10:06 am  The nuclear ubiquitin ligase adaptor SPOP is a conserved regulator of C9orf72 dipeptide toxicity. **Todd Lamitina**, Univ Pittsburgh

159  10:18 am  Neurohormonal signalling modulates polyQ aggregation by controlling fat metabolism. **Ana Pilar Gómez Escribano**, Health research institute La Fe

160  10:30 am  Stress-induced increases in neuronal exopher extrusion require lipid biosynthesis and FGF/RAS/MAPK signaling. **Ryan Guasp**, Rutgers University

161  10:42 am  Investigating the Phase Transition of EFA-6 and Its Role In Microtubule Regulation. **Gilberto Gonzalez**, University of Texas Health Science Center San Antonio

162  10:54 am  Speaker Question and Answer
Thursday, June 24
9:00 am - 11:00 am

**Metabolism & Dauer Larvae**

*Session Chairs:*
Lesley MacNeil, McMaster University, Canada
Javier Apfeld, Northeastern University, USA

163 9:00 am  A Large Family of Enzymes Responsible for the Modular Architecture of Nematode Pheromones. Rebecca Butcher, University of Florida

164 9:18 am  Identification of modular glucoside in *C. elegans* a new class of putative signaling molecules. Jingfang Yu, Cornell University

165 9:30 am  Nutrient-induced rewiring of microbial metabolic pathways modulate 5-fluorouracil efficacy in *C. elegans*. Tanara Peres, MRC London Institute of Medical Sciences, Imperial College London

166 9:42 am  Interkingdom transfer of molybdenum cofactor from bacteria to *C. elegans*. Kurt Warnhoff, Massachusetts General Hospital

167 9:54 am  Interneuron Control of Diapause Entry. Mohammad Torkashvand, Northeastern University

168 10:06 am  The CHARGE syndrome gene *chd-7* plays a role in dauer formation and longevity. Daniel Hochbaum, University of Buenos Aires. Argentina

169 10:18 am  The kynurenine pathway and biosynthesis of NAD and Rhodoquinone in worms. Rosina Comas, Institut Pasteur de Montevideo

170 10:30 am  Glycerol-3-phosphate phosphatase / PGPH: a novel calorie restriction mimetic enzyme in *C. elegans*. Elite Possik, University of Montreal - CrCHUM


172 10:54 am  Speaker Question and Answer

Thursday, June 24
12:30 pm - 1:30 pm

**Closing Plenary Session – Past, Present, and future of worms: Our community and our research**

*Session Chairs:*
Julie Ahringer, University of Cambridge, UK
Needhi Bhalla, University of California, Santa Cruz

Invited panel members will reflect on successes and challenges in the field and discuss the future of *C. elegans* research. The speakers will bring their unique perspectives to the discussion and will answer attendee questions submitted in advance of the session. We are hoping for a lively and interesting discussion that highlights the strengths and diversity of our field.

*Panel Members*

Kavita Babu, *Indian Institute of Science, India*

Arantza Barrios, *University College London, U.K*

Martin Chalfie, *Columbia University, USA*

Andrew Fire, *Stanford University School of Medicine, USA*

H. Robert Horvitz, *Massachusetts Institute of Technology, USA*

Craig Mello, *University of Massachusetts Medical School, USA*

Guangshuo Ou, *Tsinghua University, China*
Thursday, June 24
1:45 pm - 2:45 pm

**Worming into Relevance – Disease modeling using humanized *C. elegans* models. Presented by InVivo Biosystems**

**Session Chairs:**
Ken Dawson-Scully
Ellen Faith Gregory, University of California, Davis

Ellen Gregory from UC Davis and Dr. Ken Dawson-Scully from Florida Atlantic University will discuss how humanized *C. elegans* models and novel assays are used for disease modeling with the goal of assaying the clinical significance of predicted disease-causing variants and for uncovering neurotoxins and biowarfare antidotes.
Oral Presentation and Workshop Session Listings

Thursday, June 24
3:30 pm - 6:45 pm

5th Parasitic Nematode Workshop: Bridging the Divide

Session Chairs:
Elissa Hallem, University of California, Los Angeles
Jordan Ward, University of California, Santa Cruz
Mostafa Zamanian, University of Wisconsin

Each year infections of animals and plants by parasitic nematodes cause many billions of dollars of agricultural damage. Over 1.5 billion people worldwide, particularly in developing nations, are infected by nematodes and suffer from the resulting debilitating diseases. Currently, only a few investigators address problems of parasitic nematodes using C. elegans. To encourage and facilitate more interactions between the C. elegans and parasitic nematode communities, workshops have been held for experts in plant, animal and human parasitic nematodes to speak on the life history and unique biology of these parasitic species and on outstanding issues in their field. A key goal of this workshop is to make C. elegans scientists aware of the issues and problems that parasitic nematode researchers face and pave the way for applying the powerful approaches and technologies that have advanced C. elegans research to parasitic nematodes.

Schedule
Session 1
3:30 p.m. - 4:00 p.m. Vicky Hunt, piRNA-like small RNAs target transposable elements in the clade IV parasitic nematode Strongyloides ratti

4:00 p.m. - 4:10 p.m. Kyriaki Neophytou, Elucidating the interaction partners of an extracellular Argonaute protein

4:10 p.m. - 1:20 p.m. Astra Bryant, Parasite-specific encoding of thermosensory signals by the human threadworm S. stercoralis

4:20 p.m. - 4:30 p.m. Sophia Parks (Dillman lab), Parasitic nematode fatty acid- and retinol-binding proteins compromise host immunity by interfering with host lipid signaling pathways

4:30 p.m. - 4:40 p.m. Break, Q&A.

Session 2
4:40 p.m. - 5:10 p.m. Louise Atkinson, Advances in Nematode Parasite Omics Seeding Drug Discovery Pipelines

5:10 p.m. - 5:20 p.m. Stephen Doyle, Improving parasite genomes in the post-genome era

5:20 p.m. - 5:30 p.m. Jonathan Stoltzfus, Utilizing transcriptomics to examine dauer and sex determination pathways in the human parasitic nematode Strongyloides stercoralis

5:30 p.m. - 5:40 p.m. Break, Q&A.

Session 3
5:40 p.m. - 6:10 p.m. Erik Anderson, The genetics of resistance in free-living and parasitic nematodes

6:10 p.m. - 6:20 p.m. Jessica Knox, Exploiting C. elegans and Tractable Parasitic Nematodes for the Discovery and Characterization of Anthelmintics and Nematicides

6:20 p.m. - 6:30 p.m. Nate Schroeder/David Hall, Developing WormAtlas beyond C. elegans

6:30 p.m. - 6:45 p.m. Closing remarks
Thursday, June 24  
3:30 pm - 5:30 pm  

**Teaching Workshop**  
*Session Chair:*  
Jonathan Karpel, S. Utah University  

Postdocs and junior faculty are invited to attend this workshop which will address the following topics:  
- What is a PUI and how do I get a job at one?  
- Navigating the PUI and getting tenure.
Cell Biology ......................... 172-306
Development ....................... 307-421
Ecology and Evolution .......... 422-478
Education ............................ 479-495
Gene Regulation and Genomics 496-664
Neurobiology ....................... 665-961
Physiology ......................... 962-1208
Other ............................... 1209-1241,1245
Cell Biology

172A Deciphering how the Ubiquitin Proteasome System executes Linker Cell-type Death Lauren Bayer Horowitz

173B Dietary Composition Modulates Neurodegeneration in a C. elegans Parkinson’s Disease Model Anthony Gaeta

174C Organismal death triggered by oyster mushrooms via mitochondrial dysfunction Ching-Han Lee

175A Depletion of cdc-25.2 in the intestine induces mitochondrial oxidative stress and germ cell apoptosis through a cep-1-dependent pathway mijin lee

176B Investigation of the In vivo and In vitro effects of Essiac® Liquid Herbal Extract on Health and Cancer Sylvia Lopez-Vetrone

177C The loss of psf-2 GINS leads to the inappropriate survival of cells programmed to die during C. elegans development Nadin Memar

178A Autophagy and the degradation of apoptotic cells Omar Pena-Ramos

179B The cytoskeletal regulator UNC-53/Nav2 controls cell death processes in Caenorhabditis elegans Kristopher Schmidt

180C Genetic Control of Caspase-mediated and Caspase-independent Cell Elimination in C. elegans Nolan Tucker

181A cep-1/p53 mediated DNA damage response - understanding apoptosis in Caenorhabditis elegans germ cells Pavana Lakshmi Vaddavalli

182B Identifying the key players of phosphatidylserine externalization in non-apoptotic dying cells Ann Wehman

183C Calcium Ions Trigger the Exposure of Phosphatidylserine on the Surfaces of Necrotic Cells Zheng Zhou

184A The role of the Insulin Signaling Pathway in C. elegans Germline Stem Cell Mitosis Eric Cheng

185B Investigating the regulation of CDC-20 recruitment to kinetochores Jack Houston

186C Interactions between the PAM-1 aminopeptidase and the cell-cycle machinery during oocyte maturation and early development Sophie Lear

187A Role of Cohesin in Chromosome-Dependent Meiotic Spindle Assembly Francis McNally

188B Dissecting cell cycle entry: Insights from a cdk-4 allele with a sex myoblast-specific proliferation defect Frances Moore

189C The Chromatin Remodeling Protein CHD-1 and the EFL-1/DPL-1 Transcription Factor Cooperatively Down Regulate CDK-2 to Control SAS-6 Levels and Centriole Number Kevin O’Connell

190A The conserved histone deacetylase, HDA-1, functions in cell cycle-dependent and independent roles to promote invasive differentiation Nicholas Palmisano

191B Multiple Phosphorylation Events Regulate Centriole Assembly. prabhu sankaralingam

192C Asymmetric mitochondrial inheritance in the context of a C. elegans cell death lineage IOANNIS SEGOS

193A Reciprocal interactions between the apoptosis pathway and cell size Aditya Sethi

194B The SWI/SNF chromatin remodeling assemblies BAF and PBAF differentially regulate cell cycle exit and cellular invasion in vivo Jayson Smith

195C Elucidating the Role of Securin in Regulating Separase during Cortical Granule Exocytosis Christopher Turpin

196A The role of CDK-4 in cell size and metabolism Rachel Webster

197B Linking centromeric factors to chromosome condensation in C. elegans embryos Joanna Wenda

198C A polarity pathway for exocyst-dependent intracellular tube extension Joshua Abrams
199A The dynamic partnered dance between PLK-1 and MEX-5: interpreting gradient formation with computational modelling. Sofia Barbieri

200B A GSP-2/PKC-3 balance is required for polarity establishment in C. Elegans Ida Calvi

201C Intestinal-rectal valve cells form an epithelial bridge between two different tissues Lauren Cote

202A Positioning of organelles during the polarization of intestinal epithelial cells Greg Hermann

203B Investigating the symmetry breaking cue and mechanism of polarity reestablishment in the C. elegans P1 cell. Laurel Koch

204C Growth Cone-Localized Microtubule Organizing Center Establishes Microtubule Orientation in Dendrites Xing Liang

205A The BAG2 co-chaperone UNC-23 regulates amphid sensory morphology Cecilia Martin

206B Global regulation of cell polarization by two Wnt receptors, Frizzled/MOM-5 and Ror1/CAM-1 in C. elegans mid-stage embryo Takefumi Negishi

207C PP1/SDS-22 phosphatase is required for germ plasm segregation in the one-cell C. elegans embryo Aparna Nurni Ravi

208A PAR-3 independent mechanisms contribute to apico-basolateral polarity establishment in the embryonic C. elegans intestinal epithelium Melissa Pickett

209B Cancellled/Unprogrammed

210C Single-embryo expression-phenotype mapping reveals highly canalized response of asymmetric division to perturbation of PAR protein balance Nelio Rodrigues

211A Epithelial apical/basal polarity requires WAVE-dependent transport of E-Cadherin/HMR-1 Martha Soto

212B Identification of aPKC substrates and interactors in the early C. elegans embryo to elaborate a model for anterior PAR protein cooperation Iolo Squires

213C The bli-4/proprotein convertase genetically interacts with pmr-1/calcium ATPase during cell migration in Caenorhabditis elegans Stephany Dos Santos

214A Identifying the In Vivo Role of Non-centrosomal Microtubule Organizing Centers During Cell Migration James Ferguson

215B Perturbed intermediate filament regulation causes aggregate toxicity Florian Geisler

216C The RGD (Arg-Gly-Asp) is a potential cell-binding motif of UNC-52/PERLECAN mediating interaction to βPAT-3 integrin Myeongwoo Lee

217A The mutation analysis of RGD (Arg-Gly-Glu) cell-binding motifs in the nematode Caenorhabditis elegans Myeongwoo Lee

218B Nuclear lamina cooperates with inner nuclear membrane proteins to counteract LINC-mediated forces during oogenesis in C. elegans Chenshu Liu

219C MTOC function at the centrosome and the ciliary base is driven by specific PCM protein Jeremy Magescas

220A Study of the relation between molecular content, actin architectures and cell identity through C. elegans early embryogenesis Grégoire Mathonnet

221B Distinct properties of broadly-expressed and tissue-specific tubulin isotypes examined by ectopic and heterologous expression Kei Nishida

222C Kinetic Control of the Temporal Dynamics of a RhoA Signaling Cascade Serena Prigent Garcia

223A Probing formin FHOD-1 contributions to body-wall muscle structure and function David Pruyne

224B Regulation of syncytial germline mechanics by the actin capping protein CAP-1 Shinjini Ray

225C The kinase pig-1/MELK is a conserved cytoskeletal regulator in C. elegans tubulogenesis and in human endothelial cells. Alexandra Socovich

226A Nuclear deformation during P-cell nuclear migration Daniel Starr
227B A good GEF gone GAP: investigating the mechanism that switches the Rac1/CED-10 GEF, CED-5/CED-12, into an inhibitor of F-actin formation during ventral enclosure Thejasvi Venkatachalam

228C The proteasome is not only about degradation—using the C. elegans germ line to study proteasome assembly dynamics and subunit specific germ line functions in vivo Anna Allen

229A The role of ATX-2 and VPR-1 in sperm positioning within the C. elegans meiotic embryo Cynthia Bailey

230B Characterization of sperm components required for female meiosis II in C. elegans RUDRA Banerjee

231C Investigating the role of 5’-tyrosyl-DNA phosphodiesterase 2 (tdpt-1) Mediated Suppression of DNA Topoisomerase 2 (top-2) during meiosis in C. elegans Nirajan Bhandari

232A GLH protein at the heart of P granule network James Bosco

233B Models predicting the partitioning of phosphorylated domains on C. elegans fusion chromosomes Peter Carlton

234C Characterization of the transition between meiosis I and meiosis II during spermatogenesis in Caenorhabditis elegans Yu-Hao Chen

235A A screen to identify new genes involved in homeostatic regulation of germline stem cell proliferation Alexandre Clouet

236B Regulation of oocyte number in C.elegans: Counting on RAS/ERK pathway Debabrata Das

237C Meiosis modifications at the origin of asexuality in Mesorhabditis pseudogamous nematodes Marie Delattre

238A DAF-18/PTEN functions in the muscles and proximal somatic gonad to couple to promote oocyte arrest in the absence of sperm Jichao Deng

239B Characterizing the Role of Sperm-Supplied Proteins, SPE-11 and F07A5.2, during Spermatogenesis and the Early Embryonic Development in C.elegans Nancy Marian Duker

240C The role of MAP Kinase in modulating condensation of RNA binding proteins in the germ line Mohamed Elaswad

241A C. elegans maximize the number of euploid progeny from zim-2 parents with crossover failure on chromosome V. Ting Gong

242B DAF-16/FoxO are necessary to induce Germ Cell apoptosis under starvation Alan Gonzalez Rangel

243C Chromosome pairing and segregation during meiosis require the nuclear envelope protein MJL-1 in C. elegans Jun Kim

244A Role of spe-11 and oops-1 in early embryogenesis and eggshell formation Ji Kent Kwah

245B An Exploration of the protein FIGL-1 in the Caenorhabditis elegans Germline and Insights into its role in Homologous Recombination Zachary Leydig

246C The HEDC-1 ubiquitin ligase acts with the STRIPAK complex to regulate MEI-1/katanin microtubule-severing in meiosis and mitosis Tammy Lu

247A CCAR-1 regulates reproduction, lifespan, and apoptosis in Caenorhabditis elegans Doreen Lugano

248B GRAS-1 is a conserved novel regulator of early chromosome dynamics during meiosis in C. elegans. Marina Martinez-Garcia

249C Deciphering the mechanisms of temperature-induced DNA damage in C. elegans spermatocytes Alice Naftaly

250A Post-translational modifications of the synaptonemal complex protein SYP-4 C-terminus are involved in the regulation of crossover interference in C. elegans meiosis Ana Neves

251B The CCT chaperonin selectively regulates phase transitions in the C. elegans germline Chloe Pestrue

252C Proteasome non-ATPase subunits regulate timing and polymerization of synaptonemal complex proteins in C. elegans Cristina Quesada-Candela
253A Characterization of the meiotic double-strand break complex and its sensitivity to maternal age
Marilina Raices

254B Depletion of Cdc48 homologs during meiotic prophase results in synaptonemal complex defects in
*C. elegans* Carlos Mario Rodriguez Reza

255C Characterizing the Sexually Dimorphic Role of Topoisomerase II During the Sister Chromatid Cohesion Release Pathway Christine Rourke

256A Meiotic roles of FANCM-related helicases in *C. elegans* Takamune Saito

257B Knockdown of Bora homolog *spat-1* results in crossover and synapsis defects in *C. elegans* meiotic prophase Aya Sato-Carlton

258C DNA replication and chromosome decondensation occur concurrently in *C. elegans* germ cells Hannah Seidel

259A RACK-1 is required for proper GLD-1 sub-cellular localization and function Kara Vanden Broek

260B Characterization of stress-induced phase transitions in the *C. elegans* germline Brooklynne Watkins

261C Characterizing the function of the histone H3 kinase HASP-1 in the germline David Wynne

262A Revealing hidden roles of RAD-54.B during meiotic prophase Kei Yamaya

263B Meiotic cell cycle progression requires adaptation to a constitutive DNA damage signal Liangyu Zhang

264C Removal of cell body haze with inverse square fit Sabrina Civale

265A Cancellled/Unprogrammed

266B Autonomous Adaptive Data Acquisition for Scanning Hyperspectral Imaging in *Caenorhabditis elegans* Elizabeth Holman

267C Light-induced protein clustering to study protein-protein interactions in *C. elegans* Jason Kroll

268A High-throughput phenotypic screening to identify neurotoxic chemicals causing neurodegeneration Yunki Lim

269B A simple and inexpensive add-on enables confocal imaging capacity on a widefield microscope Yao Wang

270C The role of novel identified regulator, SFXN-1.2 in mitochondrial dynamics in neurons and establishing linked neurological disease models Syed Nooruzuha Barmaver

271A Oxidative regulation of cholesterol transport in *Caenorhabditis elegans* Bernabe Battista

272B Insight into the effect of tubulin post-translational modifications on axonal transport Odvogmed Bayansan

273C A new role for the conserved G-protein regulator RIC-8/Synembryn in primary cilia biogenesis Christina Campagna

274A Identification of novel regulators involved in transport of synaptic vesicle proteins Badal Singh Chauhan

275B Intraflagellar transport is required for enrichment of CLHM-1 into a distinct subpopulation of extracellular vesicles released from ciliated sensory neurons Michael Clupper

276C Analysis of endomembrane-resident zinc transporter mutants that suppress the systemic RNAi defects of *rsd-3* mutant Katsufumi Dejima

277A Regulation of vesicular trafficking by NEK family kinases David Fay

278B TORC1, BORC, and ARL-8 drive tubulation of cell corpse phagolysosomes in *C. elegans* embryos Gholamreza Fazeli

279C MEL-28-mediated regulation of microtubule motors affects oogenic fertility Anita Fernandez

280A Sorting of different dense core vesicle cargos in the same neuron Pralaksha Gurung
281B The KASH-independent role of ANC-1 in positioning organelles in Caenorhabditis elegans
Hongyan Hao

282C Uniform mitochondrial positioning in C. elegans touch receptor neurons is regulated by actin and contributes both to cytosolic calcium dynamics and touch responsiveness Sneha Hegde

283A C. elegans modeling and human studies of a rare RAB5B patient variant reveal a novel role of RAB5B in regulated secretion of pulmonary surfactant Huiyan Huang

284B Examination of P5B ATPase function in vivo Eric Lambie

285C Interpreting human missense variants of unknown significance (VUS) in the nematode orthologue of ciliopathy-associated genes Karen Lange

286A A fluorescent toolkit for live analysis of mitochondrial genome maintenance in C. elegans Jessica Leslie

287B MEL-28 and dynactin impact male fertility in C. elegans Kaitlin Levangie

288C The C. elegans TspanC8 tetraspanin TSP-14 exhibits isoform-specific localization and function Zhiyu Liu

289A Investigating the role of Kinesin-3 motor UNC-104 in regulating polarized distribution of synaptic vesicle proteins Amal Mathew

290B xbx-4, a novel Joubert syndrome-related gene, acts in the CCRK/RCK kinase cascade to regulate cilia length and morphology Ashish Maurya

291C Investigating the role of SYD-2/Liprin-α in synaptic vesicle protein trafficking Sravanthi Nadiminti

292A Understanding Interactions Between Microtubule-Associated Proteins And Post-Translational Modifications Of Microtubules In Sensory Neurons Robert O’Hagan

293B Unraveling the role of clk-1 in the modulation of mtDNA heteroplasmy Claudia Pereira

294C Identification of a potential regulator of proteasome nuclear localisation Johanna Pispa

295A Identifying novel interactors of the guanylate cyclase GCY-22 involved in NaCl chemotaxis Suzanne Rademakers

296B Investigating the function of TAT proteins in lipid transport within ciliated neurons. Shapour Rahmani

297C Syndapin Interacting Proteins in Recycling Endosome Function Wilmer Rodriguez

298A UNC-104 anterograde bias is regulated by ubiquitination Vidur Sabharwal

299B Neuronal mitochondria utilize a novel fission mechanism during extrusion into exophers Joelle Smart

300C RAB-10 functions opposite of the AGEF-1/Arf GTPase/AP-1 pathway to regulate vesicle trafficking Aida Sobhani

301A The C. elegans homolog of Nucleolin, NUCL-1, contributes to nucleolar organization through its intrinsically disordered RG/RGG repeat domain Emily Spaulding

302B Perturbation of RME-8 results in elongation of endosomes in ALM neurites. Sierra Swords

303C Disruption of Golgi function induces pathogen response gene expression Amy Walker

304A Determining the function of the LOV-1 polycystin-1 adhesion GPCR and TRP PKD-2 on cilia and extracellular vesicles Jonathon Walsh

305B Phagocytosis and processing of neuron-derived exophers by the C. elegans hypodermis. Yu Wang

306C NuRD mediates mitochondrial stress–induced longevity via chromatin remodeling in response to acetyl-CoA level Di Zhu

Development

307A Towards a quantitative gene network underlying robustness of seam cell fate Alicja Brozek
308B Positioning sea-2 and lin-66 in the heterochronic pathway in the context of continuous and L2d-interrupted development Reyyan Bulut

309C Studying cell-fate convergence in the mesodermal lineage of C. elegans Aleksandr Bykov

310A C. elegans establishes germline versus soma by balancing histone methylation Brandon Carpenter

311B ztf-16 opposes adult cell fate after dauer in Caenorhabditis elegans Anuja Dahal

312C The polarity protein PAR-4 controls intestinal cell number by regulating cell fate in C. elegans embryos Flora Demouchy

313A The RAP-2 Small GTPase and MIG-15 MAP4 kinase promote tertiary fate in C. elegans VPC Patterning Razan Fakieh

314B Proliferation/differentiation control by the SWI/SNF nucleosome remodeler in vivo Tessa Gaarenstroom

315C Speed and fate diversity tradeoff in nematode’s early embryogenesis Guoye Guan

316A Cell-fate decisions in dynamically perturbed signaling environments during C. Elegans vulval development Ismail Hajji

317B Uncovering highly conserved factors that contribute to phenotypic robustness of seam cell patterning in C. elegans mark hintze

318C Evolutionary conservation of the heterochronic pathway in C. elegans and C. briggsae. Maria Ivanova

319A Determining the role of ZEN-4/KIF23 in C. elegans reproductive organ development Tatsuya Kato

320B The Mechanism of LIN-42 Regulation of Temporal Patterning in C. elegans Brian Kinney

321C Opposing roles of DAF-16 and NHR-156 in regulation of metabolism downstream of gut specification Morris Maduro

322A Lineage-specific paths to the same cell type Karolina Mizeracka

323B Tagged endogenous ERL/MPK-1 MAP Kinase provides a novel tool for examining its activation in vivo Neal Rasmussen

324C Regulation of the duration of breast cancer dormancy by UNK Itzel Rosas Gutierrez

325A Analyzing the spatiotemporal structure of heterochronic miRNA transcription using microfluidics live-imaging of nascent miRNA dynamics Shubham Sahu

326B Identifying genes regulating cell fate and multipotency in the SGP/hmc cell fate decision Evan Soukup

327C Quantitative model formation of the heterochronic pathway in C. elegans Marit van der Does

328A Sub-toxic concentrations of perfluoroalkyl substances (PFAS) dose-dependently delay C. elegans larval development and population growth Celine Breton

329B Temporal scaling in C. elegans larval development Burak Demirbas

330C Recursive Transcriptional Feedforward Loops Ensure Robust Endoderm Development in C. elegans Chee Kiang Ewe

331A Coordinating proliferative and invasive cellular fates: insights from C. elegans somatic gonad development Taylor Medwig-Kinney

332B Y-to-PDA transdifferentiation occurs through an epithelial cell intermediate and requires ngn-1, hih-16, unc-44, unc-119, and unc-33 Alina Rashid

333C Sexually dimorphic glia-neuron reprogramming in Caernorhabditis elegans. Vicky Rook

334A Characterization of two evolutionarily conserved C. elegans Ceh-6/Oct and Sox-2/Sox2 transcriptional factors during a natural Y-to PDA transdifferentiation event Shashi Kumar Suman

335B daf-16/FOXO blocks adult cell fate in C. elegans dauer larvae via a branched pathway involving lin-41/TRIM71 Matthew Wirick
336C Cancellled/Unprogrammed
337A The 3’UTR is required for MEX-3 expression pattern and contributes to animal fecundity Mennatalah Albarqi
338B Modeling the C. elegans Germline Stem Cell Genetic Network using Automated Reasoning Ani Amar
339C Cytokinesis incompletion drives the initial expansion of the C. elegans syncytial germline Jack Bauer
340A GLP-1 Notch - LAG-1 CSL control of the germline stem cell fate is mediated by transcriptional targets lst-1 and sygl-1 Jian Chen
341B Significance of RNA Binding Motif Protein (RBM-39) in developmental processes in C. elegans Yuzhu Cheng
342C 3’ UTR mediated post-transcriptional regulation of glp-1 in the germline of Caenorhabditis elegans Peren Coskun
343A FBF binding elements in the gld-1 3’UTR and their role in germline regulation Sarah Crittenden
344B DLC-1 promotes germ granule integrity in C. elegans embryo Mary Ellenbecker
345C Investigating the basis for the aak-1-specific requirement in homeostatic regulation of GSC proliferation Nasim Eskandari
346A Regulation and function of the “PUF hub” governing C. elegans germline stem cells Ahlan Ferdous
347B Two eIF4E isoforms regulate distinct mRNAs and effect one another in germ cells Gita Gajjar
348C Regulation of GLP-1/Notch signaling in C. elegans Germline Stem Cells by Protein Interactions Xue Han
349A PAR-CLIP experiments used to identify parallel pathways to the core germline development pathway Jonathan Karpe
350B The PAF1 complex cell-autonomously regulates oogenesis in Caenorhabditis elegans Yukihiro Kubota
351C MIG-6 PLAC domain affects Notch signaling and the extracellular matrix composition. Pier-Olivier Martel
352A Determining the mechanism of attachment of the C. elegans germline stem cell niche, the distal tip cell Lauren McMillan
353B A secreted immunoglobulin domain-containing protein, SPE-51, is required for sperm function at fertilization Xue Mei
354C The C. elegans spermiogenesis-inducing compound DDI-4 can trigger the acrosome reaction in mouse spermatozoa Hitoshi Nishimura
355A EGGD-1 and EGGD-2 are novel LOTUS domain proteins that promote perinuclear localization of P granules Ian Price
356B A male pheromone that improves quality of the oogenic germline uncovers a strategy to counteract reproductive aging Ilya Ruvinsky
357C Understanding the Role of Scaffold Protein Activated C Kinase 1 (RACK-1) in Germ Line Stem Cells of Caenorhabditis elegans Sadaf Sangari
358A Investigating the germline function of the RNA-binding protein cfm-1 Anson Sathaseevan
359B Combinatorial analysis of human PAF1 complex-interacting proteins using in silico phylogenetic profiling and RNAi knockdown screening Hisashi Takatsuka
360C Analysis of Class I histone deacetylase in the regulation of oocyte size and embryonic development in Caenorhabditis elegans Takuma Unno
361A Temperature stress effects cytoplasmic streaming during oogenesis Katherine Uttal
362B A multi-organism genetic model for microbiota-driven parasite burden Mericien Venzon
363C The Role of the RNA-Induced Silencing Complex (RISC) Component VIG-1 in C. elegans Germline Stem Cell Regulation Dan Zhang
364A Distal tip cell-specific mRNA profiling sheds light on the molecular mechanism of gonad morphogenesis **Priti Agarwal**

365B Multiple lipocalins are required for apical extracellular matrix organization **Trevor Barker**

366C Characterizing a Matrix Protease important for epithelial tissue shaping in C. elegans **Susanna Birnbaum**

367A FRKsrc-2 is a Novel Candidate as a Hemifacial Microsomia and Mandibular Dysplasia Gene that Exhibits Developmental Defects in Zebrafish (D. rerio) and C. elegans **Tao Cai**

368B BAR-1/β-catenin and PRY-1/Axin show asymmetric and complementary expression in neuroblasts during C. elegans ventral nerve cord assembly **Wesley Chan**

369C A partial nuclear atlas of the post-twitching *Caenorhabditis elegans* embryo **Ryan Christensen**

370A Discerning the temporal organization of development **Denis Faerberg**

371B Plugs and sheaths made to molt **Alison Frand**

372C *C. elegans* Anterior Morphogenesis: A Tale of Three Tissues **Stephanie Grimbert**

373A Establishment of a morphological atlas of the *Caenorhabditis elegans* embryo using deep-learning-based 4D segmentation **Guoye Guan**

374B Computable early *C. elegans* embryo with a data-driven phase field model **Guoye Guan**

375C Identification of a mitochondrial transfer sequence in a folic acid metabolism gene *mel-32* **Alyson Hally**

376A *C. elegans prk* mutants exhibit pleiotropic defects. **Karunambigai Kalichamy**

377B UPR^{mt} required for anal depressor symmetry and male muscle remodeling **Brigitte LeBoeuf**

378C EFF-1 ectopic expression promotes body wall muscle fusion **Xiaohui Li**

379A Spontaneous cell internalization of a spatially-confined proliferating blastomere: a mechanical interpretation on worm gastrulation **Jiao Miao**

380B Two of the 30 EGF domains in FBN-1/Fibrillin are required for sensory dendrite extension **Karolina Mizeracka**

381C The role of the kinase MRCK-1 in excretory canal development **Evelyn Popiel**

382A ERM-1 phosphorylation and NRFL-1 redundantly control lumen formation in the *C. elegans* intestine **Jorian Sepers**

383B Investigating the Mechanisms of Vesicular Trafficking and Unicellular Tube Growth in the *C. elegans* Excretory Duct Cell **Nicholas Serra**

384C Coordinated tissue growth ensures uniformity of gastro-intestinal size proportions **Klement Stojanovski**

385A Differential expression analysis of migrating cells in *C. elegans* embryogenesis **Jasper Yang**

386B Evolution of *fem-1* activity in *Caenorhabditis elegans* **James Kennedy**

387C Sperm fate is promoted by the *mir-44* microRNA family in the *Caenorhabditis elegans* hermaphrodite germline **Katherine Maniates**

388A Dramatic alteration of TRA-2/TRA-1 interactions in the sperm/oocyte decision **Yongquan Shen**

389B Exploring the role(s) of FOG-2 in the hermaphrodite germ line **Lauren Skelly**

390C Deciphering the functional roles of PIEZO mechanosensors in reproduction **Xiaofei Bai**

391A Mechanisms in the role of the DBL-1/BMP Pathway in the Innate Immune Response of *Caenorhabditis elegans* **Moshe Bendelstein**

392B A Life cycle alteration can correct defects in molting **Shaonil Binti**

393C Ga/GSA-1 works upstream of PKA/KIN-1 to regulate calcium signaling and contractility in the *Caenorhabditis elegans* spermatheca **Perla Castaneda**
394A The role of furrow-associated collagen DPY-7 in regulating stress responses varies during larval development Luke Chandler

395B Heparan sulfate proteoglycans, guidance molecules and Rho-family GTPases regulate the number of cellular extensions in developing polarized cells Raphael DIMA

396C Defining the molecular determinants by which EXC-4/CLICs regulate Rho-family GTPase signaling Julianna Escudero

397A Nfya-1 functions as a substrate of ERK-MAP kinase during Caenorhabditis elegans vulval development Douglas Fantz

398B Probing the molecular mechanism of receptor tyrosine kinase activation through the analysis of heterodimers of the C. elegans FGF receptor, EGL-15 Melissa Garcia Montes de Oca

399C A genome-wide RNAi screen for factors of tissue growth coordination Ioana Gheorghe

400A Detection of clinically relevant ERK/MAPK signaling inhibitors using C. elegans Szymon Gorgon

401B Uncovering a novel endocannabinoid (2-AG) pathway required to modulate cholesterol metabolism in Caenorhabditis elegans Bruno Hernández Cravero

402C The Alimentary Cuticle of C. elegans Plays Multiple Roles in Mediating Xenobiotic Sensitivity Muntasir Kamal

403A Two RapGaps in C. elegans differently regulate development and behavior. Seung Hyun Kim

404B SEL-5 kinase interacts with retromer complex to regulate QL.d migration and excretory cell canals outgrowth Filip Knop

405C Integrative role of the DBL-1/BMP signaling pathway with BLMP-1/BLIMP1 in Caenorhabditis elegans development Mohammed Farhan Lakdawala

406A PPK-1, the Caenorhabditis elegans homolog PIP5K regulates let-7 miRNA expression through interaction with the nuclear export protein XPO-1 Chun LI

407B TOM-1/Tomosyn is an inhibitor of growth cone protrusion and works with the UNC-6/Netrin receptor UNC-5 Snehal Mahadik

408C Parallel Rap1>RalGEF>Ral and Ras signals sculpt the C. elegans nervous system. Jacob Mardick

409A Regulation of aging and recovery in arrested L1 larvae Alejandro Mata Cabana

410B Elucidating the role of SUP-17/ADAM10 in the BMP signaling pathway in C. elegans Ines Muravin

411C Physical constraints on cuticle stretch guide C. elegans developmental trajectories Joy Nyaanga

412A Differential regulation of developmental stages supports a linear model for C. elegans postembryonic development. Maria Olmedo

413B Beta-catenin centrosomal localization regulates Wnt signaling in C. elegans development and human cells Bryan Phillips

414C Coordinating neuronal signaling pathways with anterior epidermal cell migration Victoria Richard

415A Understanding the regulation and function of the CRISP protein LON-1 in C. elegans Maria Serrano

416B Calumenin functions in cuticle collagen modification Hyun-Ok Song

417C Nutritional status and fecundity are synchronised by muscular exopheresis Michał Turek

418A Wide-Spread Non-Canonical CED-3 Caspase Activities Regulate Gene Expression Dynamics Including Antagonizing PMK-1 p38 MAPK Stress-Priming Function to Support Development Benjamin Weaver

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470B Genomic mechanisms of asexual reproduction George Chung

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472A Direct estimate of the distribution of fitness effects (DFE) of spontaneous mutations in *C. elegans* Charles Baer

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474C High-throughput phenotyping of *C. elegans* wild isolates reveals that microsporidia genotype-specific interactions are common in *C. elegans* Meng Xiao

475A Genomic architecture of 5S rDNA cluster and its variations within and between species Zhongying Zhao

476B Dissecting the Molecular Mechanism of the *peel-1/zeel-1* Selfish Genetic Element Lewis Caro

477C Studying inter-species genome size variation using *C. nigoni* and *C. briggsae* hybrids Runsheng Li

478A Reproductive incompatibility among populations of *Caenorhabditis inopinata* Ryusei Tanaka

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480C Using student annotations of published data in the C. elegans database, WormBase, to foster collaboration during an online laboratory course Caroline Dahlberg

481A Wormfinding: a semester-long CURE for introductory biology Theresa Grana

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483C Creating choice in molecular genetics lab through the use of toxicology Julie Hall

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490A Characterization of RNAi phenotypes in C. elegans from understudied genes in a Cell and Molecular Biology course Jessica Sullivan-Brown

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497B WormBiome: A pipeline to predict functional profiles of C. elegans associated microbial communities Adrien Assie

498C Single Cell Tools for WormBase Eduardo da Veiga Beltrame

499A Updating the Caenorhabditis elegans Natural Diversity Resource Variant Browser Sophia Gibson

500B Novel tools for analysis of C. elegans gene expression data based on organism-wide ICA-derived gene co-expression modules Katerina Podshivalova

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502A WormCat 2.0: improving annotations and visualization for RNA seq, genetic screens, or proteomics data Amy Walker

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504C The effect of age on epigenetic transgenerational reprogramming in the C. elegans germline Onur Birol

505A The transgenerational accumulation of repressive H3K9me2 affects health and lifespan in C. elegans Jaime Croft

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Rachel Kaletsky

**509B** Repressive histone marks-associated reproductive defects in Caenorhabditis elegans exposed to chemical additives in plastics  
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**510C** Roles of the histone variant H2A.Z in post-embryonic development of C. elegans  
Saho Kitagawa

**511A** Redundant Mechanisms of X Chromosome Repression in the C. elegans Male Germline  
Braden Larson

**512B** Chromodomain proteins CEC-3 and CEC-6 promote germ granule integrity and genome stability  
Tammy Lee

**513C** Temporary loss of the shelterin proteins POT-1 or POT-2 alters telomeric protein localization for multiple generations  
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**514A** Investigating the role of the chromatin remodeler LET-418/Mi2 in gene regulation and chromatin landscape during post-embryonic development of Caenorhabditis elegans.  
Shweta Avinash Rajopadhye

**515B** Regulation of embryonic cell specification by histone methylation  
Juan Rodriguez

**516C** Chromatin context in the regulation of germline genes by the zinc-finger transcription factor LSL-1  
David Rodriguez Crespo

**517A** Independent initiation and maintenance of germline and somatic epigenetic silencing  
Andrei Shubin

**518B** Defining the functional components of constitutive heterochromatin through genetic interaction screening  
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**519C** Control of C. briggsae germline development by TRA-1-interacting co-factors  
Satheeja Santhi Velayudhan

**520A** H3K4me2 regulates the recovery of protein biosynthesis and homeostasis following DNA damage  
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**521B** Towards the mechanistic understanding of H3K23me3 in transgenerational epigenetics  
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**522C** Histone methyltransferase inhibitor chaetocin strongly and specifically affects metal responsive genes  
Elijah Abraham

**523A** Dissecting the structure-function mechanism of SEM-2/SoxC in C. elegans  
Marissa Baccas

**524B** Studying chromatin regulation at single cell resolution during C. elegans postembryonic development  
Alexander Blackwell

**525C** Precise quantification of mRNAs across all C. elegans embryonic stages through a microscopy and machine learning-based approach  
Laura Breimann

**526A** An autoregulation loop in fust-1 for circular RNA regulation in Caenorhabditis elegans  
Dong Cao

**527B** Mutations in the mRNA export complex NXF-1/NXT-1 affect heat-shock driven gene-expression  
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**528C** Condensin I organizes the C. elegans interphase genome  
Moushumi Das

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**530B** Characterization of the Role of the Terminal Adenosine Located at the pre-mRNA Cleavage Site  
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**531C** Modelling mutations in human Argonaute AGO1 that cause neurodevelopmental disorders: Identical mutations in the C. elegans homolog alg-1 impair in vivo microRNA function, with global gene expression perturbance.  
Ye Duan

**532A** Cadmium hijacks the high zinc response by binding and activating the HIZR-1 nuclear receptor  
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**533B** Parallel genetics of regulatory sequences using induced genome editing  
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**534C** Polymorphic modifiers of human α-synuclein in Caenorhabditis elegans  
Yuqing Huang
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536B A specific window of NHR-23 activity is required for developmental progression Londen Johnson

537C Isoforms of elf4G (<i>jfg-1</i>) are differentially expressed to modulate mRNA translation initiation mechanism in development. Brett Keiper

538A Identification of the biologically relevant MEC-2 isoform Talia Magdolna Keszthelyi

539B Apoptosis in the context of autophagy and lifespan in <i>C. elegans</i> CHANDRIKA KONWAR

540C Alternative splicing through m<sup>6</sup>A modification at a 3′ splice site for SAM synthetase homeostasis Hidehito Kuroyanagi

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542B Modelling BAP1 malignant pleural mesothelioma mutations in <i>C. elegans</i> reveals synthetic lethality between ubh-4/BAP1 and the proteasome subunit rpn-9/PSMD13 Carmen Martínez-Fernández

543C Defining the Roles of <i>lin-28</i> and <i>hbl-1</i> in Gonad Development Madeleine Minutillo

544A Systematically uncovering transcriptional regulation of metabolism in <i>Caenorhabditis elegans</i> Shivani Nanda

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547A The role of parental diet on progeny’s proteome and fitness Sigma Pradhan

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549C Growth Regulation Mediated by Feedback Mechanisms in the DBL-1/BMP Pathway of <i>Caenorhabditis elegans</i> Hannah Reich

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551B Regulation of anterior genes in the <i>C. elegans</i> embryo Jonathan Rumley

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628A An alternative ERGO-1 pathway in a sibling species of *C. elegans*, *C. inopinata* Taisei Kikuchi

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636C mRNA Splicing Promotes Polyadenylation and Counteracts Novel Default Argonaute Silencing in the Germline of *Caenorhabditis elegans* Yekaterina Makeyeva

637A piRNAs prevent runaway amplification of siRNAs from ribosomal RNAs, histone mRNAs, and other coding gene mRNAs Taiowa Montgomery

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652A Translation and codon usage regulate Argonaute slicer activity to trigger small RNA biogenesis. Meetali Singh

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654C Exploring the role of small RNA- and sumoylated NuRD complex-mediated silencing in germline identity maintenance Wendy Tan

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686B Lipidomic analysis of the effects of exposure to ethanol on worms. Tyler Crossen

687C *Pseudomonas aeruginosa* Associated Volatiles Drive Chemotactic Behaviour and Immune Response In *C. elegans* Kaling Danggen

688A Neuropeptidergic modulation of *C. elegans* learning behavior Nathan De Fruyt

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690C Using high-throughput behavioural assays to identify heritable natural genetic variants in three *Caenorhabditis* species Siyu Serena Ding

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