



The Society for Integrative and Comparative Biology

with the American Microscopical Society
The Crustacean Society

SICB 2023

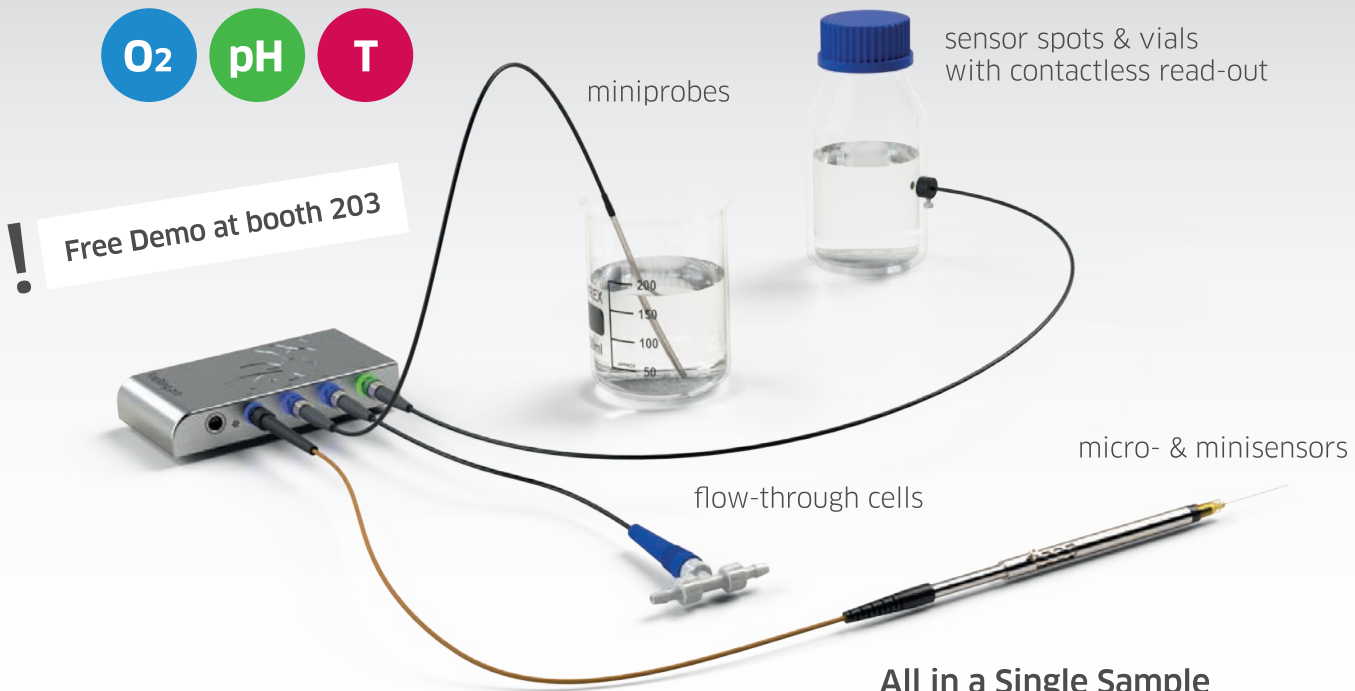


Conference Program

January 3-7, 2023
JW Marriott Austin • Austin, TX

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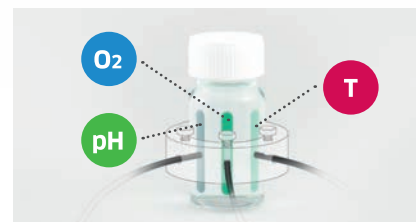
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The Society for Integrative and Comparative Biology

Conference Program

JW Marriott Austin

110 East 2nd Street
Austin, TX 78701

Future Meeting Dates

SICB 2024
Seattle, WA • 2-6 January

SICB 2025
Atlanta, GA • 3-7 January

SICB 2026
Portland, OR • 3-7 January

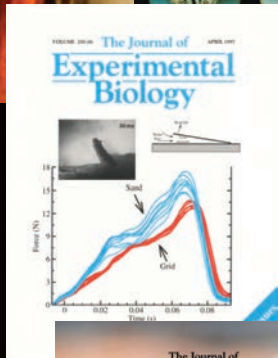
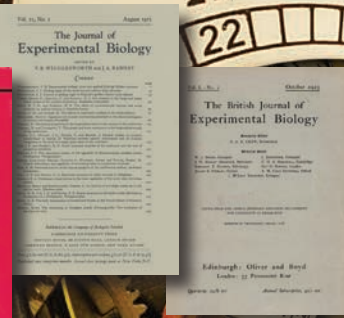
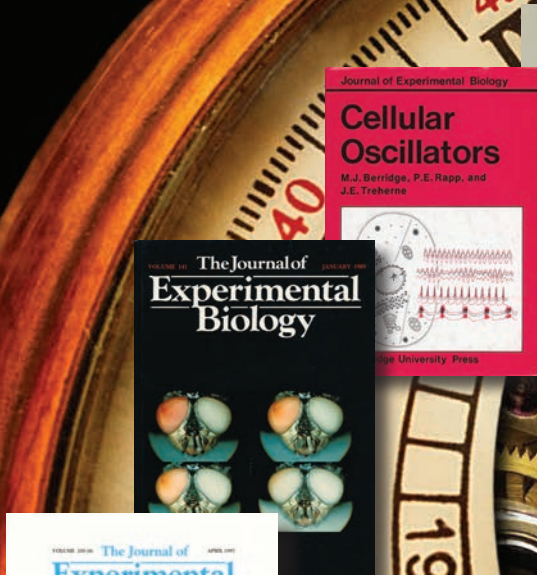
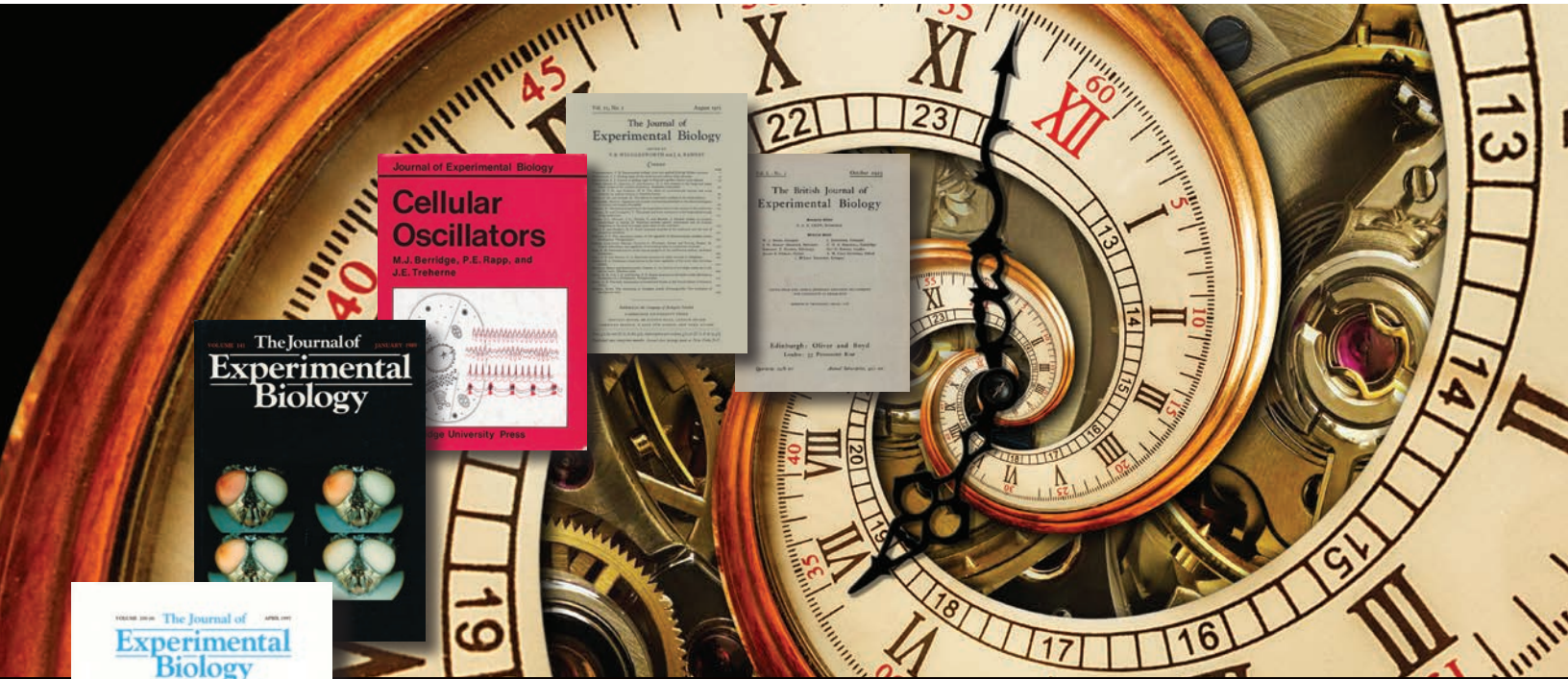
The Society for Integrative and Comparative Biology

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2023 marks the 100th anniversary of Journal of Experimental Biology



We are celebrating this historical milestone throughout the year, with activities including:

- publishing a series of Centenary Articles documenting the past, present and future of comparative physiology and biomechanics
- interviewing journal editors about the next 100 years of experimental biology
- promoting early-career researchers and their research
- digitising the full archive of JEB content back to 1923
- celebrating with our community at society meetings
- providing greater funding opportunities to support researchers

Find out more at journals.biologists.com/jeb/pages/100 or scan the QR code below



Welcome to Austin

Message from the President

Welcome to SICB 2023! From the terrific program, awesome registration numbers and the excitement I'm hearing (and feeling!), SICB 2023 is looking to be a great conference. Many who are attending haven't been to an in-person SICB conference in a few years or are new to SICB. We are so, so glad you are here!

Recent virtual meetings and experimentation with SICB+, SICB's virtual platform, have led to increased accessibility of conference activities. Like last year, select sessions including some symposia, plenaries and the business meeting will be streamed for those who are unable to attend in-person this year. SICB+ continues with virtual presentations available after the in-person meeting.

Putting together a SICB conference is a community effort. It is the energy, creativity and hard work of people from across the Society that makes the conference so special. In addition to the contributed talk and posters, there is so much more in store this year with an outstanding line-up of plenaries, symposia, workshops, exhibitor booths and other meeting activities – check out Program Officer Thom Sanger's message below that provides more detail. Many of you contributed to the program, organized symposia and workshops and planned other events for the meeting. In particular, our Society and Divisional Program Officers and Burk Inc conference team are amazing and do magic with the program to get so much into just these few days in January. Thanks to all!

This year it is nice to get back to what feels like a more typical SICB conference and we want it to be safe and welcoming. The SICB Annual Meeting Code of Conduct continues to be updated and strengthened. ***As stated in the Code, SICB is committed to equal opportunity and treatment for all conference participants.*** Our professional safety officer, Paula Brantner, is available to you virtually (SafeConferences@gmail.com) during and after the conference and trained volunteer allies will be attending the conference. Allies will wear Ally buttons and are here to support you. For Code of Conduct related issues or other concerns, SICB also has both a reporting call line (703-592-9946) for immediate response of a trained staff member of the management company, Burk Associates, Inc. during the meeting and a reporting portal (burkinc.ethicspoint.com) that can be used to submit identified or anonymous reports. Covid is also still a serious concern - masking and attentiveness to other safety precautions will help prevent covid transmission that we've seen at other conferences last year. Please review the SICB code of conduct and covid safety policies on the conference website. We aim for conference in-person activities to be fun and safe as well as scientifically stimulating.

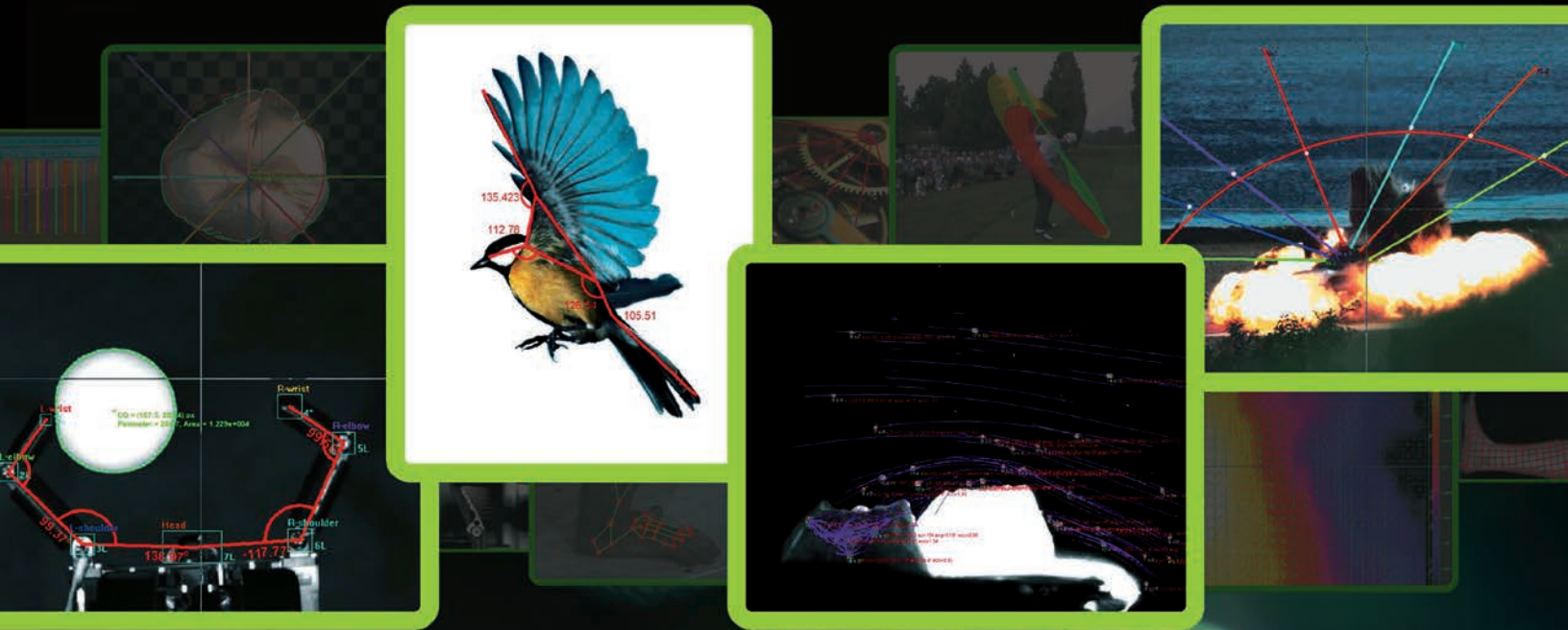
I end by offering gratitude and recognition to sponsor and supporters of SICB 2023. First, a special thank you Sable Systems International. Sable Systems is a multi-year platinum sponsor and tremendous supporter and friend of SICB. Representatives of Sable Systems will have a booth at the conference and we look forward to thanking them in person as well as seeing their great products. And big thanks to our other SICB sponsors for their generous support! Xcitex, DataClassroom, The Journal of Experimental Biology and PyroScience GmbH are silver sponsors. The Princeton University Press and SRE.college are Bronze sponsors. Please visit the booths at SICB 2023 and recognize the support and partnership of these organizations and companies that are such a critical part of making the conference a success.

Melina Hale
SICB President



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Welcome to Austin

Message from the Program Officer

Welcome to the 2023 SICB Annual Meeting in Austin, Texas! At this year's meeting, we have nine symposia, six special lectures, and 220 scientific sessions covering nearly all areas of organismal biology. In total, there are ~1700 presentations scheduled over the next four days! The full program can be found on the meeting website. Up-to-the-minute meeting updates will be pushed out to the meeting app, which is accessible on your phone. You can use the website and app to create your own personal itinerary, which will help guide you through this jam packed five days. Below are some of the highlights of this year's program.

There is a lot that we are excited about regarding the 2023 meeting. We are most excited that the SICB annual meeting has returned to its pre-pandemic size. With this return, there is much to celebrate. We encourage everyone to attend society-wide and divisional socials to reconnect with old colleagues and to make new ones. If you are a SICB first-timer, don't miss the Student Orientation & First Timer Orientation on January 3rd.

We must also recognize that not everyone could attend the in-person meeting. To help maintain our intellectual connection with those that could not attend, we are once again hosting our virtual platform, SICB+, following the in-person meeting. We highly encourage all of our presenters to contribute to SICB+. Uploading oral presentations or posters directly to the meeting platform is quick and can be completed after you return home. At the time that I write this, over 800 people have made that commitment. If you agree to upload to SICB+, please stop by the registration desk to get your commemorative pin.

Now, on to a few highlights of the 2023 program:

Science and Society Special Lecture: SICB embraces the multitude of ways that our members make organismal biology an exciting and rewarding field of science. Our scientists are people with diverse ethnicities, races, cultures, backgrounds, ages, and individual stories. The new Science and Society Special Lecture celebrates prominent speakers whose professional career has helped scientists embrace their identities while furthering the scientific endeavor. Our first speaker in this series is Dr. Beronda Montgomery presenting on the opening night of the meeting, January 3rd, at 7:30pm.

Past President's Address: Dr. Beth Brainerd was the 2019-2020 SICB President. She is a world leader in functional morphology and biomechanics, two of SICB's focal disciplines. On Saturday, January 7th at 11:00am Dr. Brainerd will present "XROMM yields new insights into musculoskeletal structure, function, and evolution" before stepping down from SICB leadership.

Workshops: There are three-to-five workshops scheduled per day during the 2023 annual meeting. These provide important professional development opportunities for attendees of all career stages. Be sure to check the schedule for opportunities that interest you.

Member meetings: Want to know more about what happens behind the scenes at SICB? Perhaps you want to find ways to get involved. Stop by the divisional and society-wide member meetings. These are a great opportunity to hear about the activities of your division and the society. Everyone is invited!

Finally, before sending you into the program, I need to thank the many people who worked hard to put this conference together, most notably Lori Strong (Senior Meeting Manager), Janet Steven (Program Officer-elect), and the BAI staff. It takes a village to smoothly pull off this meeting and maintain SICB as the leading meeting for integrative and organismal biologists.

Thank you for coming. I am excited to see you.

Thomas Sanger
SICB Program Officer

2023 Officers

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President

L Patricia Hernandez
President-Elect

Elizabeth Brainerd
Past President

Michele Johnson
Secretary

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Program Officer

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Brett J. Burk
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Co-Sponsoring Societies

American Microscopical Society (AMS)

The Crustacean Society (TCS)

The co-sponsoring society presentations are integrated into the program to minimize the potential conflicts of similar presentations being scheduled at the same time.

Thank you to the following SICB Sponsors

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General Information

Conference Program

SICB does not assume responsibility for any inconsistencies or errors in the abstracts for contributed paper and poster presentations. We regret any possible omissions, changes and/or additions not reflected in this final program..

Speaker Ready Room

All presenters must visit the Ready Room, **Room 405**, at least one half day prior to their session time. It is highly recommended that you preview your presentation prior to your session to guarantee that it will work properly. Each presentation will be loaded onto a master file for each session. You may use your own computer, however, your fifteen minute time slot does not include time for set up and testing. There will be students and audio visual personnel to assist you and to check you in during the following hours:

Tuesday 3 January	12:00 PM – 7:00 PM
Wednesday 4 January	7:00 AM – 5:00 PM
Thursday 5 January	7:00 AM – 5:00 PM
Friday 6 January	7:00 AM – 5:00 PM
Saturday 7 January	7:00 AM – 10:00 AM

Registration

The SICB Registration/Information area is located in the **JW Grand Ballroom Foyer**. The Registration Desk will be open during the following hours:

Tuesday 3 January	3:00 PM – 7:00 PM
Wednesday 4 January	7:00 AM – 5:00 PM
Thursday 5 January	7:30 AM – 3:30 PM
Friday 6 January	7:30 AM – 3:00 PM
Saturday 7 January	7:30 AM – 2:00 PM

Pop Up Meeting?

Do you need a room for an unscheduled meeting, come to the registration desk and book your time.

Quiet Room

Feeling anxious and need a moment to decompress? A Quiet Room, **Room 207**, with low lighting is available for attendees to rest quietly and recharge before diving back into the fray.

Committee/Business Meetings

Please refer to the Schedule of Events on the first page of each day's listing for committee meetings and business meetings of your division or co-sponsoring society.

Employment Opportunities

The Employment Opportunity bulletin board will be located in the SICB Registration/Information area. The Employment Opportunity board will provide a place for attendees to post "Positions Wanted," and learn about "Positions Available." Interested attendees may schedule interviews in the room set aside for that purpose. See a registration desk attendant for assistance.

Coffee Breaks

Coffee break service is available each day of the meeting. There will be a morning service from 9:30 AM – 10:30 AM, Wednesday through Saturday, and an afternoon service from 3:30 PM – 4:30 PM, Wednesday through Friday. The coffee breaks will be located in the **JW Grand Ballroom**.

SICB Childcare Room

This year, SICB is providing FREE onsite childcare through Preferred Sitters Childcare in **Rooms 310-311**. Pre-registration was required, but there may be space for drop-ins. Contact the registration desk if you would like to contact Preferred Sitters.

Mother's Room

SICB recognizes that balancing a family and meeting attendance creates unique challenges for parents. There is a Mother's room on the third floor in **Room 305**, located next to the childcare room and within quick access of talks. The Mother's room is a private room equipped with comfortable chairs for nursing, chairs and tables for pumping, outlets, a refrigerator for milk.



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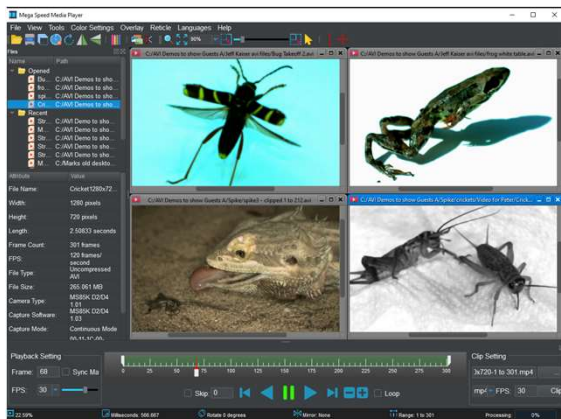
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Meeting Highlights

Events take place in the JW Marriott Austin, unless otherwise noted

Tuesday 3 January

Student Worker Orientation & First Timer Orientation

5:00 PM – 7:00 PM, Lonestar Ballroom

“How to get the most out of your SICB Meeting”

Required for students with Charlotte Mangum support

Welcome to Austin Reception

8:30 PM – 10:00 PM, Griffin Hall

The Society for Integrative and Comparative Biology welcomes you to Austin with a reception. The Welcome Reception will follow the Science and Society Special Lecture. Light snacks and cash bar will be provided.

Wednesday 4 January

Poster Session 1

3:30 PM – 5:30 PM, JW Grand Ballroom

Even # poster authors present from 3:30 pm-4:30 pm

Odd # poster authors present from 4:30 pm-5:30 pm

Thursday 5 January

Poster Session 2

3:30 PM – 5:30 PM, JW Grand Ballroom

Even # poster authors present from 3:30 pm-4:30 pm

Odd # poster authors present from 4:30 pm-5:30 pm

Friday 6 January

Poster Session 3

3:30 PM – 5:30 PM, JW Grand Ballroom

Even # poster authors present from 3:30 pm-4:30 pm

Odd # poster authors present from 4:30 pm-5:30 pm

SICB Member Meeting

6:00 PM – 7:00 PM, Lonestar D

SICB Society Member Meeting & Awards Presentation

Saturday 7 January

Past-President Address: Dr. Beth Brainerd

11:00 AM – 12:00 PM, Lonestar Ballroom

The Past President's Address, “XROMM yields new insights into musculoskeletal structure, function, and evolution”, will be given by Beth Brainerd.

End of Meeting Celebration

6:00 PM – 8:00 PM, Terrace Deck

Come celebrate the accomplishments of our symposium organizers, divisional officers, student award winners, and an all around amazing meeting. This is a ticketed event (\$20 for faculty and postdocs, \$10 for students and other members). A drink ticket is included in the price. Contact meetings@sicb.org if you already registered and missed the opportunity. Tickets are non-refundable.

SICB Society Member Meeting & Awards Presentation

Friday 6 January, 6:00 PM – 7:00 PM, Lonestar D

The Exhibits will open on Wednesday 4 January at 9:30 AM. JW Marriott Austin Grand Ballroom will be the location for coffee breaks Wednesday through Saturday mornings from 9:30 AM – 10:30 AM, and 3:30 PM – 4:30 PM Wednesday through Friday during the poster sessions.

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SICB and Divisional Business Meetings

Wednesday 4 January

- DAB Member Meeting
5:45 PM – 6:45 PM, Lonestar A
- DCPB Member Meeting
5:45 PM – 6:45 PM, Lonestar B
- DEDB Member Meeting
5:45 PM – 6:45 PM, Lonestar C
- DEDE Member Meeting
5:45 PM – 6:45 PM, Lonestar F
- DEE Member Meeting
5:45 PM – 6:45 PM, Lonestar G
- DOB Member Meeting
5:45 PM – 6:45 PM, Lonestar H
- DVM Member Meeting
5:45 PM – 6:45 PM, Rooms 301-302

Thursday 5 January

- TCS Member Meeting
12:00 PM – 1:30 PM, Lonestar A
- DCB Member Meeting
5:45 PM – 6:45 PM, Lonestar B
- DCE Member Meeting
5:45 PM – 6:45 PM, Lonestar C
- DIZ Member Meeting
5:45 PM – 6:45 PM, Lonestar F
- DNNSB Member Meeting
5:45 PM – 6:45 PM, Lonestar G
- DPCB Member Meeting
5:45 PM – 6:45 PM, Lonestar H

Special Lectures

Science and Society Special Lecture: Dr. Beronda Montgomery

Tuesday 3 January, 7:30 PM – 8:30 PM, Lonestar Ballroom
Lessons about and from plants: Insight for human thriving

George A. Bartholomew Lecture: Dr. Eric Riddell

Sponsored by Sable Systems International

Wednesday 4 January, 7:30 PM – 8:30 PM, Lonestar D
Organismal physiology as a lens into the fundamental niche and beyond

Howard A. Bern Lecture: Dr. Tyrone Hayes

Thursday 5 January, 7:30 PM – 8:30 PM, Lonestar DE
Right back where I started: Enamored with anurans

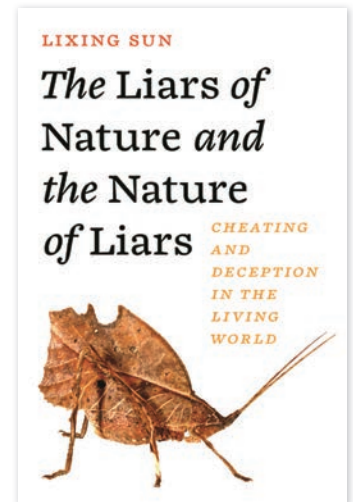
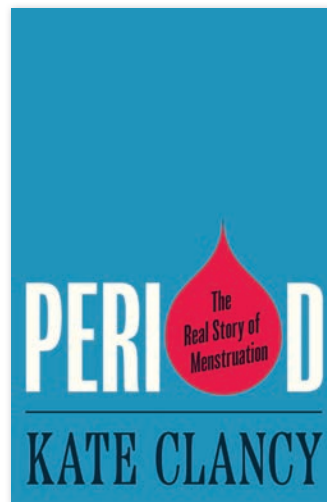
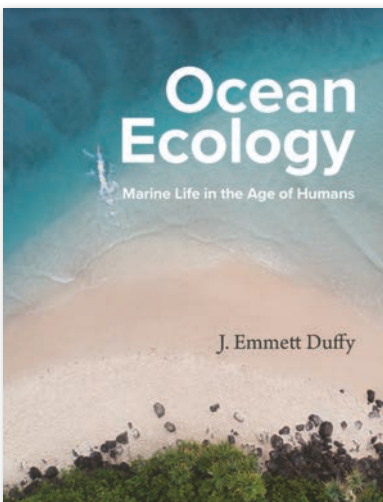
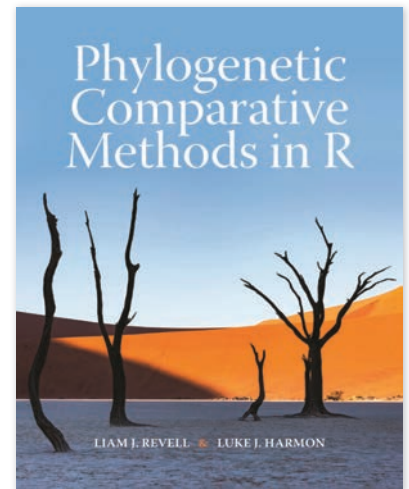
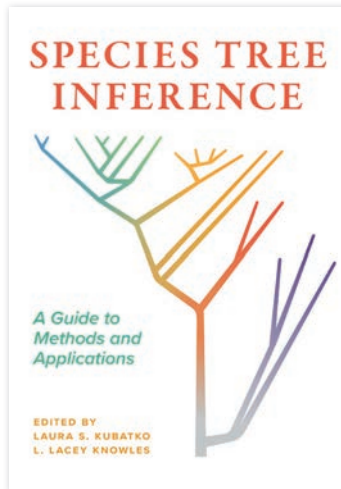
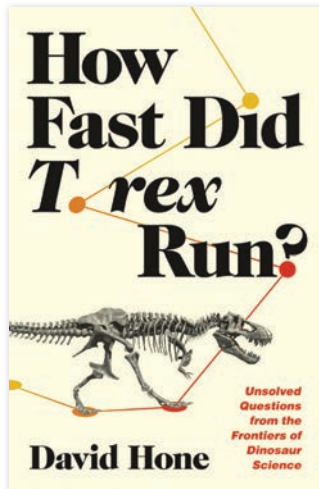
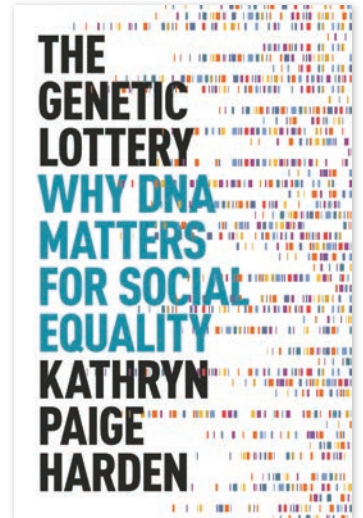
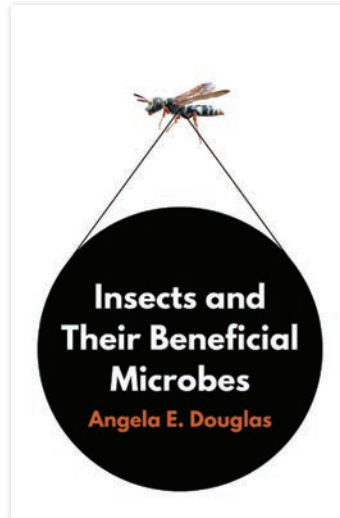
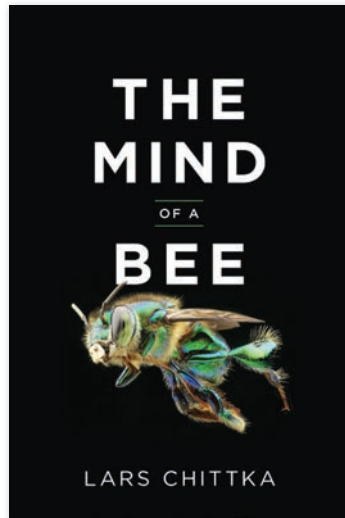
Carl Gans Award: Dr. Alejandro Rico-Guevara

Sponsored by the Journal of Experimental Biology

Friday 6 January, 7:30 PM – 8:30 PM, Lonestar D
Comparative ecophysiology of avian nectarivory

John A. Moore Lectureship: Dr. Kimberly Tanner

Saturday 7 January, 4:30 PM – 5:30 PM, Lonestar D
Talk matters: Investigating the nature of non-content classroom language – instructor talk – that may mediate student inclusion, engagement, and learning



NEW IN PAPERBACK

FORTHCOMING

Social Events

Events take place in the JW Marriott Austin, unless otherwise noted

Tuesday 3 January

Welcome Reception in Honor of Students and Postdocs

8:30 PM – 10:00 PM, Griffin Hall

The Society for Integrative and Comparative Biology welcomes you to Austin with a reception. The Welcome Reception will follow the Science and Society Special Lecture. Light snacks and cash bar will be provided.

Outgroup-In Sober Social

6:30 PM – 7:30 PM, Rooms 303-304

Outgroup-In (sober, all ages) is the sister event to our annual Outgroup Social event (Jan 5th, 21+, offsite). Come meet other LGBTQ+ friends, allies, colleagues, and conference buddies at Outgroup-In. Learn about LGBTQ+ programs and initiatives at SICB, discuss issues impacting LGBTQ+ folks in STEM, and meet great people. Light refreshments will be served.

Wednesday 4 January

Morning 5K run

6:00 AM – 7:00 AM, Hotel Lobby

Morning person or not, come join Michele Nishiguchi on a morning run to get your body moving before the meeting begins. The run will be about 5K.

DCPB/BART Social

8:30 PM – 10:00 PM, Griffin Hall

Thursday 5 January

Morning 5K run

6:00 AM – 7:00 AM, Hotel Lobby

DOB/DEE/DPCB Social

3:30 PM – 5:30 PM, Zilker Botanical Garden

Broadening Participation Social and Awards Ceremony

6:15 PM – 7:15 PM, Brazos

DAB/DNNSB/DCE Social

8:30 PM – 10:00 PM, Brazos

Outgroup Social

8:30 PM – 10:30 PM, Offsite

Join us offsite for the annual LGBTQ+ happy hour and social (allies welcome!), 21+

Friday 6 January

Morning 5K run

6:00 AM – 7:00 AM, Hotel Lobby

Birding in Austin

7:15 AM – 8:45 AM, Offsite

Come join professional guide Richard Kostecke for a birding trip to Roy G. Guerrero Colorado River Metropolitan Park.

DVM/DCB Social

8:30 PM – 10:00 PM, Terrace Deck

Libbie Hyman Auction and DIZ/DEDB/TCS/AMS Dessert Social

8:30 PM – 10:00 PM, Brazos

Saturday 7 January

Morning 5K run

6:00 AM – 7:00 AM, Hotel Lobby

End of Meeting Celebration

6:00 PM – 8:00 PM, Terrace Deck

Come celebrate the accomplishments of our symposium organizers, divisional officers, student award winners, and an all around amazing meeting. This is a ticketed event (\$20 for faculty and postdocs, \$10 for students and other members). A drink ticket is included in the price. Include this option during meeting registration if you plan to attend or contact meetings@sicb.org if you already registered and missed the opportunity. Tickets are non-refundable.

Symposia

Wednesday 4 January

- S1: Genomics of Marine Larval Evolution and Development
Organizers: Christina Zakas, Chema Martin
- S2: Neuroethology in the Age of Gene Editing: New Tools and Novel Insights Into the Molecular and Neural Basis of Behavior
Organizers: Beau Alward, Scott Juntti
- S3: Sexual Diversity and Variation
Organizers: Kelsey Lewis, Sam Sharpe

Thursday 5 January

- S4: Daily Torpor Across Birds and Mammals: Recent Progress and How Do We Advance the Field?
Organizers: Anusha Shankar, Kenneth Welch
- S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function
Organizers: Terry R. Dial, Mark C. Mainwaring, Ashley M. Heers
- S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes
Organizers: Jeanette Wheeler, Karen Chan

Friday 6 January

- S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success
Organizers: Christopher Mayerl, Rebecca German
- S8: The Role of Mechanosensation in Robust Locomotion
Organizer: Katie Stanchak, Hilary Katz
- S9: Envisioning a Diverse, Inclusive & Safe Future for Field Biology
Organizers: Vanessa K. Hilliard Young, Robin Verble, Corinne L. Richards Zawacki

Workshops and Programs

Tuesday 3 January

Exploring -omics beyond assembly and general annotation for non-model organisms

11:00 AM – 5:00 PM, Room 302

Chairs: Donald Mykles, Jorge Pèrez-Moreno, Mihika Kozma

The goal of this NSF-funded workshop is to conduct hands-on training sessions for researchers in utilizing -omics data beyond the initial stages of assembly, summary stats, and basic BLAST-based annotations. Towards that purpose, speakers will lead sessions, where they train participants to use custom pipelines, databases, or applications that harness the strengths of transcriptomic/genomic/phenomic datasets.

Topics covered: data mining strategies to build refined phylogenetic trees; orthology inference for phylogenomics and downstream applications, such as determining positive selection; revise subset of the Pfam database using a user-defined taxonomic pool through TIAMMAT.

Wednesday 4 January

Scientists Crossing: Getting involved in cross-disciplinary research

12:00 PM – 1:30 PM, Room 401

Chairs: Jeanette Wheeler, Kit Yu Karen Chan

Cross-disciplinary research is receiving increasing attention, but it can seem daunting to get involved. In an intimate group discussion setting, this workshop will explore how one can get involved and be successful in a single market for knowledge, research and innovation. Some questions we will explore include:

- How to prepare students/oneself to engage in research that do not fall neatly within on discipline? Does one need to be a “jack of all trades”?
- How to build and manage a diverse and inclusive research team? For example, how may one work to provide a “common language”?
- What are strategies to solicit funding for research questions that are not included in canonical silos?

Mentorship and sponsorship: how to curate your support team and guide your successful career

12:00 PM – 1:30 PM, Lonestar A

Chair: Laura Mydlarz

The concept of mentorship and finding mentors can be a stressful endeavor for an early career scientist. But there are tools and a variety of mentor models that can be used to help alleviate this stress. Also understanding the difference between mentors and sponsors can help you develop these relationships. This workshop will be a discussion to learn what to give and gain from your mentors and sponsors to support your own career goals. You will learn the difference between a sponsor and a mentor and how to curate and map your mentor and sponsor relationships with the eventual goal of building your support team based around your career goals. This workshop is geared for late-stage graduate students, post-docs, and early career researchers..

Faculty Launch Workshop

12:00 PM – 1:30 PM, Lonestar B

Chair: Leslie Babonis

This workshop aims to demystify the postdoc-to-faculty transition in academia. As such, the target audience is late-stage postdocs and pre-tenure faculty, although anyone in the SICB community is welcome to attend. The inaugural workshop (Phoenix, 2022) laid the foundation for an ongoing training opportunity to be offered annually at the SICB meeting. Panelists from diverse career stages (postdoc, new PI, up for tenure, and full Professor) will provide discussion, advice, and tools to help attendees navigate the final years of their postdoctoral research programs, land their ideal jobs, and survive their first years as newly-minted assistant professors. Proposed topics of discussion include: compiling a competitive job application, giving an effective chalk talk, building and negotiating a startup request, writing a lab prospectus/philosophy statement, recruiting and mentoring diverse personnel, developing and managing budgets, and navigating the tradeoff between data collection and grantsmanship as a new PI. This workshop requires advanced registration so that the discussion topics can be tailored to the interests of the participants. Minutes from the workshop will be archived along with supporting materials (e.g., successful job application materials, examples of start-up request spreadsheets, lab expectation statements, etc.) and archived materials will be available to workshop registrants in perpetuity. The norms for securing faculty jobs, and the expectations placed on junior faculty, change frequently and thus the topics covered in the workshop will evolve over time.

NSF Program Officers: What's New in BIO and Q&A session

12:00 PM – 1:30 PM, Lonestar D

NSF Program Officers from the Directorate for Biological Sciences will present information on new and continuing programs of interest to SICB members, and will be available to answer participants' questions.

Thursday 5 January

An introduction to high structure course design for the life sciences

12:00 PM – 1:30 PM, Lonestar B

Chair: Justin Shaffer

Calls for using evidence-based pedagogies have been expanding in the past decade to order to improve student learning and outcomes. High structure courses are designed to do just that as they prepare students to be actively engaged in the learning process via pre-class content acquisition and assessment, in-class active learning and problem solving, and after-class review. You will leave this workshop with the knowledge, skills, and references necessary to begin adding elements of high structure course design into your own life sciences courses.

Workshops and Programs

Continued

Accessing and working with NEON Small Mammal Data

12:00 PM – 1:30 PM, Lonestar C

Chair: Sara Paull

The National Ecological Observatory Network (NEON) (www.neonscience.org) provides a diversity of open access ecological data from 81 sites across the United States. At these sites, data describing organismal observations, biogeochemistry, remote sensing, and micrometeorology are collected and published for public use. Numerous organismal and environmental samples are also collected and archived at the NEON Biorepository at Arizona State University. The organismal datasets include information on the diversity, abundance, and in some cases pathogens of small mammals, terrestrial invertebrates, aquatic macroinvertebrates, fish, birds and plants. This workshop will provide an introduction to discovering, accessing and preparing NEON data using R. The workshop will include an introduction to the NEON program and data collection procedures followed by a guided data access tutorial for the small mammal dataset.

BPC Workshop: Developing the Tools of Influence and Persuasion for Leadership

12:00 PM – 1:00 PM, Lonestar F

Chair: Nicholas Burnett

The Broadening Participation Committee is pleased to have our annual workshop hosted by Dr. Clifton Poody. This workshop will focus on developing leadership skills related to persuasion and influence. This event will be interactive, utilizing small group discussions in response to prompts and mini-case studies. Additional discussions will focus on individual career paths and the leadership skills and tools that are essential for those paths.

Friday 6 January

CRISPR gene editing in non-model organisms

12:00 PM – 1:30 PM, Room 404

Chairs: Scott Juntti, Beau Alward

During our workshop, community members will have an opportunity to plan gene editing experiments with experts. Questions regarding best practices in genetics experiments (e.g., molecular biology or husbandry) will be welcomed.

Integrative Biology Incubator: How do plants, animals, fungi, and algae solve the same problems differently?

12:00 PM – 1:30 PM, Lonestar B

Chairs: Morgan Furze, Ulrike Muller

How do plants, animals, fungi, and algae solve the same problems differently? What blind spots become apparent in our core biological concepts when we compare and contrast solutions from different biological kingdoms? What do you wish more biologists knew about the kingdom of organisms that you work on? The Journal of Integrative and Comparative Biology (ICB) wants your thoughts on these questions! We are planning to publish a collection of papers on organismal biology and cross-kingdom comparative biology, and we anticipate developing articles that address the universal constraints on living organisms and highlight how life has evolved to solve similar problems differently. We are searching for scientists at all career stages to participate in this brainstorming workshop, and we seek a diversity of experiences and perspectives.

Please register here if you intend to attend the workshop: forms.gle/YUks6cWvax9AecpN9

SPDAC Workshop: Sci-Comm Round Table

12:00 PM – 1:30 PM, Griffin Hall

This event aims to pair members of SICB that have experience as science communicators with other members interested in learning more about the various avenues of science communication. Science communication exists in many forms and the workshop aims to provide examples of this variety so that SICB members can learn from and exchange ideas with a panel of experts in a more intimate small group discussion-type environment. The workshop will have experts spread throughout the room and allow participants to move from table to table to hear about various types of science communication and answer any questions you may have. This is meant to be a no pressure exchange of practical skills, stories, and career advice in as it relates to science communication.

PAC Workshop: Communicating science across the ideological spectrum

12:00 PM – 1:30 PM, Lonestar C

Chair: Phoebe Edwards

The goal of this workshop is to discuss strategies for working and communicating with individuals who may have different ideological views, come from different backgrounds, and/or a distrust or disbelief in science. How can we talk about science with people who may have anti-science mentalities? How can we work with people across the political spectrum to reach a common scientific goal? How do we make progress together instead of increasing polarization? The workshop will be a panel format with a Q&A, where speakers will draw on their experiences with communication and cooperation in these contexts. We will highlight panelists who work in science communication with broad audiences, where there is sometimes disinformation and clashing ideologies, and panelists who have engaged in local politics or projects that seem politically-charged to some. Discussion will be solution based, aiming to equip members with tools for communication in an increasingly polarized environment.

Bridging Collaborations Between University and K-12 Classrooms: Cross-generational Active Teaching Approaches

7:00 PM – 9:00 PM, Room 404

A disconnect often persists between expectations of student knowledge upon graduating from secondary school and expectations of student knowledge upon entering the higher education system. This workshop highlights collaborative approaches in which university classrooms can interact with K-12 classrooms to empower students, encourage pursuits of higher education, facilitate cross-generational active learning, and fill knowledge gaps to better prepare students for university. The hands-on workshop will involve brainstorming, discussions, reflective activities, case studies, and resources that collectively will aid participants to apply new teaching approaches with acquired tools.

2023 SICB Exhibitor Floorplan

Grand Ballroom • JW Marriott Austin



View the latest floorplan and company profiles on your phone or tablet.

Scan the QR Code or visit sicb23.expofp.com

Exhibit Hours

Wednesday 4 January

9:30 AM – 5:30 PM

Thursday 5 January

9:30 AM – 5:30 PM

Friday 6 January

9:30 AM – 5:30 PM

Drop in with the President and Executive Director

Booth 100

Stop by and meet with the President and Executive Director

3:00 PM – 4:00 PM

DPCB Ask-An-Expert

Booth 401

Get phylogenetic and comparative methods support with an expert

Coffee Breaks

WEDNESDAY

9:30 AM – 10:30 AM

*Sponsored by
Sable Systems International*

3:30 PM – 4:30 PM

THURSDAY

9:30 AM – 10:30 AM

3:30 PM – 4:30 PM

Sponsored by SRE.college

FRIDAY

9:30 AM – 10:30 AM

3:30 PM – 4:30 PM

SATURDAY

9:30 AM – 10:30 AM

Journal of Experimental Biology

Silver Sponsor

Meet the Editors session

Booth 505

Wednesday 4 January – 3:30pm

2023 marks the 100th anniversary of Journal of Experimental Biology. Please visit The Company of Biologists' booth to find out more about the journal, meet the Editors and pick up a limited edition JEB T-shirt '100 years of discovery'.

JEB Editors attending the meeting:

- Craig Franklin, Editor-in-Chief
- Sheila Patek, Deputy Editor-in-Chief
- Monica Daley, Monitoring Editor
- Charlotte Rutledge, Reviews Editor
- Jarren Kay, Features & Reviews Editor

2023 SICB Exhibitors

American Microscopical Society Booth: 405

141 E. College Ave.
Decatur, GA 30030
www.amicros.org
312-369-7395

The American Microscopical Society is an international society of biologists organized to encourage the use of microscopy. AMS publishes the journal *Invertebrate Biology* and co-sponsors the SICB Annual Meeting. The AMS booth features the annual Buchsbaum Photomicrography Contest and information on opportunities for student research fellowships.

Auburn University Booth: 204 Department of Biological Sciences

120 West Samford Avenue
Auburn, AL 36830
www.auburn.edu/cosam/departments/biology
334-844-4830

The Biological Bulletin Booth: 200

1427 East 60th St
Chicago, IL 60637
journals.uchicago.edu/BBL

The Biological Bulletin disseminates novel scientific results in broadly related fields of biology in keeping with more than 125 years of a tradition of excellence. The journal publishes outstanding original research of general interest to biologists throughout the world.

Blue Beehive Studio Booth: 502

BlueBeehiveStudio@gmail.com
BlueBeehiveStudio.com

Melissa A. Moore started Blue Beehive Studio to combine her love of science with art. She began her studies in science, earning a B.S. in Biology from Loyola University Chicago and an M.S. in Biology from the University of Illinois, Urbana-Champaign. After taking several art courses over the years, she decided to change career paths and launched Blue Beehive Studio in 2012. Her work breathes new life into scientific shapes and symbols, turning these into functional pieces of jewelry. Her works can be seen online, in select galleries, and as an exhibitor at scientific conferences.

The Company of Biologists Booth: 507

Bidder Building, Station Rd
Histon, Cambridgeshire CB249LF, United Kingdom
www.biologists.com
44 (0) 7741 053447

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The Company of Biologists is the not-for-profit publisher of the three distinguished journals *Development*, *Journal of Cell Science* and *The Journal of Experimental Biology*. The Company also publishes two open access journals, *Disease Models & Mechanisms* and *Biology Open*.

The Crustacean Society Booth: 504

950 Herndon Parkway, Suite 450
Herndon, VA 20170
www.thecrustaceansociety.org
703-790-1745

The Crustacean Society (TCS) achieves its mission by promoting the exchange and dissemination of information throughout the world by:

- 1) The *Journal of Crustacean Biology* (JCB) an SCI journal, with Editor-in-Chief Dr. Pedro Castro, published by the Oxford University Press;
 - 2) Biannual, international meetings to gather the world's carcinologists for constructive interaction and collaboration, and by supporting other societies, meetings, and conferences that share our mission;
 - 3) annual competitions for fellowship, scholarship, and travel awards for postdocs and both graduate and undergraduate students
-

DataClassroom Booth: 400

1022 Cottonwood RD
Charlottesville, VA 22901
u.dataclassroom.com
434-882-8005

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DataClassroom U is a web-tool for graphing, statistics, and data analysis in the college classroom. The tool has been designed by scientists and expert teachers to make it easy to integrate practical data and statistical skills into introductory science courses.

East Tennessee State University Biological Sciences Dept

www.etsu.edu

Expert Digital Imaging Booth: 402

193 Jefferson Ave, Suite 102
Salem, MA 01907
www.expertdigitalimaging.com
339-440-4423

Expert Digital Imaging is an independent distributor of high-speed and high-resolution camera equipment from various manufacturers, including the full NAC, Optronis, IOI, and Edgertronic camera lines. At EDI, we offer traditional high-speed camera systems as well as long-recording high speed systems with associated automatic image tracking software.

Fastec Imaging Corporation Booth: 301

17150 Via Del Campo, Suite 301
San Diego, CA 92127
www.fastecimaging.com
858-592-2342

Fastec Imaging is a trusted manufacturer and supplier of high-speed imaging systems to the SICB community. With portable and fixed-mount cameras up to 5 Megapixels and 2500 fps at full HD resolution, Fastec has a camera for all your applications in the lab and in the field.

Gene Tools LLC Booth: 302

1001 Summerton Way
Philomath, OR 97370
www.gene-tools.com
547-929-4840

Gene Tools manufactures Morpholino oligos for blocking translation, modifying splicing or inhibiting miRNA activity. Morpholinos are used in cell cultures, embryos or, as Vivo-Morpholinos, in adult animals. Morpholinos are effective, specific, stable and non-toxic. Backed by Ph.D.-level customer support, Gene Tools designs and synthesizes Morpholinos and offers cytosolic delivery options.

LaVision Inc. Booth: 201

211 W Michigan Ave Suite 100
Ypsilanti, MI 48197
www.lavision.com
734-485-0913

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Loligo® Systems Booth: 403

Toldboden 3
Viborg, DK-8800 Denmark
www.loligosystems.com
+45 6166 6929

Loligo® Systems develops research equipment for aquatic biology. Our products allow scientists all over the world to excel in the fields of swimming performance, respirometry, blood physiology and behavior analysis in a diversity of marine and freshwater organisms. We offer customized solutions as well as free scientific advice and support.

Manomet Booth: 206

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Plymouth, Massachusetts 02345
www.manomet.org
508-224-6521

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National Science Foundation Booth: 304

2415 Eisenhower Avenue
Alexandria, VA 22314
www.nsf.gov
703-292-8420

The National Science Foundation, an independent federal agency created by Congress in 1950, supports non-medical basic research in all science and engineering fields with an annual budget of about \$7 billion. NSF funds approximately 20% of all federally supported basic research conducted by US colleges and universities.

Oxford University Press Booth: 404

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New York, NY 10016
global.oup.com
800-445-9714

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Princeton University Press

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press.princeton.edu
609-258-4900

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PyroScience GmbH Booth: 203

Hubertusstr. 35
Aachen, NRW 52064 Germany
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Qubit Systems Inc. Booth: 506

1573 John Counter Blvd.
Kingston, Ontario K7M 3L5 Canada
www.qubitsystems.com
613-384-1977

Qubit Systems Inc. specializes in the design and manufacture of instrumentation for the biological and environmental sciences from aquatic biology to plant physiology, to animal, insect, and human respirometry. Our aim is to provide educational establishments, research institutes and companies with innovative, cost-effective equipment for research, teaching, and industrial applications.

The Royal Society Booth: 500

6-9 Carlton House Terrace
London, England SW1Y 5AG United Kingdom

The Royal Society publishes high quality, peer-reviewed journals covering all scientific disciplines as part of our mission to the dissemination, discovery and preservation of scientific findings and ideas. We offer you a range of services including rapid publication, rigorous peer review, international recognition and the option of open access publication. All our journals are compliant with funder mandates (such as Plan S). We welcome submissions of high-quality science from anywhere in the world. Whichever journal you choose we aim to make it as rewarding and as easy as possible for you.

Sable Systems International Booth: 305

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SICB Journals Booth: 501

433 Fox Ridge Drive Southwest
Leesburg, VA 20175
academic.oup.com/iob
academic.oup.com/icb
706-469-7057

Integrative and Comparative Biology (ICB) is SICB's flagship journal that consists of primarily symposia papers yet some invited groupings & *Integrative Organismal Biology (IOB)* is SICB's open access journal (receiving an impact factor this year)

Star-Oddi Booth: 303

Skeidaras 12
Gardabaer, 210 Iceland
www.star-oddi.com
+3545336060

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Booth: 202

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Booth: 407

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SAVE THE DATE



ICVM2023

International Congress of
Vertebrate Morphology
Cairns - QLD - Australia
28 July - 1 August 2023

Tuesday Schedule of Events

Events take place in the JW Marriott Austin, unless otherwise noted

EVENT

Speaker Ready Room
Exhibitor Set-Up
Registration

TIME

12:00 PM – 7:00 PM
1:00 PM – 6:00 PM
3:00 PM – 7:00 PM

LOCATION

Room 405
JW Grand Ballroom
JW Grand Ballroom Foyer

SPECIAL LECTURE

Science and Society Special Lecture: Dr. Beronda Montgomery
Lessons about and from plants: Insight for human thriving

7:30 PM – 8:30 PM

Lonestar Ballroom

COMMITTEE AND BOARD MEETINGS

SICB Executive Committee Meeting
Student Orientation & First Timer Orientation*
“How to get the most out of your SICB meeting”
**Required for students with Charlotte Mangum support*
Student Support Committee

2:00 PM – 5:00 PM
5:00 PM – 7:00 PM

Brazos
Lonestar Ballroom

5:30 PM – 7:00 PM

Room 301

WORKSHOPS AND PROGRAMS

Exploring -omics beyond assembly and general annotation
for non-model organisms

11:00 AM – 5:00 PM

Room 302

SOCIAL EVENT

Outgroup-In Sober Social
SICB Welcome Reception

6:30 PM – 7:30 PM
8:30 PM – 10:00 PM

Rooms 303-304
Griffin Hall

Wednesday Schedule of Events

Events take place in the JW Marriott Austin, unless otherwise noted

EVENT	TIME	LOCATION
Registration	7:00 AM – 5:00 PM	JW Grand Ballroom Foyer
Speaker Ready Room	7:00 AM – 5:00 PM	Room 405
Poster Session 1 Set Up	7:00 AM – 8:00 AM	JW Grand Ballroom
Coffee Break AM, <i>sponsored by Sable Systems International</i>	9:30 AM – 10:30 AM	JW Grand Ballroom
Exhibit Hall	9:30 AM – 5:30 PM	JW Grand Ballroom
Coffee Break PM	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 1 Even Numbers Authors Present	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 1 Odd Numbers Authors Present	4:30 PM – 5:30 PM	JW Grand Ballroom
Poster Session 1 Teardown	5:30 PM – 6:00 PM	JW Grand Ballroom
SPECIAL LECTURE		
George A. Bartholomew Lecture: Dr. Eric Riddell Organismal physiology as a lens into the fundamental niche and beyond <i>Sponsored by Sable Systems International</i>	7:30 PM – 8:30 PM	Lonestar Ballroom
SYMPOSIUM ORAL PRESENTATIONS		
S1: Genomics of Marine Larval Evolution and Development	8:00 AM – 3:30 PM	Lonestar C
S2: Neuroethology in the Age of Gene Editing: New Tools and Novel Insights Into the Molecular and Neural Basis of Behavior	8:00 AM – 3:30 PM	Lonestar E
S3: Sexual Diversity and Variation	8:00 AM – 3:30 PM	Lonestar D
CONTRIBUTED PAPER ORAL PRESENTATIONS		
MORNING		
Evolution of Behavior I	8:00 AM – 9:15 AM	Rooms 408-409
Movement, Migration and Dispersal I: Individual Strategies and Human Impacts	8:00 AM – 9:45 AM	Rooms 402-403
Cell and Molecular Physiology	8:00 AM – 9:45 AM	Rooms 303-304
DEDE Best Student Presentation	8:00 AM – 10:00 AM	Rooms 301-302
DEE Best Student Presentation: Ray Huey Award	8:00 AM – 10:00 AM	Rooms 203-204
Heads or Tails: Control Surfaces in Aquatic Locomotion	8:00 AM – 10:00 AM	Rooms 201-202
Reproduction and Community Ecology	8:00 AM – 10:00 AM	Lonestar H
Skins Have It: Scales and Denticles	8:00 AM – 10:00 AM	Lonestar G
Terrestrial Locomotion I: Terrestrial Ectotherms	8:00 AM – 10:00 AM	Lonestar B
Communication I: Context Dependent Signals	8:30 AM – 10:00 AM	Lonestar F
Special session: What Amphibians Have Taught Us About Organism-Focused Evolutionary Biology	9:00 AM – 12:00 PM	Lonestar A
Coral Stress: Responses and Resilience	10:15 AM – 12:00 PM	Rooms 402-403
DCE Best Student Presentation - Gorbman Award	10:15 AM – 12:00 PM	Rooms 203-204
Evolution of Behavior II	10:15 AM – 11:45 AM	Rooms 408-409
Muscle and Tendon Morphology, Actuation and Mechanics I	10:15 AM – 12:00 PM	Lonestar B
Sexual Selection	10:15 AM – 11:30 AM	Lonestar F
Communication II: Masked Signals and Mimicry	10:30 AM – 12:00 PM	Rooms 201-202
Evolutionary Genomics	10:30 AM – 11:45 AM	Lonestar H
Reproductive Physiology	10:30 AM – 12:00 PM	Rooms 303-304
Skins Have it: Armor, Beaks and Bumps	10:30 AM – 12:00 PM	Lonestar G
Global Change Biology I: Climate Change Vulnerability	10:45 AM – 12:00 PM	Rooms 301-302
AFTERNOON		
DCPB Best Student Presentations	1:30 PM – 3:45 PM	Rooms 203-204
Eco-immunity and Disease Ecology	1:30 PM – 3:15 PM	Rooms 402-403
DIZ Best Student Presentation: Mary Rice Award	1:30 PM – 3:30 PM	Lonestar H

DPCB Best Student Presentation: David & Marvalee Wake Award	1:30 PM – 3:30 PM	Lonestar A
Ecophysiology: A Focus on Temperature	1:30 PM – 3:30 PM	Rooms 301-302
Feeding and Swallowing Anatomy and Mechanics I	1:30 PM – 3:30 PM	Rooms 303-304
Flying & Landing I	1:30 PM – 3:30 PM	Rooms 201-202
Form & Function of Anatomical Novelties	1:30 PM – 3:30 PM	Lonestar G
Muscle and Tendon Morphology, Actuation and Mechanics II	1:30 PM – 3:30 PM	Lonestar B
Comparative Endocrinology	1:30 PM – 3:45 PM	Lonestar F
Predator/Prey Interactions	1:45 PM – 3:30 PM	Rooms 408-409

COMMITTEE AND BOARD MEETINGS

PAC - Student Journalist Meeting	7:00 AM – 8:00 AM	Room 401
Development Committee	12:00 PM – 1:00 PM	Room 404
Division Chairs, President/President Elect Meeting	12:00 PM – 1:30 PM	Room 407
ICB Editorial Board	12:00 PM – 1:00 PM	Room 406
TCS Board Meeting	8:00 PM – 10:00 PM	Room 407

BUSINESS MEETINGS

DAB Member Meeting	5:45 PM – 6:45 PM	Lonestar A
DCPB Member Meeting	5:45 PM – 6:45 PM	Lonestar B
DEDB Member Meeting	5:45 PM – 6:45 PM	Lonestar C
DEDE Member Meeting	5:45 PM – 6:45 PM	Lonestar F
DEE Member Meeting	5:45 PM – 6:45 PM	Lonestar G
DOB Member Meeting	5:45 PM – 6:45 PM	Lonestar H
DVM Member Meeting	5:45 PM – 6:45 PM	Rooms 301-302

WORKSHOPS AND PROGRAMS

Scientists Crossing: Getting involved in cross-disciplinary research	12:00 PM – 1:30 PM	Room 401
Faculty Launch Workshop	12:00 PM – 1:30 PM	Lonestar B
Mentorship and sponsorship: how to curate your support team and guide your successful career	12:00 PM – 1:30 PM	Lonestar A
NSF Program Officers: What's New in BIO and Q&A session	12:00 PM – 1:30 PM	Lonestar D

SOCIAL EVENTS

Morning 5K Run	6:00 AM – 7:00 AM	JW Marriott Lobby
DCPB/DEDE/BART Social	8:30 PM – 10:00 PM	Griffin Hall

Wednesday Program Symposia

Note: Presenter is first author unless noted by an asterisk (*).

8:00 AM – 3:30 PM

Lonestar C

S1: Genomics of Marine Larval Evolution and Development

Chairs: Christina Zakas, Chema Martin

8:00 am	<i>Elizabeth Williams, Kei Jokura, Gaspar Jekely</i>	Environment-neuroendocrine interactions regulating larval settlement in the marine worm <i>Platynereis</i>
8:30 am	<i>Allison Edgar, Dorothy Mitchell, Joseph Ryan, Mark Martindale</i>	The gene regulatory basis for an evolutionary loss of regeneration in ctenophores
9:00 am	<i>Catriona Munro, Maciej Manko</i>	Siphonophore genomics, larval development and evolution
9:30 am	Coffee Break	Grand Ballroom
10:00 am	<i>Alberto Stolfi, Billie Swalla, Sydney Popsuj</i>	Evolution of swimming behavior (or lack thereof) in tunicate larvae
10:30 am	<i>Carrie Albertin</i>	How to make a cephalopod: insights from the genome
11:00 am	<i>Paul Bump, Blair Benham-Pyle, Carolyn Brewster, Lauren Lubeck, Catherine Rogers, Alejandro Sánchez-Alvarado, Christopher Lowe</i>	Building larvae and adults cell by cell: insights from the hemichordate <i>Schizocardium californicum</i>
11:30 am	<i>Adam Reitzel, Sarah Estvander, Amy Klock</i>	Genomic regions contributing to temperature response in an estuarine cnidarian
12:00 pm	Lunch
1:30 pm	<i>Rannyele Passos-Ribeiro, Jamie MacKinnon, B. Duygu Özpolat</i>	Comparative transcriptomics reveals sex-specific differences in <i>Platynereis dumerilii</i>
2:00 pm	<i>Rebecca Varney</i>	A checklist for reproducible publication of genomic data from non-model taxa
2:30 pm	<i>Tim Wollesen</i>	On cells giving rise to shells and spicules in spiralians

8:00 AM – 3:30 PM

Lonestar E

S2: Neuroethology in the Age of Gene Editing: New Tools and Novel Insights Into the Molecular and Neural Basis of Behavior

Chairs: Beau Alward, Scott Juntti

8:00 am	<i>Beau Alward</i>	Genetic dissection of the hormonal control of social status in a cichlid fish
8:30 am	<i>Devanand Manoli, Ruchira Sharma, Kristen Berendzen, Amanda Everitt, Kimberly Long, Nerissa Hoglen, Michael Sherman, Arthur Willsey</i>	Dissecting the neural basis of social attachment
9:00 am	<i>Johanna Kowalko</i>	Genetic underpinnings of behavioral evolution in the blind Mexican cavefish
9:30 am	Coffee Break	Grand Ballroom
10:00 am	<i>Kristin Tessmar-Raible</i>	Timing physiology and behavior by moon and sun: molecular insight from the annelid <i>Platynereis</i>
10:30 am	<i>Waring Tribble</i>	A socially parasitic ant lineage originated within the colony of its free-living parent
11:00 am	<i>Douglas Menke</i>	Anolis Lizards for Studies of Gene Function in Evolution and Development
11:30 am	<i>In Hae Lee, Anthony Lee, Laura Duvall</i>	Seasonal regulation of reproductive physiology and behavior in <i>Aedes albopictus</i> mosquitoes
12:00 pm	Lunch

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1:30 pm	Jason Rasgon	CRISPR in non-model organisms through ReMOT Control
2:00 pm	Tessa Montague, Daniella Garcia-Rosales, Connor Gibbons, Thomas Barlow, Adriana Nemes, Mycah Simmons, Erica Shook, Larry Abbott, Richard Axel	The neural basis of cuttlefish camouflage
2:30 pm	Scott Juntti	Insights into female reproductive behaviors from CRISPR-edited and transgenic cichlids

8:00 AM – 3:30 PM

Lonestar D

S3. Sexual Diversity and Variation

Chairs: TBD

8:00 am	Sam Sharpe, Kelsey Lewis*	Sex, Science, and Society
8:30 am	Alexandra Kralick	Skeletal Variation in Adult Orangutans (<i>Pongo sp.</i>) Defies Expectations of Sexual Dimorphism
9:00 am	Idelle Cooper	Sexual dimorphism beyond sexual selection: evolution of body and wing color in two damselfly systems
9:30 am	Coffee Break	Grand Ballroom
10:00 am	Andrew Anderson, Suzy Renn	A proposed hypothesis for predicting regulation of sex-biased traits using evolutionary history
10:30 am	Sara Lipshutz, Jess McLaughlin, Kinsey Brock	Multimodal models of animal sex: breaking binaries to better understand reproductive behaviors
11:00 am	Tim James	Sex without sexes: understanding the evolution of mating systems in fungi
11:30 am	Chris Martine, Jason Cantley, Melody Sain, Tanisha Williams, Angela McDonnell, Ingrid Jordon-Thaden, Gregory Anderson	Fluidity and inconstancy: Australian bush tomatoes (<i>Solanum</i>) as an exemplar of non-normative sex expression in plants (and across life)
12:00 pm	Lunch
1:30 pm	Banu Subramaniam	Linnaean libertines: the queer possibilities of plants
2:00 pm	Hans Lindahl	Sex diversity: from medicalization to affirmation
2:30 pm	Alicia Roth-Weigel	Putting the 'I' in LGBTQIA+: law and policy implications
3:00 pm	Kelsey Lewis, Sam Sharpe	Roundtable discussion: sexual diversity and variation

Wednesday Program Morning Sessions

Note: Presenter is first author unless noted by an asterisk (*).

8:00 AM – 9:15 AM

Rooms 408-409

Evolution of Behavior I

Chair: Carlos Rodriguez-Saltos

8:00 am	Eric Arredondo, Alison Bell, Tina Barbasch, Chad Brock, Alexis Heckley	Quantifying territorial aggression among three-spined male stickleback in the wild
8:15 am	Liz Aguilar, Elizabeth George, Sarah Wolf, Mary Woodruff, Aaron Buechlein, Doug Rusch, Kimberly Rosvall	Tracing inter-individual variation in behavior and neural gene expression of aggressive female birds
8:30 am	Nadje Najar, Alan Brelford, Christopher Clark, Brian Myers, David Rankin	Admixture mapping reveals genomic underpinnings of behavioral courtship displays in hummingbirds
8:45 am	Carlos Rodriguez-Saltos, Fernanda Duque, Kathleen Lynch	Transcriptomic correlates of brood-parasitism in cowbirds
9:00 am	Amber Rice, Joan Marie Spinelli, Austin Russell, Noel Martinez, Alex Huynh, Scott Taylor, Timothy Roth	Impacts of hybridization on cognition in wild-caught and captive-reared chickadees

8:00 AM – 9:45 AM

Rooms 402-403

Movement, Migration and Dispersal I: Individual Strategies and Human Impacts

Chair: Jay Jinsing Falk

- 8:00 am *Cassie Shriver, Dylan Scott, Isha Palakurthy, Grace Hansen, Steve Place, David Hu, Andrew Schulz* Creating Interdisciplinary Conservation Tools: A Case Study on Vaccinating Urban Wildlife
- 8:15 am *Layne Sermersheim, Richard Thompson, Erin Lewis, Susannah French* Effects of roadway disturbances on Side-blotched lizard (*Uta stansburiana*) behavior and morphology
- 8:30 am *Jay Falk, Alejandro Rico-Guevara* The daily life of a hummingbird: Developing a movement ecology of the tiniest birds
- 8:45 am *Ian Bentley* Tracking and Counting Bats Across the United States using Neural Networks
- 9:00 am *Cassidy Waldrep, Paul Schaeffer, Adam Parlin, Ann Rypstra* Repeatability of biologging data from turtles suggests a new methodology for assessing personality
- 9:15 am *Loubna Baroudi, Alex Shorter, Stephen Cain, Kira Barton, Mark Newman* The economy of walking in the real world.
- 9:30 am *Ryan Hanscom, Jessica Hill, Tyler Marbach, Charlotte Patterson, Jeet Sukumaran, Timothy Higham, Rulon Clark* Using accelerometry to hop into the behavioral classification of a small nocturnal mammal

8:00 AM – 9:45 AM

Rooms 303-304

Cell and Molecular Physiology

Chair: Jessica A. Goodheart

- 8:00 am *Dimitri Theuerkauff, Rémy Agniel, Claire Varlet, Nine Doutreloux, Michel Marengo, Cédric Picot* Senescence in crustaceans: a new insight from the spiny lobster *Palinurus elephas*
- 8:15 am *Ricky Wright* RNA editing in response to ocean acidification in *Octopus rubescens*
- 8:30 am *Carly Kenkel, Rachel Wright* Can gene expression studies inform coral reef conservation and restoration?
- 8:45 am *Mihika Kozma, Jorge Pérez-Moreno, Neha Gandhi, Luisanna Hernandez-Jeppesen, Tomer Ventura, Donald Mykles* The hunt for MIH Receptor: a quest to find missing pieces of the crustacean molt inhibition puzzle
- 9:00 am *Lauren Vandepas, Reed Boohar, Giles Goetz, Nikki Traylor-Knowles, Frederick Goetz, Adam Lacy-Hulbert, William Browne* Immune cell phenotype to genotype: cell behaviors and transcriptomics across diverse metazoans
- 9:15 am *David Ensminger, Nicholas Wheeler, Reem Al-Makki, Kristen Eads, Noah Ashley* Contrasting effects of sleep disruption and Ang-II treatment upon pro-inflammatory responses in mice
- 9:30 am *Jessica Goodheart, Abegail Bigasin, Rose Fiorenza, Deirdre Lyons* Identifying putative nematocyst sequestration genes in the nudibranch *Berghia stephanieae*

8:00 AM – 10:00 AM

Rooms 301-302

DEDE Best Student Presentation

Chairs: James Adelman, Daniel Becker

- 8:00 am *Marissa Langager, Dana Hawley* Sociality as a potential form of behavioral tolerance in *Mycoplasma gallisepticum*-infected songbirds
- 8:15 am *Mary Campbell, Bryon Tuthill, Isabela Velasquez-Gutierrez, Eve Milusich, Jessica Hua* Costs of pesticide tolerance influence the effect of habitat structure on amphibian disease outcomes
- 8:30 am *David Adams, Michael Deutsch, Lorin Neuman-Lee, Matthew Gifford* Consequences of Anthropogenic Fire Suppression for Lizard Immunity
- 8:45 am *Joe DeMarchi, Mark Wilber* Do Bd infected green frogs (*R. clamitans*) act as competent hosts?
- 9:00 am *Sydney Horan, Elizabeth Cochrane, Gabrielle Solomon, Ashley Love, Alyssa McGurer, Kunzika Kunzika, Sarah Knutie* Beating the heat: Mechanisms mediating effects of temperature on host resistance to parasitism
- 9:15 am *Katie Talbott, Ellen Ketterson* Investigating the roles of tolerance, resistance in functional responses to *Plasmodium* inoculation

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9:30 am	<i>Grace Westphal, Tara Stewart-Merrill</i>	Partitioning variance in immune traits in a zooplankton host – fungal parasite system
9:45 am	<i>Isabella Changsut, Haley Womack, Alicia Schickle, Koty Sharp, Lauren Fuess</i>	A comparison of constitutive and induced immune response in coral of variable symbiont densities

8:00 AM – 10:00 AM

Rooms 203-204

DEE Best Student Presentation: Ray Huey Award

Chair: Frances Bonier

8:00 am	<i>Guillermo Garcia-Costoya, Karla Alujevic, Akhila Gopal, Michael Logan</i>	Predicting ectotherm responses to climate change by quantifying shifts in thermal landscapes
8:15 am	<i>Julia Kendrick, Frances Bonier</i>	Beetlejuice: Anal secretions as a competitive strategy in the burying beetle, <i>Nicrophorus orbicollis</i>
8:30 am	<i>Emily Lau, Nicholai Hensley, Arnab Mukherjee, Todd Oakley</i>	Functional testing of luciferases in ostracods challenge the ortholog conjecture
8:45 am	<i>Korin Jones, Myra Hughey, Lisa Belden</i>	Bacterial colonization order on treefrog embryos impacts tadpole microbiome structure in tadpoles.
9:00 am	<i>Wayne Wang, Alex Gunderson</i>	A multi-level analysis of correlated divergence in sperm and adult thermal tolerance in lizards
9:15 am	<i>Stephanie Bristow, Samantha Skerlec, Krista Ward, Thomas Luhring</i>	Limits of phenotypic plasticity and implications for collateral effects on fitness
9:30 am	<i>Eloise Hunt, Ryan Felice, Joseph Tobias, Anjali Goswami</i>	Ecological and Life History Drivers of Avian Skull Evolution
9:45 am	<i>Jess Sterling, Justin Havird</i>	The Forming of a New Kingdom: Primary Microbial Succession in Anchialine Ecosystems

8:00 AM – 10:00 AM

Rooms 201-202

Heads or Tails: Control Surfaces in Aquatic Locomotion

Chair: Frank Fish

8:00 am	<i>Andrew Kovac, Henry Astley, Colleen Unsworth, Matthew Tarchick, Sarah McInerney</i>	The Effects of Crocodylian Tail Serrations on Water Surface Disturbance
8:15 am	<i>Frank Fish, Caitlyn Swiston, Scott Moon, Allison Kolpas, Megan Leftwich</i>	Taking a new heading: the sea lion head as a control surface
8:30 am	<i>Ming Gong, Eric Tytell, Yordano Jimenez</i>	Dorsal and ventral asymmetries in tail motion during vertical maneuvering in largemouth bass
8:45 am	<i>Andrew Clark, Eric Tytell</i>	All turn 3D around: a 3-dimensional analysis of turning in bluegill sunfish
9:00 am	<i>Alissa Ganley, Ian Bartol</i>	Turning abilities of <i>Sepia officinalis</i> and <i>Sepia bandensis</i> hatchlings
9:15 am	<i>Olivia Hawkins, Duncan Kennedy, Megan Vandenberg, Richard Hoover, Callie Crawford, Todd Clardy, Emily Kane, Cassandra Donatelli</i>	To eel or not to eel: functional diversity of control surfaces in elongate fishes
9:30 am	<i>Zachary Quigley, Jonathan Huie, R. Pyron, Sandy Kawano</i>	Kinematic variation in ecologically diverse <i>Desmognathus</i> salamanders during terrestrial locomotion.
9:45 am	<i>Tal Perevolotsky, Jacob Brotman-Krass, Adam Summers, Matthew Kolmann, Cassandra Donatelli, Roi Holzman</i>	A snap to the left, a swing to the right - head and body shape affect biting kinematics in fishes

8:00 AM – 10:00 AM

Lonestar H

Reproduction and Community Ecology

Chair: Jonathan Allen

8:00 am	<i>Jonathan Allen</i>	Cloning, polyembryony and asexual reproduction in echinoderms
8:15 am	<i>Katherine Karkosiak, Hunter King, Ravi Schwartz, Todd Blackledge</i>	Do spider egg sacs prevent water vapor loss?

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8:30 am	<i>Jessica Zehnpfennig, Matthew Graham, Andrew Mahon</i>	Are you my mother? Investigating reproductive patterns within Pycnogonida (sea spiders)
8:45 am	<i>Zachary Lane, M. Zachary Darnell</i>	Energetic costs, thermal benefits, and variations in structure of fiddler crab mating burrows
9:00 am	<i>Dimitri Theuerkauff, Nine Doutreloux, Michela Patrissi, Michel Marengo</i>	Reproductive biology of a spiny lobster: variations after more than forty years under pressure
9:15 am	<i>Peter Edmunds, Chris Perry</i>	Decadal-scale variation in coral calcification on coral-depleted Caribbean reefs
9:30 am	<i>Sam Miess, Andy Dzialowski</i>	Assessing mass effect and ecological drivers in Oklahoma macroinvertebrate metacommunities
9:45 am	<i>Christopher Wells, Joseph Benz, Kaitlyn Tonra, Emily Anderson, Howard Lasker</i>	Grazers mediate the post-settlement bottleneck in Caribbean octocoral forests

8:00 AM – 10:00 AM

Lonestar G

Skins Have It: Scales and Denticles

Chairs: Molly Gabler-Smith, Diego Francisco Biston Vaz

8:00 am	<i>Dylan Wainwright</i>	Studying scale-space: an exploration of fish scales across species
8:15 am	<i>Diego Vaz, Tess Avery, Molly Gabler-Smith, George Lauder</i>	Denticle Multiverse 1: Morphological Madness of Placoid Scales in the Portuguese Dogfish
8:30 am	<i>Tess Avery, Diego Vaz, Molly Gabler-Smith, George Lauder</i>	Denticle Multiverse 2: 3D imaging and analysis of dermal denticles on the Portuguese Dogfish
8:45 am	<i>Molly Gabler-Smith, Tess Avery, George Lauder</i>	Denticle Multiverse 3: quantifying variation in denticle morphology through leopard shark ontogeny
9:00 am	<i>Sean Trainor, Kory Evans</i>	Scale shape vs trophic position: testing the functional relationship in an assemblage of reef fishes
9:15 am	<i>Finn Mander, Karly Cohen, Matthew Kolmann, Adam Summers, Lauren Simonitis</i>	An assessment of the anti-fouling properties of Pacific spiny dogfish (<i>Squalus suckleyi</i>) denticles
9:30 am	<i>Amani Webber-Schultz, Kayla Hall, Ayi Ajavon, Adam Summers, Brooke Flammang, Lauren Simonitis</i>	Who nose what flows: dermal denticle morphology and narial flow
9:45 am	<i>Daniel Doucet, Juan Daza</i>	The neglected system of squamate reptiles provides clues to higher relationships of Lepidosaurians

8:00 AM – 10:00 AM

Lonestar B

Terrestrial Locomotion I: Terrestrial Ectotherms

Chairs: Robert Cieri, Jessica Tingle

8:00 am	<i>Henry Cerbone, Michelle Yuen, Perrin Schiebel</i>	Biorobotic study of how basilisk lizard feet mediate reaction forces while running
8:15 am	<i>Robert Cieri</i>	Locomotor joint moments in Varanid lizards and the scaling of locomotion in sprawling tetrapods
8:30 am	<i>Peter Bishop, Stephanie Pierce</i>	Limb performance and versatility across the synapsid sprawling-to-erect postural transition
8:45 am	<i>Charles Edwards, Jacob Newell, Henry Astley</i>	Lateral head rotation decreases penetration force of a robophysical model in damp granular media
9:00 am	<i>Eric McElroy, Joseph Bazzle</i>	Changes in limb function with fatigue in a running lizard
9:15 am	<i>Robert Brocklehurst, Magdalen Mercado, Stephanie Pierce</i>	Adaptive landscapes reveal complex evolution of forelimb posture in stem mammals (<i>Synapsida</i>)
9:30 am	<i>Jessica Tingle, Derek Jurestovsky, Henry Astley</i>	The relative contributions of multiarticular snake muscles to movement in different planes
9:45 am	<i>David Baier, Morgan Turner, Erin Trammell, Inthavha Singharaj, Rudich Sasha, Ryan Carney</i>	XROMM analysis of the distal forelimb of Alligator mississippiensis during the high walk

8:30 AM – 10:00 AM

Lonestar F

Communication I: Context Dependent Signals

Chairs: Ayala Berger, Julie Rej

- 8:30 am *Nicholai Hensley, Todd Oakley* Rules for emergent synchrony during bioluminescent behavior of sea fireflies
- 8:45 am *Nicole Moody, Matthew Fuxjager* Network analysis reveals context dependent variability in woodpecker territorial strategy
- 9:00 am *Ayala Berger, Polly Campbell, Christopher Clark* An Apparent Match in Signal Form in two Acoustic Courtship Displays in Calypte Hummingbirds
- 9:15 am *Mariana Rodriguez-Santiago, Esteban Russi, Maite Sánchez, Erik Zornik, Paula Pouso, Kim Hoke* Variability in the vocal repertoire of a South American treefrog
- 9:30 am *Julie Rej, Alex Gunderson* High temperatures lead an invasive lizard to exhibit increased aggression towards native competitor
- 9:45 am *Luke Larter, Michael Ryan* Call elaboration may insure calls against unflattering overlap in túngara frog choruses

9:00 AM – 12:00 PM

Lonestar A

Special session: What Amphibians Have Taught Us About Organism-Focused Evolutionary Biology

Chair: David C. Blackburn

- 9:00 am *Corinne Richards-Zawacki, Yusan Yang, Kimberly Howell, Layla Freeborn, Marco Gonzalez-Santoro, Justin Yeager, Matthew Dugas, Maria Servedio* Lessons in evolution and speciation learned from a polymorphic poison frog, *Oophaga pumilio*
- 9:15 am *Michael Ryan* Mate choice in túngara frogs: an analysis of brain, behavior, and evolution
- 9:30 am *Kiisa Nishikawa* What amphibians have taught us about the evolution and neuromuscular control of ballistic movements.
- 9:45 am *Molly Womack* Evolutionary and developmental curiosities
- 10:00 am *Tushar Sharma, David Cannatella** Breaking Dollo's Law? Evolution of developmental modes in Marsupial Frogs
- 10:15 am Coffee Break** **Grand Ballroom**
- 10:45 am *James Hanken, Zachary Lewis, Ryan Kerney* Lost and found: Lung development in lungless salamanders
- 11:00 am *Daniel Paluh, James Hanken, Gareth Fraser* Probing for the developmental mechanisms underlying repeated tooth loss in frogs
- 11:15 am *David Blackburn, Rachel Keefe, Paulo Pinheiro* Hyperelongated finger evolution in the African squeakers, family Arthroleptidae
- 11:30 am *Elizabeth Jockusch, Christopher Evelyn* Evolutionary correlates of elongation in plethodontid salamanders
- 11:45 am *Nancy Staub, Stephen Hayes, Mary Mendonca* Androgen levels in species of the plethodontid genus *Aneides*.

10:15 AM – 12:00 PM

Rooms 402-403

Coral Stress: Responses and Resilience

Chair: Erin Nicole Shilling

- 10:15 am *Kristen Brown, Elizabeth Lenz, Benjamin Glass, Rayna McClintock, Craig Nelson, Hollie Putnam, Katie Barott* The acclimatization and sensitization of reef-building corals in response to repeat marine heatwaves
- 10:30 am *Carsten Grupstra, Kirstin Meyer-Kaiser, Matthew-James Bennett, Maikani Andres, Hannah Aichelman, James Fifer, Alexa Huzar, Annabel Hughes, Hanny Rivera, Sarah Davies* Adaptation to thermal stress in cryptic coral lineages from marginal habitats
- 10:45 am *Marie Strader* Legacy effects of marine heatwaves on reef-building corals
- 11:00 am *Nia Walker, Erik Hanson, Stephen Palumbi* Genetics of recovery in corals with differing heat resistance capacity

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11:15 am	<i>Katie Barott, Kristen Brown, Matheus Mello-Athayde, Eugenia Sampayo, Aaron Chai, Sophie Dove</i>	Environmental memory of extreme diel pCO ₂ variability promotes coral cellular acid-base homeostasis
11:30 am	<i>Dakota McCoy, Sönke Johnsen, Stephen Palumbi, Jennifer Dionne</i>	The optics of runaway bleaching in corals (<i>Scleractinia</i>)
11:45 am	<i>Shayle Matsuda, Brian Glazer, Ty Roach, Robert Quinn, Spencer Miller, Crawford Drury, Craig Nelson</i>	Does coral structural morphology influence within-colony microbial spatial heterogeneity?

10:15 AM – 12:00 PM

Rooms 203-204

DCE Best Student Presentation - Gorbman Award

Chairs: Rachel M. Bowden, Sara O'Brien

10:15 am	<i>Christopher Smaga, Samantha Bock, Matthew Hale, Benjamin Parrott</i>	Environmental determinants and genetic pathways responsible for reproductive disorders in alligators
10:30 am	<i>Emily Harders, Ryan Paitz</i>	Avian embryos concurrently metabolize and respond to yolk corticosterone
10:45 am	<i>Rebecca Evey, Matthew Savoca, John Ososky, Michael McGowen, Jeremy Goldbogen, Kathleen Hunt</i>	Reconstructing Stress and Reproductive History of Critically Endangered Rice's Whales Using Baleen
11:00 am	<i>Kevin Pham, Madeline Choi, Haruka Wada</i>	Nighttime light exposure decreases blood glucose levels independent of the adrenocortical response
11:15 am	<i>Emily Sperou, Dan Crocker, Dan Costa, Michael Goebel, Renato Borrás-Chavez, Shane Kanatous, Stephen Trumble, Sarah Kienle, Douglas Krause</i>	Hot off the stress: Leopard seals exhibit high levels of cortisol, driven by sex, diet, and mass
11:30 am	<i>Jeremy Starkey, David Delehanty, Melissa Rivas, Devaleena Pradhan</i>	Testosterone and Estradiol are Tightly Linked Across Different Regions of the Avian Brain
11:45 am	<i>Jessica Karr, Jamie Cornelius</i>	Metabolic and acute stress responses to abrupt cold acclimation in a nomadic songbird

10:15 AM – 11:45 AM

Rooms 408-409

Evolution of Behavior II

Chair: Todd Oakley

10:15 am	<i>Kelsey Garner, Cari Hickerson, Carl Anthony</i>	Assessment of Repeatability and Behavioral Syndromes in Eastern Red-backed Salamanders
10:30 am	<i>Todd Oakley, Nikolai Hensley, Yogananda Isukapalli</i>	Waterborne Autonomous Low-Light Electroretinography to quantify luminous courtship signals
10:45 am	<i>Aaron Krochmal, Timothy Roth, Travis LaDuc, Brian Palmer, Josephine Cleverdon, Daniel Ardia, Aaron Place</i>	Snake, Rattle, and (B)Roll: Animal responses to rattlesnake rattling revealed by field videography
11:00 am	<i>Dante Nesta, Cristina Ledón-Rettig</i>	Ancestral plasticity in behavior and gene expression precedes the evolution of a larval polyphenism
11:15 am	<i>Melanie Kimball, Christine Lattin*</i>	The “seven deadly sins” of neophobia experimental design
11:30 am	<i>Jesse Granger, Sönke Johnsen</i>	Collective Navigation as a Solution to Noisy Navigation and its Vulnerability to Population Loss

10:15 AM – 12:00 PM

Lonestar B

Muscle and Tendon Morphology, Actuation and Mechanics I

Chairs: David Labonte, Jim Usherwood

10:15 am	<i>Cas Jorissen, Sam Van-Wassenbergh</i>	Force-frequency trade-offs in muscle-powered lever systems
10:30 am	<i>David Labonte</i>	A dimensionless number for muscle dynamics
10:45 am	<i>Adrien Arias, Elizabeth Mendoza, Manny Azizi</i>	Alligators use elastic energy storage in ankle extensors during steady state walking
11:00 am	<i>Dan Rivera, Madhusudhan Venkadesan</i>	Crossbridge stiffnesses do not add in parallel

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11:15 am	<i>Amy Lagorio, Mara Fields, John Fortner, Eden Mackereth, Christian Perez, Faye McGechie, Alec Wilken, Manuel Leal, Carol Ward, Kevin Middleton, Casey Holliday</i>	New applications of 3D musculoskeletal modeling methods: a shared look inside the heads of Anolis
11:30 am	<i>Jim Usherwood</i>	Legs as linkages: thinking of isometric muscles and tendons as bicycle spokes
11:45 am	<i>Miles Valencia, Apolo Ibáñez-Rincon, Haleigh Hernandez, Gabby Morgan, Brooke Baker, Jenna Monroy, Theodore Garland, Angela Horner</i>	Early-exercise effects on mice tendon mechanics

10:15 AM – 11:30 AM

Lonestar F

Sexual Selection

Chair: Fadeke Adeola

10:15 am	<i>Zachary Emberts, Wei Song Hwang, John Wiens</i>	Weapon performance drives weapon evolution
10:30 am	<i>Pablo Delclos, Richard Meisel</i>	Regulation of an odorant binding protein by a proto-Y chromosome affects male house fly courtship
10:45 am	<i>H Luke Anderson, Jairo Cabo, Jordan Karubian</i>	Linking resource ecology and sexual selection in a lek-mating manakin
11:00 am	<i>Gabriella Sparkes, Jaime Heiniger, Nicholas Smith, Vincent Careau, Ami Fadhillah Amir-Abdul-Nasir, Skye Cameron, Robbie Wilson</i>	War and Sex in the Tropics: Performance trade-offs in the world's largest semelparous mammal
11:15 am	<i>Fadeke Adeola, Simon Lailvaux, Michael Kasumovic</i>	Antennae removal affects calling effort and lifespan in adult male <i>Teleogryllus commodus</i> crickets

10:30 AM – 12:00 PM

Rooms 201-202

Communication II: Masked Signals and Mimicry

Chairs: Ignacio Escalante, Bennett Price

10:30 am	<i>Judith Smit, Andrew Cronin, Vera Thijssen, Wouter Halfwerk</i>	The effects of urbanization on male-male vocal interactions and mate choice
10:45 am	<i>Jain Pushpalatha-Krishnan, Manjari Jain, Richa Singh</i>	Sound perception in a field cricket (<i>Acanthogryllus asiaticus</i>) and the effect of traffic noise.
11:00 am	<i>Bennett Price, T. Erin Cox, Kelly Boyle, Amanda Kirkland, Dakota Brunetti</i>	Red Drum calling behavior interactions with vessel noise at Panama City beach, FL, U.S.A.
11:15 am	<i>Caleb Short, Paul Moore</i>	Degradation of signals in forested environments: changing habitats and songbird communication
11:30 am	<i>Tyler Buchinger, Ke Li, Ugo Bussy, Belinda Huerta, Sonam Tamrakar, Nicholas Johnson, Weiming Li</i>	Male lake char release taurocholic acid as part of a mimetic pheromone
11:45 am	<i>Ignacio Escalante, Jerald Kellner, Camille Desjonquères, Rafael Rodriguez</i>	The function of a female-mimic signal type in the vibrational repertoire of male treehoppers

10:30 AM – 11:45 AM

Lonestar H

Evolutionary Genomics

Chair: Riley Kellermeyer

10:30 am	<i>Michelle St.-John, Julia Dunker, Emilie Richards, Christopher Martin</i>	Parallel genetic changes underlie novel trophic specialization in an adaptive radiation of pupfishes
10:45 am	<i>Riley Kellermeyer, Rachel Moran, Luis Espinasa, Nicolas Rohner</i>	A natural hybridization experiment: eyed and eyeless <i>Astyanax mexicanus</i> reveal origins of eye loss
11:15 am	<i>Jorge Audino, Kyle McElroy, José Amoroso-Rodriguez-Marian, Jeanne Serb</i>	Uncovering opsin expression and diversity among bivalve visual systems
11:30 am	<i>Sofia Barreira, Andreas Baxevanis</i>	Deducing the Common Ancestor of the Nucleolar Transcription Factor and its Role in Regeneration

Reproductive Physiology

Chair: Donald B. Miles

- 10:30 am *Emma Timmins-Schiffman, Jennifer Telish, Chris Monson, Chelsea Field, José Guzmán, Kristy Forsgren, Graham Young* Proteome analysis of coho salmon ovaries reveals the breadth of physiological changes during puberty
- 10:45 am *Beth Roberts, Mark Sandfoss, Matteo Oliveri, Melanie Richter, Tonia Schwartz, Alexis Lindsey, Jessica Cantrell, Steve Reichling* Achieving multi-paternity clutches: Developing AI in the endangered Louisiana pinesnake
- 11:00 am *Michael Lough-Stevens, Caleb Ghione, Matthew Dean* Gestational investment and pseudopregnancy are evolutionarily correlated
- 11:15 am *Donald Miles, Pau Carazo, Martin Whiting* Brain size evolution is shaped by reproductive mode and thermal biology
- 11:30 am *Rysa Thomas, Lauren Merlino, Deborah Lutterschmidt, M. Rockwell Parker* Sex- and life-history-dependent variation in stress hormone receptor expression in garter snakes
- 11:45 am *Anthony Breitenbach, Ryan Paitz, Rachel Bowden* The role of transient thermal cues in temperature-dependent sex determination

Skins Have it: Armor, Beaks and Bumps

Chair: Khanh To

- 10:30 am *Megan Vandenberg, John Michael Racy, Olivia Hawkins, Adam Summers, Cassandra Donatelli* Agonidae armor: an advantage or disadvantage?
- 10:45 am *Yutao Chen, Marianne Alleyne, Elizabeth Bello* Testing the anti-microbial property of cicada wings and wing surface replicates
- 11:00 am *Avalon Feiler, Matthew Kolmann, Cassandra Donatelli* Relating active and passive bending to armor overlap in the starsnout poacher(*Bathyagonus alascanus*)
- 11:15 am *Madeleine Hagood, Joseph Alexander, Marianne Porter* Exotendon or not? Mechanical anisotropic behavior of shark skin
- 11:30 am *Veronica Urgiles, Dylan Wainwright, Molly Womack* Warts and all: A comparative approach to understanding the evolution of amphibian skin
- 11:45 am *Khanh To, Michelle Stocker, Tobin Hieronymus* Is it that simple? Heterogeneous relative hardness of keratin in simple rhamphotheca in chickens

Global Change Biology I: Climate Change Vulnerability

Chair: Amanda Wilson Carter

- 10:45 am *Amanda Carter, Kimberly Sheldon* Plasticity of dung beetle mothers rescues offspring survival under climate change conditions
- 11:00 am *Gavin Stark, Wei-guo Du, Zhi-Gao Zeng, Liang Ma, Ofir Levy** Cool shade and not-so-cool shade: the importance of microclimate diversity in a changing world
- 11:15 am *Eric Riddell, Colton Poore* Conflicting patterns among indices of climate vulnerability between two species of bumble bees
- 11:30 am *Kentrell Richardson, Kamari Boyd, Megan Barlowe, Kelsey Reider* Understanding context dependent responses to climate change in Arizona Tiger Salamanders
- 11:45 am *Margaret Streeter, Nathalie Le-François, Thomas Desvigne, Jacob Grondin, John Postlethwait, H. William Detrich, Jacob Daane* Examining the impact of climate change at a critical life history stage using Antarctic fishes

Wednesday Program Afternoon Sessions

Note: Presenter is first author unless noted by an asterisk (*).

1:30 PM – 3:45 PM

Rooms 203-204

DCPB Best Student Presentations

Chair: Michael Sears

1:30 pm	<i>Aurora Alvarez-Buylla, Jonathan Long, Lauren O'Connell</i>	Adaptations to deadly diets: a poison frog plasma protein mediates alkaloid transport
1:45 pm	<i>Joseph Mack, Alexandra Bely</i>	Regenerative and non-regenerative annelids maintain their resting metabolic rate after amputation
2:00 pm	<i>Emma M. Rhodes, Kang Nian Yap, Paulo H. C. Mesquita, Hailey Parry, Andreas Kavazis, Jesse Krause, Geoffrey Hill, Wendy Hood</i>	Mitochondrial respiratory function varies between migratory and non-migratory White-crowned Sparrows
2:15 pm	<i>Ana Lyons, Kevin Roberts, Kylie Cheng, Lily Shang, DéJenaé See, Caroline Williams</i>	Mechanisms of cold tolerance in tardigrades (<i>Hypsibius exemplaris</i>)
2:30 pm	<i>Patrick Brown, Abigail O'Hara, Jaime Gutierrez-Portillo, Elizabeth Walsh</i>	Do colonial rotifers display allometric scaling of respiration with colony size?
2:45 pm	<i>Ellen Keaveny, Mitch Helling, Franco Basile, James Strange, Jeffrey Lozier, Michael Dillon</i>	Common garden reared bumble bees (<i>Bombus vossenskii</i>) maintain constitutive differences in cellular
3:00 pm	<i>Lindsey Daniel, Warren Burggren</i>	Genetics and Environment Regulate Zebrafish Embryo Division Rates and Subsequent Survival
3:15 pm	<i>Meredith Johnson, Jon Harrison</i>	Which abiotic factor limits the flight activity of the Sonoran Desert digger bee?
3:30 pm	<i>Chi Huang, Ioana Murgulet*, Wei Xu</i>	Development of a novel human breast cancer xenograft model in zebrafish

1:30 PM – 3:15 PM

Rooms 402-403

Eco-immunity and Disease Ecology

Chair: Patricia C. Lopes

1:30 pm	<i>Gabriel Hessler, Jason Davis</i>	A dirty planet: the effects of anthracite on varying invertebrate gut biomes
1:45 pm	<i>Erin Sauer, Chloe Connelly, Weston Perrine, Ashley Love, Sarah DuRant</i>	Male-biased disease dynamics of <i>Mycoplasma gallisepticum</i>
2:00 pm	<i>Patricia C. Lopes</i>	To be aware of danger before danger: the effects of disease risk on animal physiology
2:15 pm	<i>David Elzinga, Charlotte Beckford, Christopher Strickland</i>	A Mathematical Model of the Impacts of Climate Change on the Winter Tick Epizootic in Moose
2:30 pm	<i>Kyra Ricci, Grascen Shidemantle, Jessica Hua</i>	Communicating disease ecology through art: an empirical investigation
2:45 pm	<i>Amanda Bryant, Caitlin Gabor</i>	Are organic agricultural practices less stressful? How farming methods alter immune and GC responses
3:00 pm	<i>David Rodriguez, Maria del Mar Moretta-Urdiales, Rebecca Brunner, Ryan Lynch, Juan Manuel Guayasamín-Ernest, Shawn McCracken</i>	Leveraging portable instrumentation to inform host-pathogen dynamics in tropical amphibians in situ

DIZ Best Student Presentation: Mary Rice Award

Chair: Jonathan Allen

1:30 pm	<i>Caroline Fleming, Randi Rotjan, Justin McAlister, Grace Beery, Itasca Motter, Wendy Heiger-Bernays</i>	Nutrient or pollutant? Disentangling the effects of nitrogen on urbanized corals in a changing ocean
1:45 pm	<i>Brinton Vandegrift, Kit Yu Karen Chan</i>	Ocean acidification but not GABA manipulations affect predator avoidance of larval sand dollars
2:00 pm	<i>Samuel Bogan, Olivia Porat, Gretchen Hofmann</i>	Thermal plasticity has higher fitness costs among thermally-tolerant genotypes
2:15 pm	<i>Abigail Tarleton, Katie Statile, Andrea Frías-Vellón, Jason Macrander</i>	Is 'Reef Safe' Sunscreen Really Safe?
2:30 pm	<i>Danielle Kirsch, Barney Luttbeg</i>	Does the timing of predation risk affect reproductive success across the lifetimes of snails?
2:45 pm	<i>Emily Pierce, Markus Frederich</i>	Squishy versus crunchy: physical characteristics affect invasive species detection using environment
3:00 pm	<i>Bridget Vincent, Emily Lau, Sriram Ramamurthy, Clara Bourguignon, Todd Oakley</i>	Spotlight on cephalopods: How early evolutionary steps constrain photophore morphology
3:15 pm	<i>William Ballentine, Kelly Dorgan, Allison Penko</i>	Biostabilization of marine sands by microalgae and meiofauna

DPCB Best Student Presentation: David & Marvalee Wake Award

Chairs: Ryan Felice, Leigha M. Lynch, Samantha A. Price

1:30 pm	<i>Liam Taylor, Richard Prum</i>	There are no invariants in the phylogenetic natural history of avian delayed reproduction
1:45 pm	<i>Emily Watt, Ryan Felice, Anjali Goswami</i>	Use it or lose it: decreasing mandibular complexity through time in amphibians and stem tetrapods
2:00 pm	<i>Katherine Starr, Emma Sherratt, Thomas Sanger</i>	Evolutionary Patterns of Anolis Skull Shape Diversity
2:30 pm	<i>Kendra Zwonitzer, Justin Havird</i>	Causes of mtDNA mutations across Metazoa: Using substitution spectra to predict mutation mechanisms
2:45 pm	<i>Julia S.-Parreiras, Tod Reeder, Edward Stanley, David Blackburn</i>	Evolutionary processes and environmental pressures underlying skull diversity of New World toads
3:00 pm	<i>Inbar Maayan, Dan Bock, Anthony Geneva, R. Graham Reynolds, Alyssa Vanerelli, Scott Edwards, Jonathan Losos</i>	In situ diversification of a classic adaptive radiation: phylogenomics of Jamaican anoles
3:15 pm	<i>Sneha Dharwadkar, Guinevere Wogan</i>	Biogeography of genus <i>Nilssonina</i> in the Indian subcontinent: past inferences and future predictions

Ecophysiology: A Focus on Temperature

Chair: James Moloney

1:30 pm	<i>Gabrielle Names, Lindsey Chiesl, Victoria Roper, Anuj Ghimire, Heather Mathewson, Jennifer Grindstaff, Britt Heidinger</i>	Variation in house sparrow growth and aging across a latitudinal gradient
1:45 pm	<i>Jeremy Cohen, Brooke Bodensteiner, Diego Ellis-Soto, Shubhi Sharma, Julia Barbosa, Jussi Mäkinen</i>	Species distribution models are improved by incorporating thermal physiology
2:00 pm	<i>Isabella Burger, Evin Carter, Eric Riddell</i>	Assessing hybrid vigor based on the thermal sensitivity of physiological trade-offs in ambystomids
2:15 pm	<i>James Moloney, Amy Iler, Elsa Godtfredsen</i>	The Effect of Snowmelt Timing on Pollinator Visitation to Subalpine Wildflowers
2:30 pm	<i>Morgan Muell, Kendall Jackson, Ansley Strength, Matt Harrington, Christian Cox, Daniel Warner</i>	Geographic variation in thermal developmental plasticity in the green anole (<i>Anolis carolinensis</i>)

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2:45 pm	Alex Gunderson	Disentangling physiological and physical explanations for body-size dependent thermal tolerance
3:15 pm	Alex Hoffman, Haruka Wada	Developmental thermal stress and its effects on wound healing in adulthood in zebra finches

1:30 PM – 3:30 PM

Rooms 303-304

Feeding and Swallowing Anatomy and Mechanics I

Chairs: Corrine Avidan, Katie Whitlow

1:30 pm	Samantha Gartner, Mark Westneat	Elastic skull ligaments and the biomechanics of the parrotfish bite.
1:45 pm	Corrine Avidan, Elizabeth Brainerd	Pharyngeal jaw suction feeding in channel catfish
2:00 pm	John Fortner, Kaleb Sellers, Kevin Middleton, Casey Holliday	Functional Morphology of the Intramandibular Joint and Mandibles of Alligator
2:15 pm	Katie Whitlow, Callum Ross, Mark Westneat	Cranial kinematics and modulation of feeding strikes due to prey-type effects in <i>Amia calva</i>
2:30 pm	Jonathan Huie, Callie Crawford, Emily Kane, Allyson Evans, Karly Cohen, Thaddaeus Buser, Matthew Kolmann	The enemy of your anemone: feeding kinematics and biomechanics of a narrow niche cnidarian nibbler
2:45 pm	Tim Andries, Sam Van-Wassenbergh, Wendt Müller	Relationships between feeding performance, kinematics, and skill in a granivorous songbird
3:00 pm	Victor Ortega-Jimenez, Benjamin Seleb, Tien Yee, Pankaj Rohilla, Jake Belair, Joseph Mendelson, Saad Bhamla	Chattering, feet stomping, and skimming induce vortical structures that boost flamingos' feeding
3:15 pm	Jarrod Petersen, Alexander Wilde, John Capano, Thomas Roberts	Costocutaneous muscle function following large prey ingestion in Boa constrictor

1:30 PM – 3:30 PM

Rooms 201-202

Flying & Landing I

Chairs: Christina Harvey, Jean-Michel Mongeau

1:30 pm	Tanner Saussaman, Gal Ribak, Wing Lai, Roi Gurka	3D Flow Analysis of Wing-Wake Interactions: A Case Study of Beetles
1:45 pm	Braden Cote, Mark Jankauski	Experimental Evaluation of Wing Hinge Mechanics in Bumblebees
2:00 pm	Christina Harvey	Longitudinal gust response of a gliding gull
2:15 pm	Sonja Friman, Siyang Hao, Cory Elowe, Laura Mendez, Raúl Ayala, Caylan Hagood, Dayna Jackson, Gabriella Orfanides, Evrim Ozcan, Jared Ramirez, Ian Brown, Alexander Gerson, Tyson Hedrick*, Kenneth Breuer	Can flight in flocks be less costly than solo flight?
2:45 pm	Rachel Tran, Simon Walker	Kinematics of <i>Anopheles gambiae</i> during manoeuvring flight and with increasing temperature
3:00 pm	Laura Mendez, Tyson Hedrick	Black skimmers take advantage of wind to power foraging
3:15 pm	Viet Le, Benjamin Cellini, Rudolf Schilder, Jean-Michel Mongeau*	The abdomen of the hawkmoth <i>Manduca sexta</i> regulates wing-generated flight torques for yaw control

1:30 PM – 3:30 PM

Lonestar G

Form & Function of Anatomical Novelties

Chairs: Austin Francis, Zachary Stephen Morris

1:30 pm	Juri Miyamae	Probing the proboscis: comparative morphology of the mammalian nasal proboscis and performance
2:00 pm	Karly Cohen, Emily Carr, Gareth Fraser	The tale of two jaws – development of the tenaculum in the Spotted Ratfish (<i>Hydrolagus colliei</i>)
2:15 pm	Roxanne Armfield	Snakes: The Rulebreakers of Tetrapod Morphology
2:30 pm	Zachary Morris, Bhart-Anjan Bhullar	Evolutionary origins of amniote secondary palates

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2:45 pm	<i>Emma Schachner, Aracely Martinez, Karl Bates, Andrew Moore, Clinton Grand-Pre, Raul Diaz-Jr, Scott Echols, Brandon Hedrick</i>	Pulmonary diverticula as functional structures in the red-tailed hawk (<i>Buteo jamaicensis</i>)
3:00 pm	<i>Austin Francis</i>	Analytical and Experimental Hydrodynamics of the Great Hammerhead Shark Cephalofoil
3:15 pm	<i>Ariel Leahy, Robin Dunkin, Bernd Zechmann, Samuel Rivera, Sarah Kienle</i>	Methods and anti-methods of morphologically analyzing a complex arterial structure in odontocetes

1:30 PM – 3:30 PM

Lonestar B

Muscle and Tendon Morphology, Actuation and Mechanics II

Chairs: Hosain Bagheri, Marie Janneke Schwaner

1:30 pm	<i>Elizabeth Mendoza, Marie Schwaner, Monica Daley, Manny Azizi</i>	Quantifying the relative contribution of muscular and elastic energy during a frog jump
1:45 pm	<i>Caitlin Bemis, Kiisa Nishikawa</i>	Using in vivo length and activation during in vitro experiments to model scaling of muscle force pro
2:00 pm	<i>Hosain Bagheri, Salaheddin Ahmadi, Robin Koshy Mathews, Benjamin Bethke, Rebecca Fisher, Hamid Marvi*</i>	Electromyographic Study of Arm Muscle Functions in <i>Octopus bimaculoides</i>
2:15 pm	<i>Alberto Castro, Allyn Nguyen, Theodore Garland, Saad Ahmed, Natalie Holt</i>	Evolution of muscle contractile properties in mice bred for high voluntary wheel-running behavior
2:30 pm	<i>Joseph Thompson, Kari Taylor-Burt, William Kier</i>	One size does not fit all: diversity of length-force properties of obliquely striated muscles
2:45 pm	<i>Marie Schwaner, Monica Daley</i>	Sources of variation in muscle workloop patterns in non-steady locomotion in guinea fowl LG muscles
3:00 pm	<i>Xun Fu, Juri Miyamae, Talia Moore</i>	Untangling the function of complex tendon branching patterns
3:15 pm	<i>Edwin Dickinson, Aleksandra Ratkiewicz, Michael Granatosky, Julia Molnar, Adam Hartstone-Rose</i>	Algorithmic reconstruction of in situ muscle fascicles across a range of body sizes

1:30 PM – 3:45 PM

Lonestar F

Comparative Endocrinology

Chairs: Kathleen M. Munley, Melanie M. Richter

1:30 pm	<i>Melanie Richter, Beth Roberts, Mark Sandfoss, Steve Reichling</i>	Seasonal variation in fecal hormone levels in the endangered Louisiana pinesnake
1:45 pm	<i>M. Rockwell Parker, Holly Rucker, Julianna Lincoln, Megan Barlowe</i>	Extragenadal aromatase expression in red-sided garter snakes
2:00 pm	<i>Christopher Robinson, Matthew Hale, Tyler Wittman, Christian Cox, Henry John-Alder, Robert Cox</i>	Changes in androgen sensitivity of melanogenesis genes underlie ventral color loss in fence lizards
2:15 pm	<i>Camilo Alfonso, Jared Gladbach, Ignacio Moore</i>	Annual survival and steroid hormones in birds
2:30 pm	<i>Kathleen Munley, David Sinkiewicz, Sydney Szwed, Gregory Demas</i>	Seasonal variation in neural steroid sensitivity and territorial aggression in Siberian hamsters
2:45 pm	<i>Bria Metzger, B. Duygu Özpolat</i>	The cost or payout of regeneration on growth and sexual maturation in <i>Platynereis dumerilii</i>
3:00 pm	<i>Tosha Kelly, Keegan Stansberry, Melanie Kimball, Kenedi Lynch, Christine Lattin</i>	A transient reduction in circulating corticosterone reduces object neophobia in male house sparrows
3:15 pm	<i>Makayla Guinn, Christiana Kumar, Hussain Abdulla, Justin Elliott, Seth Foster, Frauke Seemann, Carrie Sinclair, Dara Orbach</i>	Effects of salinity on steroid hormones and epidermal integrity in dolphins
3:30 pm	<i>Adam Becker, Heather Watts</i>	A role for gonadal steroids in the onset of spring nomadic migration in pine siskins (<i>Spinus pinus</i>)?

1:45 PM – 3:30 PM

Rooms 408-409

Predator/Prey Interactions

Chairs: Allison Davis, Noah D. Gripshover

1:45 pm	<i>Madison Wagner, Paul Moore</i>	Variations to cue indices elicits prey behavioral responses even when predators are relatively small
2:00 pm	<i>Allison Davis, Michael Ryan</i>	Cooperation in an asexual-sexual fish system
2:15 pm	<i>Noah Gripshover, Charles Watson, Jesse Meik, Lance McBrayer, Patrick Hennessey, Christian Cox</i>	When food fights back: the feeding behavior of specialist and generalist predators on dangerous prey
2:30 pm	<i>Paul Agnani, Vincent Careau</i>	The fast and the curious: speed, endurance, activity and exploration in mice
2:45 pm	<i>Faris Tulbah, Tobias Ginsburg, Talia Moore</i>	Camoflagility: Mimicry for Predator Underestimation of Prey Evasion Ability
3:00 pm	<i>Michaela Rogers, Jennifer Hellmann</i>	Paternal exposure to novel predator cues reduces offspring survival in threespined stickleback
3:15 pm	<i>Toby Covill, Catherine Wagner, Sean Harrington, William Rosenthal</i>	Predator Diversion Adaptation in Juveniles of <i>Plestiodon multivirgatus</i> , the Many-Lined Skink

7:30 PM – 8:30 PM

Lonestar D

George A. Bartholomew Lecture: Dr. Eric Riddell

Organismal physiology as a lens into the fundamental niche and beyond

Sponsored by Sable Systems International

Wednesday POSTER SESSION P1

JW Grand Ballroom, 3:30-5:30 PM

Poster Set Up: 7:00-8:00 am; Poster Teardown: 5:30-6:00 pm

Even # - Authors present from 3:30-4:30 pm; Odd # - Authors present from 4:30-5:30 pm

Anatomy and Morphology

- P1-001** *Christina McDonald* Mechanisms of self-decorating and design of the attachment system in debris-carrying lacewing larva
- P1-002** *Giulia DiRaimo, Carla Narvaez-Diaz, Stephanie Crofts* Aristotle's Lantern and Soft Tissue Anatomy in Burrowing and Non-Burrowing Sea Urchin
- P1-003** *Laura Hunter, Anna Wisniewski* Tempo and mode in the evolution of primate dental morpholog
- P1-004** *Jian-Liang Chen, Ping-Ying Chen, Fu-Yu Tsai, Dian-Han Kuo** The nervous system and phototactic behavior in Stenostomum (Platyhelminthes: Catenulida)
- P1-005** *Emily Lucas, Jennifer Taylor* Papillae Retraction in Octopus bimaculoide

Biodiversity and Biogeography

- P1-007** *Jack Koger, Sarah Foltz, Jamie Lau* Biodiversity of Insects in Southern Appalachian Burial Grounds Along an Urbanization Continuu
- P1-008** *Miranda Gibson, Estefanía Rodríguez, Christopher Meyer, Benjamin Titus* Ecological diversification in the clownfish-hosting sea anemone *Heteractis magnific*
- P1-009** *John Nguyen* Diversity and distribution of reed frogs (*Hyperolius spp.*) on Bioko Island, Equatorial Guine
- P1-010** *Claire Marino, Tanisha Williams, Chris Martine** *Solanum acanthophisum*: a New Dioecious Bush Tomato Species from the Australian Monsoon Tropic

Communication, Social Behavior, and Movement, Migration and Dispersal

- P1-011** *Anna Godfrey, Erik Zornik* Vocal responses of male *Xenopus borealis* to conspecific and heterospecific pairing
- P1-012** *Danae Diaz, Sönke Johnsen, Steve Nowicki* Can you judge a bird by its cap? Assessing the link between cap color and cognition in a songbird
- P1-013** *Sara Seidita, Rafael Rodriguez* Enchenopa use spontaneous signals to re-establish duetting communication during wind-induced noise
- P1-014** *Caroline Troy, Matthew Fuxjager, James Kellner* Exploring Environmental Predictors of Biogeographical Variation in Woodpecker Drumming Performance
- P1-015** *Jacob Brotman-Krass, Tal Perevolotsky, Adam Summers, Lauren Simonitis, Cassandra Donatelli* Grunting and Groaning: Characterizing Sound Production in Poachers
- P1-016** *Bole Pan, Young Kwon, Elizabeth "Bliss" Bagnato-Conlin, Darcy Kelley* Ethology and evolution of courtship vocalization in *Xenopus*
- P1-017** *Bushra Moussaoui, Tim Wright* Effects of aging on adult vocal learning and underlying neural expression
- P1-018** *Elizabeth "Bliss" Bagnato-Conlin, Young Kwon, Darcy Kelley* Phonotactic response to male advertisement calls in *Xenopus* females
- P1-019** *Jeanette Moss, James Tumulty, Eva Fischer** Trophic egg feeding calls of a biparental frog co-opt and modify elements of ancestral signals
- P1-020** *Aidan Bannon, Simon Thill, Sophie Frem, S. Tonia Hsieh, Suzanne Kane* Mind the trap: how spotted lanternflies negotiate terrain transitions during climbing
- P1-021** *Ava Umlauf, Henry Astley, Kaelyn Gamel, Jared Pettay* Underwater Ground Reaction Forces of Spotted Prawn
- P1-022** *Michelle Osovitz, Taegan McMahon, Gretchen Hilt*, Bridget Hilgendorff* The effect of Bd fungal metabolites on planarian behavior and developmental regeneration.
- P1-023** *Jackie Culotta, Marie Ervin, Brooke Vetter, Allen Mensinger* Integrating Sensory Physiology and Behavioral Conditioning to Influence Fish Movement

P1-024	<i>Marie Ervin, Jackie Culotta, Allen Mensinger, Brooke Vetter</i>	Enhancing Silver Carp Negative Phonotaxis to an Acoustic Stimulus by Reinforced CO2 Conditioning
P1-024	<i>Eva Castagna, Kendra Buresch, Charles Chubb, Roger Hanlon</i>	Quantifying cuttlefish camouflage consistency
P1-026	<i>Megan Sims, Emily Rose, Heather Mason</i>	Developing a new mark-recapture field survey technique for monitoring coastal pipefish populations
P1-027	<i>Alora McInnis, Karen Maruska, Christy Wayne</i>	Neural activation associated with repeated social defeat in a cichlid fish
P1-028	<i>Isaac Miller-Crews, Hans Hofmann</i>	Single-cell transcriptomics of socially sensitive peptidergic neurons in a highly social fish
P1-029	<i>Nicolas Walker, Sean Burke, Isaac Ligocki</i>	Behavioral responses to competition and perceived predation risk in two teleost fish
P1-030	<i>Allison Sharp, Jean Ross, Vikram Iyengar</i>	Eat, Prey, Love: Sex influences nest intruder behavior in the maritime earwig
P1-031	<i>Kelly Wuthrich, Lindsey Swierk</i>	Rapid body color change is unlikely to be used as a social signal in the water anole
P1-032	<i>Natsumi Tsuchihashi, Heather Watts, Ben Vernasco, Jamie Cornelius*</i>	Use of conspecific vs heterospecific public information during food stress in captive finches
P1-033	<i>Landon Porter, Scott Juntti, Cheng-Yu Li, Hans Hofmann</i>	Does knocking out the V1a2 vasopressin receptor impair social dominance in a highly social cichlid?
P1-034	<i>Emily Lessig, Hans Hofmann</i>	Know thy neighbor: Decision-making in a dynamic social world
P1-035	<i>Anastasia Weger, Clare Rittschof</i>	Assessing the Predictive Power of Physiological and Epigenetic Factors on Aggression in Honey Bees
P1-036	<i>Lindsey Wells, Molly Wingard, Andrew Fuller, Mark Garcia</i>	The Influence of Age on Experience-Induced Behavioral Changes
P1-037	<i>Neil Khosla, Lauren O'Connell, Julie Butler</i>	Evolution of microRNAs and social behavior in poison frog tadpoles
P1-038	<i>Adam Quade, Guillaume Rieucou</i>	Fluctuations in floodplain hydrology and connectivity elicit topological shifts in fish schools
P1-039	<i>Ren Weinstock, Karen Kapheim</i>	Investigating the plasticity of bee social behavior under climate change
P1-040	<i>Anjali Krishna, Trina Chou, Mark Fossesca, Avani Desai, Megan Gall</i>	Masking or Distraction? : how anthropogenic noise reduces songbird responses to predator threats
P1-041	<i>Leilani Smith, Isaac Ligocki</i>	Behavioral responses of male eastern mosquitofish following exposure to a widely used herbicide
P1-043	<i>Rehma Khan, Pete Hurd</i>	Effects of Flutamide on Aggression and Courtship Behaviours in Kribensis Cichlids
P1-044	<i>Eloise Parish-Mueller, Victor Gonzalez</i>	Acoustic Signatures of Different Bee Taxa in Lesvos, Greece
<u>DCE Best Student Poster - Riddiford Award</u>		
P1-045	<i>Vanessa Bentley, Austin Ellingworth, Wen Zhou, Donald Mykles</i>	From water to land: the impact of methyl farnesoate and JH-mimics in decapod ecdysteroidogenesis
P1-046	<i>Jalyn Devereaux, Jessica Karr, Thomas Hahn, Jamie Cornelius</i>	Impact of winter weather on stress and reproductive physiology in captive red crossbills
P1-047	<i>Savvy Cornett, Hans Hofmann, Molly Cummings</i>	Sex and food: Reproduction and energy homeostasis in a fish with alternative reproductive tactics
P1-048	<i>Megan Flanagan, Caitlin Gabor</i>	Traffic noise informs early development in two species of tadpoles
P1-049	<i>Allie Case, Malia Smith, Kathleen Hunt, Janine Brown, Alyson Fleming, Matthew Savoca, John Ososky, Michael McGowen</i>	Relationship of adrenal stress hormones in WWII-era Antarctic blue whales and fin whales
P1-050	<i>Sabrina Ellah, Kaja Arusha, Krystle Boadi, Daniela Kim, Carolyn Bauer</i>	Relationships between offspring endocrine stress profiles and play behavior in Octodon degus
P1-051	<i>Ethan Guardado, Mary Woodruff, Susanna Tsueda, Kimberly Rosvall</i>	Body mass and brood size interact with thermoregulatory mechanisms in wild nestling songbirds

P1-052	<i>Krystle Boadi, Kaja Arusha, Sabrina Ellah, Daniela Kim, Carolyn Bauer</i>	Relationships between maternal care and the endocrine stress response in <i>Octodon degus</i>
P1-053	<i>Shauna Odum, Lauren Johnson, Brittney Ivanov, Gerard Beaudoin, Michele Johnson</i>	The Relationship Between Circulating Testosterone and Androgen Receptor Expression in Lizard Muscles
P1-054	<i>Marie Drozda, Karen Maruska, Emily Ray</i>	Variations in Sex-Steroid Receptor Levels in the Jaw Muscle of a Mouthbrooding African Cichlids
P1-055	<i>Alondra Villalba, Jodie Jawor, Tim Wright</i>	Early life stress and the physiological stress response in juvenile budgerigars
P1-056	<i>Arianna Buehler, Emily Levy, Liz Aguilar, Kimberly Rosvall</i>	Adrenal steroidogenesis in territorial female tree swallows
P1-057	<i>Jen Jelincic, Danielle Dillon, C. Loren Buck, Kathleen Hunt</i>	Multi-year patterns of DHEA and glucocorticoids in >50-year-old bowhead whale baleen
P1-058	<i>Estephannie Alvarez, Sydney Yoon, Jhoselyn Pineda, Ashlie Barillas, Christopher Harrod, Yoonjeong Choi, Alexia Anous, Malik Alhadi, Tyrone Hayes</i>	Effects of Estrogen and TAML on Sex Differentiation in <i>Xenopus laevis</i>
P1-059	<i>Grace Anderson, Sam Afshari, Jesus Vega, Nathan Koehler, Lauren Johnson, Brittney Ivanov, Michele Johnson</i>	Does Testosterone Change Fiber Type in Muscles Underlying Lizard Social Behaviors?
P1-060	<i>Nicholas Shankey, Taylor Grossen, Rachel Cohen</i>	The effects of melatonin on reproduction in breeding green anole lizards (<i>Anolis carolinensis</i>)
P1-061	<i>Hannah Hirsch, Yuichiro Suzuki</i>	Why do insects grow faster at higher temperatures?: Hormonal responses to temperature changes.
P1-062	<i>James Harper, Catherine Caballero*</i>	Evolution of Leptin in Avian Aging
P1-063	<i>Ursula Beattie, Emma Rosen, L. Michael Romero</i>	Chronically stressed house sparrows prioritize wound healing over constitutive innate immunity

DVM Best Student Poster Karel Liem Award

P1-064	<i>Jacqueline Rich, Jonathan Cowart, Dara Orbach</i>	Anatomy Inspiring Technology in Novel Artificial Vagina Design
P1-065	<i>Julia Padro, Tate Linden, Emily Blackwell, Chris Law</i>	Mandibular sexual dimorphism in mongooses (<i>herpestids</i>) and civets (<i>viverrids</i>)
P1-066	<i>Emily Blackwell, Alise Newman, Chris Law</i>	Mandibular sexual dimorphism in canids
P1-067	<i>Rodrigo Andrade-Luna, Fletcher Levy, Chris Law</i>	Evaluating Mandible Size and Shape Using Rensch's Rule, in the Family Felidae
P1-068	<i>Selena Martinez, Roxanne Armfield</i>	Determining the affinity of fossil Xantusiid jaws with implications for post K-Pg squamate diversity
P1-069	<i>Johannah Rickman, Abby Burtner, Tate Linden, Sharlene Santana, Chris Law</i>	Differences in limb bone micro-anatomy across ecotypes in Sciuiridae
P1-070	<i>Taylor Black, Thomas Sanger, Michele Johnson</i>	The Evolution of Dentition in Long- and Short-Faced Anolis Lizards
P1-071	<i>Caitlin Garrett, Kelsie Pos, Allyson Evans, Patricia Hernandez</i>	Comparison of Pharyngeal Morphology in Invasive Asian Carp
P1-072	<i>Aubree Jones, Kevin Conway, Jacqueline Webb</i>	Silverjaw Minnow Lateral Line Development: Regional Specialization for Benthic Prey Detection?
P1-073	<i>Emma Cooney, Casey Holliday</i>	Jaw muscles and their connections to the TMJ and middle ear of Virginia Opossum
P1-074	<i>Derrick Leong, Juan Liu</i>	The Cephalic Lateral Line System of a Tetrapodomorph from the Middle Devonian, Red Hill, Nevada
P1-075	<i>Autumn Magnuson, John Jacisin, David Ledesma, Melissa Kemp</i>	Taxonomic and ecological signals in the morphology of North American snake lower jaws
P1-076	<i>Maxwell Olson, Philip Bergmann</i>	Different drivers of diversification for body elongation and limb reduction in snake-like lizards
P1-077	<i>Tianyi Xu, John Jacisin, Amber Cooper, Melissa Kemp</i>	Morphological variation of the dentary in fossil <i>Anolis scriptus</i> from Middle Caicos
P1-078	<i>Khalil Russell, Eric Hilton</i>	Morphological differentiation between introduced and native populations of three cichlids in Florida
P1-079	<i>Zoe Kulik, Christian Sidor</i>	Age-structure in a Multitaxic Cynodont Assemblage from the Middle Triassic Manda Beds of Tanzania

- P1-080** *Hannah Hughes, Mar Huertas* Effects of Chronic Nitrite Exposure on Gonad and Embryo Morphology in *Xiphophorus couchianus*
- P1-081** *Megan Vandenberg, Karly Cohen, Robert Rubin, Jeremy Goldbogen, Adam Summers, Misty Paig-Tran, Shirel Kahane-Rapport* Bundles of bristles: a look inside baleen morphology
- P1-082** *Kathy Liu, Jasmin Graham, Jayne Gardiner, Tonya Wiley, Catherine Macdonald* Bonnethead shark (*Sphyrna tiburo*) cephalofoil morphology in Biscayne Bay and Tampa Bay, Florida
- P1-083** *Jacob George, Haley O'Brien, Holley Flora, Holly Woodward* Just Dunk It?: Observing Hard and Soft Tissue Interactions in Anoles
- P1-084** *Ashley Franklin, Camila Carlos-Shanley, Mike Matthews, David Prangnell, Mar Huertas* The Impact of Nitrite and *Edwardsiella ictaluri* on Channel Catfish Nose Morphology
- P1-085** *Celina Gilmore, Z. Jack Tseng* A 3D Printing Approach to Modeling Mechanical Behavior of Vertebrae for Functional Analyses
- P1-086** *Allyssa Hennessey, Jacob Lasala* Effects of Incubation Factors on Sea Turtle Hatchlings on the Gulf of Mexico
- P1-087** *Aleksandra Ratkiewicz, Julia Molnar, Melody Young, Michael Granatosky, Edwin Dickinson* Testing an automated workflow for the reconstruction of in situ muscle fascicles
- P1-088** *Maya Rayle, Daniel Paluh, James Hanken* Evolution of Salamander Dentition
- P1-089** *Emmy James, Bhart-Anjan Bhullar, Martha Munoz, Henry Camarillo* Lunging as a Possible Compensatory Mechanism for Muscle-Powered Feeders within Plethodontidae
- P1-090** *Chris Law, Emily Blackwell, Abigail Curtis, Edwin Dickinson, Adam Hartstone-Rose, Sharlene Santana* Decoupled evolution of the cranium and mandible in carnivoran mammals

Evolution of Developmental Mechanisms

- P1-091** *Greta Keller, Marta Marchini, Naaz Khan, GiHo Jeong, Thomas Sanger, Rushabh Shah* The role of Hedgehog signaling during craniofacial development of the lizard *Anolis sagrei*
- P1-092** *Fu-Yu Tsai, Yi-Hsien Su, Jr-Kai Yu, Dian-Han Kuo* Evolution of the FoxP gene family in bilaterians
- P1-093** *Tran Huynh, AJ Feldman, Christina Cota* Regulation of mitotic FGF receptor degradation during heart development in *Ciona robusta*
- P1-094** *Joseph Sardina, Cameron Currie, Prashant Sharma* Evolutionary origins of the fungus-farming ants' symbiont-housing organ
- P1-095** *Kimberly Moser, Gavin Woodruff* Marvelous Mutants of *C. inopinata*: Forward Screen Reveals Body Size Mutations
- P1-096** *Taneshia Wyman, Frank Smith* Exploring the role of twist during myogenesis in tardigrades
- P1-097** *Gavin Woodruff* Exploring the proximate and ultimate causes of variation with fig worms
- P1-098** *Kennedi Light, Frank Smith* An *fgf8* ortholog may regulate gut patterning and leg development in tardigrades
- P1-099** *Braden Oddo, Reece Jones, Brittany Dobbins, Ruben Tovar, Tom Devitt, David Hillis, Dana García* Pax6 localization in the eyes and neuromasts of sighted and blind salamanders of the genus *Eurycea*
- P1-100** *Amarachi Nwawueze, Frank Smith* Investigating the role of gooseoid in tardigrade foregut patterning
- P1-101** *Christine Guzman, Kurato Mohri, Hiroshi Watanabe* The role of Neurexins in the early evolution of the nervous system
- P1-102** *Scott Landman, Meredith Taylor, Todd Green, Kamal Moussa, Paul Gignac, Eugenia Gold, Akinobu Watanabe* Could congenital hydrocephalus lead to evolution of novel brain morphologies in domestic chickens?

Evolutionary Morphology I

- P1-103** *Alexa Ortega, Nicholas Hebdon, Lindsay Waldrop* A Morphological Look at the Many Faces of Man's Best Friend
- P1-104** *Edwin Dickinson, Melody Young, David DeLeon, Burcak Bas, Bettina Zou, Aleksandra Ratkiewicz, Brian Beatty, Michael Granatosky* What makes a climbing tail? Morphology and material properties of tail feathers across birds.
- P1-105** *Lance McBrayer, Cheyenne Walker* Stop...then Go! Peak acceleration is the key tradeoff for intermittent locomotion

- P1-106** *Timothy Campbell, Stephanie Baker, Sally Jo Detloff* A Case Of Bilateral Supracondylar Processes With High Radial Origins And Asymmetry in Pronator Teres
- P1-107** *Andrew Lee, Leigha Lynch, Dominik Valdez, Brandon Vera-Covarrubias* Effects of climate on the shape and robusticity of forelimb bones in the North American river otter
- P1-108** *Crystal Reynaga, Jenifer Fabian-Dubon, Madison Kearns, Isabelle Kuszyk* Limb form and function in anuran quadrupedal walking

Exploring Topics in Stress and/or Development

- P1-109** *Nick Lin, Avita He, Myana Keusch, Noelle Black, Naomi Fernandez, Dakota Lazore-Swan, Sarah Corp, Alexander Schreiber* Thymus gland size changes with frog metamorphosis, and with stress and thyroid hormone treatments
- P1-110** *Samantha Bock, Christopher Smaga, Matthew Hale, Benjamin Parrott* Epigenome-by-environment interactions underlying temperature-dependent sex determination
- P1-111** *Calvin Dirickson, Ian Curnutt, Devaleena Pradhan, Heather Ray* Ovarian Follicular Development and AMH Distribution in a hermaphroditic fish *Lythrypnus dalli*
- P1-112** *Anna James, Andrea Brenner, Alexandra Bentz* Predicting maternal testosterone allocation using environmental context and life-history traits
- P1-113** *Sunny Scobell, Kenneth Schneider, Grace Stepek, Kaitlyn Hoang, Madeline Clements, Mohammad Kamal* Investigation of the novel hypothalamic-pituitary-pouch axis in male-pregnant syngnathid fish
- P1-114** *Kaja Arusha, Krystle Boadi, Sabrina Ellah, Daniela Kim, Carolyn Bauer* Does sibling presence mitigate impacts of fostering on degu HPA-axis development?
- P1-115** *Bradley Pedro, L. Michael Romero, Mimi Kao* Repeated social isolation during song learning alters perineuronal nets in motor nuclei of songbirds
- P1-117** *Ali Amer, Eric Gangloff, Dustin Reichard, Anna Schill, Wyatt Mcqueen* The relationship between corticosterone and triglycerides across contexts in the common wall lizard
- P1-118** *Marcus Jorgensen, Diana Hews* Hair and plasma cortisol in the big brown bat, *Eptesicus fuscus*
- P1-119** *Phoebe Edwards, Gilda Stefanelli, Iva Zovkic, Melissa Holmes* Manipulating behavioral phenotype in eusocial naked mole-rats using adeno-associated viral vectors

Global Change

- P1-120** *Jacob Hutton* Environmental Thermal and Hydrological Variation: Examining Temporal Treefrog Population Dynamics
- P1-121** *Olivia Wing, Baruch Rinkevich, Dietmar Kueltz, Alison Gardell* Some like it hot: Temperature stress and juvenile development in an invasive colonial ascidian
- P1-122** *Keith Sockman, Michaël Beaulieu, Brittany Mosher* Weather and survival in the mountains: how cold, rain, and snow drive songbird population-dynamics
- P1-123** *Natalie Page, Alex Gunderson* The effect of urbanization on the temperature dynamics of lizards: an experimental approach
- P1-124** *Shania Burkhead, Krista Ward, Emily Stybr, Thomas Luhning* Drying and rewetting of wetland soil alters larval anuran growth rates, survival, and metamorphosis
- P1-125** *Kyra Anderson, J. Andres Marquez, Erik Sperling, Murray Duncan* Using the metabolic index to predict changes in habitat of red urchin (*Mesocentrotus franciscanus*)
- P1-126** *Naomi Vliet, Sadie Small, Brooke Weigel* Effects of sori incubation temperature on *Nereocystis luetkeana* gametophyte & sporophyte development
- P1-127** *Matthew Gifford, David Adams, Casey Brewster* Effect of warming nights on the energy budget and persistence of a locally imperiled lizard
- P1-128** *Caroline Terry, Kyle Hulse, Wes Dowd* The prevalence and significance of temporal environmental variation in marine biology experiments
- P1-129** *Andrea Aspbury, Caitlin Gabor, Spencer Levings* Role of urbanization on life history traits, cognition, physiology, and morphology of *Gambusia*
- P1-130** *Jada Ormsbee, Sara O'Brien, Gabriel Rodrigues, Brian Walker* Getting down and dirty: optimizing microplastics recovery in penguin fecal samples
- P1-131** *Amanda Montgomery, Allison Welch* Effect of elevated salinity on predator-prey interactions of amphibian tadpoles and dragonfly nymphs

- P1-132** Shannan Yates, Wayne Wang, Alex Gunderson
Is it too cold? Investigating evolutionary change in cold tolerance of two Anole species
- P1-133** Melissa DeBiasse, Claire Olson, Alyssa Pfitzer-Price, Lauren Samaniego, Morgan Kelly, Amber Stubler
The impacts of biotic and abiotic stressors on sponge erosion of oyster reefs
- P1-134** Elin Persson, Andreas Nord
Physiological consequences of growing up during a heatwave
- P1-135** Benjamin Glass, Angela Schmitt, Kelsey Speer, Jill Ashe, Ariana Huffmyer, Hollie Putnam, Katie Barott
Cnidarian sperm motility is pH-dependent and influenced by parental exposure to ocean acidification

Host-Pathogen Interaction

- P1-136** Taylor Verrett, Kristin Dyer, Daniel Becker
Urbanization and haemosporidian infection in overwintering sparrow communities
- P1-137** Kathleen Lu, Kyra Ricci, Benjamin McLaughlin, Jessica Hua
Impact of art on public perception and student comprehension of disease ecology research
- P1-138** Md Sadequr Rahman
Effects of temperature on host-microbe dynamics and infection outcomes in red flour beetle
- P1-139** Elizabeth Cochrane, Sydney Horan, Matthew Bertone, Mike Butler, Joanna Hubbard, Sarah Knutie
Are invasive house sparrows reservoir hosts of native nest ectoparasites?
- P1-140** Anna Shattuck, Caz Taylor, Alex Gunderson
The effect of infection on thermoregulatory behavioral fever of monarch butterfly caterpillars
- P1-141** Katherine Philipp, Catherine Harvell, Olivia Graham
Understanding the mechanistic relationship between herbivore grazing and seagrass wasting disease
- P1-143** Meagan Allira, Kristin Dyer, Lauren Lock, Juliana Nunes-Batista, Guang-Sheng Lei, Ryan Relich, Daniel Becker
Identifying seasonality of viral shedding in Mexican free-tailed bats (*Tadarida brasiliensis*)
- P1-144** Alexandra Collias, Natalie Steinel
Schistocephalus solidus modulates stickleback immunity through excretory-secretory products
- P1-145** Ariel Tysver, Katie Talbot, Sarah Wanamaker, Ellen Ketterson
Anthelmintic Treatment Effects on Coccidia Shedding in the Dark-eyed Junco (*Junco hyemalis*)
- P1-146** Victoria Roper, Catherine Swinsky, Janina Krumbeck, Jennifer Grindstaff
The oral microbiota of the house sparrow (*Passer domesticus*)
- P1-147** Robert Hendrickson, Maya Groner, Colleen Burge, Chelsea Bergman
Interspecific Transmission of Seagrass Wasting Disease from Pacific Oysters to Eelgrass

Immunity

- P1-148** Elena Duran, Jacquelyn Grace, Susan Heath, J Jill Heatley
An investigation into a novel health condition of an iconic shorebird
- P1-149** Destiny Guillory, Sarah DuRant, Erin Sauer, Madeline Sudnick
Effect of maternal disease severity on transfer of antibodies to offspring
- P1-150** Nathan Lin, Lisa Brown
Production of hydrogen peroxide against systemic bacterial infection in the cat flea
- P1-151** Christopher Carter, Sarah DuRant, William Kirkpatrick, Erin Sauer
Is there a sex-biased trade-off between growth and immunocompetence in Eastern Bluebird hatchlings?
- P1-152** Nicole Castaneda, Clarissa Starbuck, Diana Hews, Joy O'Keefe
Neutrophil-Lymphocyte ratios correlate with both endo- and ectoparasite loads in Midwestern bats
- P1-153** Sofia Diaz-de-Villegas, Lauren Fuess
Investigating the effects of bleaching on host disease susceptibility in a model Cnidarian
- P1-154** Jeremy Chamberlain, Daniel McDermott, Grant Dawson, Lorin Neuman-Lee
Characterization of Snake Immunity for a Novel Animal Model
- P1-155** Mafdy Ghaly, Kelsey Beavers, Whitney Mann, Laura Mydlarz
Variation of antibacterial response is linked to disease susceptibility in Caribbean stony corals
- P1-156** Haley Womack, Erin Borbee, Lauren Fuess
Investigating immunity post heat stress in the model cnidarian, Exaiptasia diaphana

Mechanisms of Adhesion on Land, Air and Sea

P1-157	<i>Suzanne Kane, Sophie Frem*, S. Tonia Hsieh</i>	Characterizing the adhesive forces of insect sticky traps
P1-158	<i>Jonathan Huie, Dylan Wainwright, Adam Summers, Karly Cohen</i>	A sticky ichthy trinity: adhesive performance in clingfish, lumpsuckers, and snailfish
P1-159	<i>Brett Klaassen-van-Oorschot, Gerline van-Beusekom, Guillermo Amador</i>	Improving biomimetic suction cups: What is the function of “sucker rings” in cuttlefish suckers?
P1-160	<i>Andrew Moura, Austin Garner, John McCormack, Carla Narvaez-Diaz, Alyssa Stark, Michael Russell</i>	Stickin’ through it: Hyposalinity reduces sea urchin tube foot performance
P1-161	<i>Akshata Gole, Yueming Sun, Alexandre Palaoro, Kostya Kostya</i>	Feeding behaviour and wetting characteristics of live hawkmoths
P1-162	<i>Caroline Kane, Austin Garner, Michael Russell, Alyssa Stark</i>	Adhesion and locomotion of the green sea urchin in response to elevated temperature
P1-163	<i>Mandy Cai, Stephen Yanoviak, Alyssa Stark</i>	The Effect of Humidity and Substrate Hydrophobicity on Ant Adhesion, Locomotion, and Behavior
P1-164	<i>Julia Redpath, Alyssa Stark</i>	How sticky is too sticky?: gecko locomotor performance in high adhesion conditions

Neuroanatomy and Neuroethology

P1-165	<i>Rebekah Hansen, Alexandra Kingston</i>	Structural properties of the orbital hoods of snapping shrimp may contribute to shock wave dampening
P1-166	<i>Lourdes Ricks, James Newcomb</i>	The Role of Cell Division in Regeneration of Rhinophores in <i>Berghia stephanieae</i>
P1-167	<i>Journie Gaeta, Veronica Martinez-Acosta</i>	Changes in Myelin Compaction During Neural Regeneration in <i>Lumbriculus variegatus</i> .
P1-168	<i>Katherine Pereira, Cindy Rodriguez, Nicholas Sayegh, Noah Weik, Anabela Maia</i>	Ubiquitous Sensory Innervation in the Membrane of Bluegill’s Spiny Dorsal Fin
P1-169	<i>David Izquierdo, Mahaut Sorlin, Carolina Vargas, Shauna Odum, Gerard Beaudoin, Simon Lailvaux, Michele Johnson</i>	Exercise-Induced Plasticity in Gray Matter Composition of Green Anole Lizard Brains
P1-170	<i>Lindsey Wheaton, Marosh Furimsky</i>	The Effect of Bisphenol F Exposure on Zebrafish Eye Development
P1-171	<i>Mia Greco, Marosh Furimsky</i>	The Effect of Embryonic Exposure to Ibuprofen on Visual System Development
P1-172	<i>Prasong Mekdara, Eugene Kim, Ariel Levine</i>	Dynamic sensorimotor interactions in spinal circuits during locomotion
P1-173	<i>Victor Han, Gerhard Magnus, Junling Xing, Yueping Zhang</i>	Diversity of cellular morphology and physiology of Purkinje cells in the adult zebrafish cerebellum
P1-174	<i>Katrina Carrier, Daniel Powell, Yasemin Altug, Isabella Kane, Rania Janmohamed, Patsy Dickinson</i>	Combinatorial effects of changes in ion concentration and temperature on the lobster nervous system
P1-175	<i>Brooke Miles, Alex Calli-Wehrman, Rachel Cohen</i>	The effects of steroid hormones on neurogenesis in the green anole lizard (<i>Anolis carolinensis</i>)
P1-176	<i>Sarah Simons, Heather Rice, Charles Lacy, Kriti Shukla, Dylan Barber, Samah Houmam</i>	Investigating cell-surface binding of sAPP mutants to GABABR1a
P1-177	<i>Alexandra Gurgis, Jessica Goodheart, Rebecca Varney, Todd Oakley, Gabriella Wolff</i>	The Minute Brains of Sea Fireflies: Evidence of Ancestral Mushroom Bodies
P1-178	<i>Julia LaValley, Cheyenne Tait, Paul Katz, Gianna Misuraca, Kelsi Watkins</i>	The structure and function of the oral tentacle of a nudibranch mollusc
P1-179	<i>Adam Kuuspalu, Melina Hale</i>	Newly discovered neural pathways provide direct connections among arms of octopuses
P1-180	<i>Angelique Allen, Judit Pungor, Cristopher Niell</i>	2-photon calcium imaging of neural responses to polarized light stimuli
P1-181	<i>Daniela Kim, Wing Ko, Kit Yu Karen Chan, Kaja Arusha, Sabrina Ellah, Krystle Boadi, Carolyn Bauer</i>	Interplay between the endocrine stress response and cognitive assessments of anxiety-like behaviors

P1-182	<i>Jeremy Blackburn, Grace Anderson, Mia Kholy, Akshaya Ranjit, Taylor Black, Michele Johnson</i>	Behavioral Indicators of Stress in Captive Green Anole Lizards
P1-183	<i>Alexander Muth</i>	The effect of habituation on neural activation in the habenula
P1-184	<i>Jordan De-Padova, Doris Preninger, Nigel Anderson, Matthew Fuxjager</i>	Behavioral ventilation in the aquatic Lake Titicaca frog
P1-185	<i>Tanner Mierow, Kate Feller, Alexandra Kingston</i>	The morphology and performance of the Belostomatid visual system
P1-186	<i>Akshaya Ranjit, Michael Patton, Michele Johnson</i>	Lateralization in the Social and Visual Regions of the Green Anole Lizard Brain
P1-187	<i>Phoenix Quinlan, Paul Katz</i>	The nudibranch <i>Berghia stephanieae</i> uses visual cues for navigation
P1-188	<i>Kaelin Connolly, Veronica Martinez-Acosta</i>	Neurotransmitter Systems in <i>Lumbriculus variegatus</i> , a regenerating model system
P1-189	<i>Rosemary Corkins, Yiheng He, Joshua Martin</i>	Mapping trematode worm infection of the dragonfly brain: Anatomical evidence for parasite control of
P1-190	<i>Ayako Yamaguchi, Manon Peltier</i>	Phylogenetically conserved vocal central pattern generator in genus <i>Xenopus</i>
P1-191	<i>Gayathri Kondakath, Annushka Veliko-Shapko, Barry Trimmer</i>	Nociception in <i>Manduca sexta</i>
P1-192	<i>Alp Demirel, Ismail Uyanik</i>	Dynamic sensory reweighting in weakly electric fish in relation to sensory salience
P1-193	<i>Emin Aydin, Ismail Uyanik</i>	Flow Speed Affects the Smooth Pursuit Tracking and Active Sensing Movements of Weakly Electric Fish
P1-194	<i>Orhun Koc, Ismail Uyanik</i>	A Novel Experimental Setup to Study Multisensory Integration of Zebrafish During Rheotaxis
P1-195	<i>Sarah Detmering, Robyn Crook, Jonathan Shia, Skyler Deutsch</i>	Identifying Analgesics for Hummingbird Bobtail Squid (<i>Euprymna berryi</i>) to Improve Cephalopod Welfare
P1-196	<i>Amir Alayoubi, Laura Stein, Kim Hoke</i>	Neuronal activation in fear, memory, and mesolimbic structures following model predator exposure
P1-197	<i>Meghan Maciejewski, Eva Fischer, Alison Bell</i>	Neural correlates of divergent reproductive behavior in two ecotypes of threespine stickleback

Novel Methods

P1-198	<i>Mason Thurman, Steven Lombardo, Ellis Loew, Paul Wills, Christopher Robinson, Aaron Adams</i>	Biofluorescence as a Tool to Resolve Morphological Crypts in Two Bonefish Species
P1-199	<i>Christopher Gonzalez, David Plachetzki</i>	Phylogenetic Focusing: a Novel Approach to Gene Family Phylogenetics

Reproductive Physiology

P1-200	<i>Raven Barbera, Tony Williams</i>	Is egg mass a phenotypically-plastic trait in the European starling, <i>Sturnus vulgaris</i> ?
P1-201	<i>Emma Kordek, Amaya Yip, Alicia Horton, John Hatle</i>	Effects of dietary protein quality on fecundity and longevity in grasshoppers
P1-202	<i>Alexis Lindsey, Beth Roberts, Mark Sandfoss, Kristin Hinkson, Steve Reichling, Tonia Schwartz</i>	Non-Invasive Genetic Sampling for Parentage Analysis in the Endangered Louisiana Pinesnake
P1-203	<i>Courtney Grula, Arun Rajamohan, Joseph Rinehart</i>	Cryopreservation of Monarch Spermatozoa

Slithering and Walking Reptiles

P1-204	<i>Simon Thill, Suzanne Kane, S. Tonia Hsieh</i>	How toe spacing affects impact dynamics during passive "foot" intrusions into poppy seeds
P1-205	<i>Timothy Arlowe, Russell Main, Worapat Sawatwong</i>	In Vivo Tibial Bone Strains During Locomotion in the Green Iguana (<i>Iguana iguana</i>)
P1-206	<i>Alexander Wilde, Jarrod Petersen, John Capano, Thomas Roberts</i>	Effects of large prey ingestion on the kinematics of rectilinear locomotion in <i>Boa constrictor</i>

- P1-207** *Chukwuyem Ekhaton, Arnavi Varshney, Melody Young, Daniel Tanis, Michael Granatosky, Raul Diaz-Jr, Julia Molnar* Locomotor characteristics of the ground-walking chameleon *Brookesia superciliaris*
- P1-208** *Jeffery Anderson-Jr, Joshua Pulliam, Jerry Wong, Ignacio Moore, Ulmar Grafe, Salwa Khalid, Jake Socha* How does height influence perch-related locomotor behaviors in arboreal snakes?
- P1-209** *Kristin Perrin, Talia Moore, Deanna Gates* Dynamic locomotion of legged robot using biomimetic articulated feet
- P1-210** *Alexander Rodriguez, Ethan Bailey, Amy Payne, Eduardo Balreira, Michele Johnson* Complexity of post-autotomy lizard tail movement
- P1-211** *Mark Wright, Stephanie Pierce* A Hip New Perspective on the Synapsid “Sprawling-to-Upright” Transition
- P1-212** *Alyssa Head, Ethan Livingston, Constant Perry, Princeton Vaughn, Eric Gangloff* Let’s include the ladies: Do morphology-performance relationships vary between sexes in lizards?

Thermal Physiology

- P1-213** *Melissa Butler, Calvin Vary, Anyonya Guntur, Markus Frederich* Dietary effects on lipid composition and subsequent phenotype in the American lobster
- P1-214** *Whitney Dobbyn, Bret Tobalske, Donald Powers* Body Plumage as a Barrier to Heat Dissipation in Southeastern Arizona Hummingbirds
- P1-215** *Kendra Wisenbaker, Emma Ortiz, Donald Powers* Do Hummingbirds Select Microclimates to Assist in Post-Flight Heat Dissipation in a High Temperature
- P1-216** *Clinton Warren, Rachel Bowden, Anthony Breitenbach, Ryan Paitz* How does cold snap exposure affect sex determination in a freshwater turtle?
- P1-217** *Emma Ortiz, Kendra Wisenbaker, Donald Powers* Microclimate Characteristics of Perches Used Post-Flight by SE Arizona Hummingbirds
- P1-218** *Wonil Choi, Haruka Wada* Hypoxia induced physical abnormalities in zebra finch embryos
- P1-219** *Emelia Kudej, Paul Jerem, L. Michael Romero* Circadian rhythms of body surface temperature in juvenile and adult house sparrows
- P1-220** *Isabella Garino-Heisey, Rylee Vigil, Wesley Rancher, Victor Gonzalez, John Hranitz, Thomas Tscheulin, Theodora Petanidou* Different thermal tolerances of summer-acclimated bees in a diverse island community
- P1-221** *Sydney Wilcoxson, Wonil Choi, Madeline Choi, Haruka Wada* The effect of hypoxia on sex ratios in zebra finch embryos
- P1-222** *Ian Rockel, Charles Watson* Comparative physiology and differential thermal environment usage in a South Texas lizard community
- P1-223** *Heather Axen, Rebecca Bachtel, Ioulia Bespalova* Thermal plasticity in wild *Drosophila pseudoobscura* across Colorado’s front range
- P1-225** *Christian Guerzon, Derrick groom, Cecilia Doan* Studying the regulation of cutaneous water loss in *Calyte anna* (*Anna’s Hummingbird*)
- P1-226** *Princely Tamfu, Justin Andries*, Ioulia Bespalova, Heather Axen, James Waters* Testing hypotheses about metabolic compensation and the ecophysiology of phenotypic plasticity
- P1-227** *Jamie McCoy, John Spicer, Simon Rundle, Oliver Tills* Measuring the most sensitive stages of life as a spectra of energy

Vertebrate Movement Through Water

- P1-228** *David Kramer, Frank Fish, Maura Sheehan* Thrust production and chordal flexion of the flukes of bottlenose dolphins performing tail stands
- P1-230** *Duncan Kennedy, Cassandra Donatelli, Kayla Hall, Kelsey Lucas* When fish fly: modelling the flapping flight of spotted ratfish (*Hydrolagus colliei*) pectoral fins
- P1-231** *Holly Booth, Amanda Burkey, Mary Kate O’Donnell, Charlotte Easterling* Swimming performance of desmognathine salamanders
- P1-232** *Jake Schmid, Michael Minicozzi* Does Chronic Exposure to Clothianidin Effect Swimming Performance in Rainbow Trout?
- P1-233** *Catherine Morris, Dave Coughlin, Annika Pfister, Zoe Reynolds, John Parker, Dave Ellerby, Bradley Wood* Electromyography of Bluegill Sunfish at Different Gaits: Steady Versus Intermittent Swimming

Thursday Schedule of Events

Events take place in the JW Marriott Austin, unless otherwise noted

EVENT	TIME	LOCATION
Poster Session 2 Set Up	7:00 AM – 8:00 AM	JW Grand Ballroom
Speaker Ready Room	7:00 AM – 5:00 PM	Room 405
Registration	7:30 AM – 3:30 PM	JW Grand Ballroom Foyer
Coffee Break AM	9:30 AM – 10:30 AM	JW Grand Ballroom
Exhibit Hall	9:30 AM – 5:30 PM	JW Grand Ballroom
Coffee Break PM, <i>sponsored by SRE.college</i>	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 2 Even Numbers Authors Present	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 2 Odd Numbers Authors Present	4:30 PM – 5:30 PM	JW Grand Ballroom
Poster Session 2 Teardown	5:30 PM – 6:00 PM	JW Grand Ballroom
SPECIAL LECTURE		
Howard A. Bern Lecture: Dr. Tyrone Hayes Right back where I started: Enamored with anurans	7:30 PM – 8:30 PM	Lonestar DE
SYMPOSIUM ORAL PRESENTATIONS		
S4: Daily Torpor Across Birds and Mammals: Recent Progress and How Do We Advance the Field?	7:45 AM – 3:00 PM	Lonestar C
S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function	8:15 AM – 4:30 PM	Lonestar E
S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes	7:45 AM – 4:00 PM	Lonestar D
CONTRIBUTED PAPER ORAL PRESENTATIONS		
MORNING		
Complementary to S1: Genomics of Marine Larval Evolution and Development	8:00 AM – 9:45 AM	Rooms 402-403
Comparative Genomics and Proteomics	8:00 AM – 9:15 AM	Rooms 203-204
Collective Behavior: Schools, Swarms and Blobs	8:00 AM – 9:30 AM	Lonestar G
Invertebrate Ocean Motion	8:15 AM – 9:45 AM	Rooms 408-409
Sensorimotor Integration in Locomotion	8:00 AM – 9:45 AM	Brazos
DVM Best Student Presentation: D. Dwight Davis Award	8:00 AM – 10:00 AM	Rooms 301-302
Sensory Biology I	8:00 AM – 10:00 AM	Lonestar H
Social Behavior	8:00 AM – 10:00 AM	Lonestar F
Vertebrate Development	8:00 AM – 10:00 AM	Lonestar B
Interspecific Interactions: Fiends and Foes	8:15 AM – 9:45 AM	Lonestar A
Spatial Patterns of Diversity	8:15 AM – 10:00 AM	Rooms 201-202
Diversification and Macroevolution	9:00 AM – 10:00 AM	Rooms 303-304
DNNSB Best Student Presentation	10:00 AM – 12:00 PM	Rooms 203-204
Getting to the Point: Puncture and Defense in Biology	10:15 AM – 12:00 PM	Lonestar G
Global Change Biology II: Invasions and Toxins	10:15 AM – 12:00 PM	Rooms 402-403
Interspecific Interactions: Friends and Facilitators	10:15 AM – 12:00 PM	Lonestar A
Movement, Migration And Dispersal II: Below the Surface	10:15 AM – 12:00 PM	Brazos
Inclusion and Outreach in Education	10:30 AM – 11:45 AM	Lonestar B
DEDB Best Student Presentation	10:30 AM – 12:00 PM	Rooms 303-304
Locomotion Where Water Meets Air and Land	10:30 AM – 12:00 PM	Rooms 408-409
Sensory Biology II	10:30 AM – 12:00 PM	Lonestar H
Sticking to Surfaces	10:30 AM – 12:00 PM	Rooms 301-302
Symbiosis and Immunity	10:30 AM – 12:00 PM	Lonestar F
The Ecology and Evolution of Life History	10:45 AM – 12:00 PM	Rooms 201-202

AFTERNOON

High-impact Practices in Undergraduate Teaching	1:30 PM – 3:00 PM	Brazos
Biomaterials, Structure & Mechanics I	1:30 PM – 3:30 PM	Rooms 408-409
DAB Best Student Presentation: Marlene Zuk Award	1:30 PM – 3:30 PM	Rooms 303-304
DCB Best Student Presentation: Mimi A. R. Koehl and Stephen A. Wainwright Award	1:30 PM – 3:30 PM	Rooms 301-302
Disease and Immune Trade-offs	1:30 PM – 3:30 PM	Lonestar F
Ecophysiology: A Spotlight on Moisture	1:45 PM – 3:15 PM	Lonestar B
Fish Locomotion	1:30 PM – 3:15 PM	Rooms 203-204
Flying & Landing II	1:30 PM – 3:15 PM	Lonestar G
Invertebrate Evo Devo	1:30 PM – 3:30 PM	Rooms 402-403
Living in Stressful Environments	2:00 PM – 3:30 PM	Lonestar A
Sensory Motor Control	1:30 PM – 3:30 PM	Lonestar H
The Evolution of Shape and Function	2:15 PM – 3:30 PM	Rooms 201-202

COMMITTEE AND BOARD MEETINGS

Advisory Committee	7:00 AM – 8:00 AM	Room 401
Educational Council	12:00 PM – 1:30 PM	Room 404

BUSINESS MEETINGS

TCS Member Meeting	12:00 PM – 1:30 PM	Lonestar A
DCB Member Meeting	5:45 PM – 6:45 PM	Lonestar B
DCE Member Meeting	5:45 PM – 6:45 PM	Lonestar C
DIZ Member Meeting	5:45 PM – 6:45 PM	Lonestar F
DNNSB Member Meeting	5:45 PM – 6:45 PM	Lonestar G
DPCB Member Meeting	5:45 PM – 6:45 PM	Lonestar H

WORKSHOPS AND PROGRAMS

An introduction to high structure course design for the life sciences	12:00 PM – 1:30 PM	Lonestar B
Accessing and working with NEON Small Mammal Data	12:00 PM – 1:30 PM	Lonestar C
BPC Workshop: Developing the Tools of Influence and Persuasion for Leadership	12:00 PM – 1:00 PM	Lonestar F

SOCIAL EVENTS

Morning 5K Run	6:00 AM – 7:00 AM	JW Marriott Lobby
DOB/DEE/DPCB Social	3:30 PM – 5:30 PM	Zilker Botanical Gardens
Broadening Participation Social and Awards Ceremony	6:15 PM – 7:15 PM	Brazos
DAB/DNNSB/DCE Social	8:30 PM – 10:00 PM	Brazos
Outgroup Social	8:30 PM – 10:30 PM	Offsite

Thursday Program Symposia

Note: Presenter is first author unless noted by an asterisk (*).

7:45 AM – 3:00 PM

Lonestar C

S4: Daily Torpor Across Birds and Mammals: Recent Progress and How Do We Advance the Field?

Chairs: Anusha Shankar, Kenneth Welch

7:45 am	<i>Anusha Shankar, Kenneth Welch</i>	Introduction: Daily torpor across birds and mammals: Recent progress and how do we advance the field
8:00 am	<i>Danielle Levesque, Ana Breit</i>	Non-torpid heterothermy in mammals: another point along the homeothermy-hibernation continuum
8:30 am	<i>Erich Eberts, Kenneth Welch</i>	Torpor Use in Ruby-Throated Hummingbirds: Energy Stores, Seasonality, Temperature, and Age-Sex Class
9:00 am	<i>Andrew McKechnie, Marc Freeman, Mathome Makola, Matthew Noakes, Mark Brigham</i>	Evolution of avian heterothermy: why no deep torpor in songbirds?
9:30 am	Coffee Break	Grand Ballroom
10:00 am	<i>Santi Tabares Erices</i>	Reassessing torpor use across mammals: does diet influence torpor?
10:15 am	<i>Grace Guo</i>	A comprehensive phylogeny of avian torpor with ecological context
10:30 am	<i>Giulia Rossi, Kenneth Welch</i>	Packing on the pounds: The role of leptin in the premigratory fattening of hummingbirds
11:00 am	<i>Julia Nowack, Clare Stawski, Danielle Levesque</i>	Rare and opportunistic use of torpor in mammals- a ghost from the past?
11:30 am	<i>Liam McGuire</i>	Heterothermic migration strategies in flying vertebrates
12:00 pm	Lunch
1:30 pm	<i>Anusha Shankar, Emily Blackwell, Sophia Wolfe, Shenni Liang, Nora Prior, Irby Lovette, Donald Powers</i>	Hold and cold hummingbirds: What genes does a cold hummingbird functioning at 10% express?
2:00 pm	<i>Dina Dechmann, Lara Keicher*</i>	Energy saving strategies in common noctule bats
2:30 pm	<i>Anusha Shankar, Kenneth Welch</i>	Round table discussion: Pressing problems in daily torpor and how to advance the field

8:15 AM – 4:30 PM

Lonestar E

S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function

Chairs: Terry R. Dial, Mark C. Mainwaring, Ashley M. Heers

8:15 am	<i>Terry Dial, Ashley Heers, Mark Mainwaring</i>	The impact of early life conditions on performance during adulthood: past, present and future
8:30 am	<i>Ashley Heers</i>	Feathers aloft: unexpected performance in developing birds
9:00 am	<i>Richard Carter</i>	Ontogeny of Bat Echolocation
9:30 am	<i>Shawn Noren</i>	Building Cetacean Locomotor Muscles Throughout Ontogeny to Support High Performance Swimming
10:00 am	Coffee Break	Grand Ballroom
10:30 am	<i>Mark Mainwaring</i>	The advantageous performance of individuals raised in disadvantageous conditions
11:00 am	<i>Molly Albecker, Sarah McKay Strobel, Molly Womack*</i>	Predicting outcomes of developmental stress in tadpoles (frog larvae): Who is resilient to what?

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11:30 am	<i>Clare Rittschof, Rebecca Westwick</i>	The impacts of early life on adult behavior and health in the honey bee (<i>Apis mellifera</i>)
12:00 pm Lunch		
1:30 pm	<i>David Green</i>	Evolutionary, developmental, and functional perspectives on human and ape shoulder morphology
2:00 pm	<i>Prashant Sharma</i>	Impacts of gene duplication on body plan disparity in Chelicerata
2:30 pm	<i>Dave Matthews, George Lauder, Terry Dial</i>	Effects of altered Wnt expression on craniofacial morphology and feeding performance in zebrafish
3:00 pm Coffee Break		
		Grand Ballroom
3:30 pm	<i>Valentina Di-Santo</i>	Ontogenetic shifts in swimming performance in forage fish under climate change
4:00 pm	<i>Andreas Nord</i>	Thermal adaptation, energy metabolism and thermoregulation over a lifetime

7:45 AM – 4:00 PM

Lonestar D

S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes

Chairs: Jeanette Wheeler, Karen Chan

7:45 am	<i>Kit Yu Karen Chan, Jeanette Wheeler</i>	Large-scale phenomena arising from small-scale biophysical processes: an introduction
8:00 am	<i>Nandan Nerurkar</i>	Organ-scale buckling morphogenesis of the small intestine from cell-generated forces
8:30 am	<i>Rui Wang, Robert Steele, Eva-Maria Collins</i>	Body axis inheritance via Wnt gradients in regenerating Hydra tissue fragments
9:00 am	<i>Stephanie Ouderkerk, Mason Ong, Alex Sedley, Nathan Wright, Callie Miller*</i>	Developing modeling and image analysis tools to investigate mechanosensing proteins
9:30 am Coffee Break		
		Grand Ballroom
10:00 am	<i>Eva Kanso</i>	Cilia-powered pumps
10:30 am	<i>Deepak Krishnamurthy, Rachel Pepper, Manu Prakash</i>	Active Sinking Particles: Sessile Suspension Feeders affect Flow and Transport to Sinking Aggregates
11:00 am	<i>Karen Grace Bondoc-Naumovitz, Georg Pohnert, Kay Bidle, Heidi Fuchs, Kirsty Wan</i>	Of chalk and glass cells, and the scale they live in
11:30 am	<i>Jeffrey Guasto</i>	Physical mechanisms regulating bacterial transport in porous media
12:00 pm Lunch		
1:30 pm	<i>Matti Gralka, Shaul Pollak, Otto Cordero</i>	Fundamental metabolic strategies of heterotrophic bacteria
2:00 pm	<i>Vivek Prakash</i>	Tissue mechanics govern plastic shape changes and asexual reproduction in a simple animal
2:30 pm	<i>Pedro Márquez-Zacarias, Kai Tong, Peter Conlin, Jennifer Pentz, Anthony Burnett, William Ratcliff</i>	Origins of nascent multicellular morphology from simple cell-level asymmetries
3:00 pm	<i>Ben Larson</i>	Regulation of form in choanoflagellates and the evolutionary cell biology of morphogenesis
3:30 pm	<i>Kit Yu Karen Chan, Jeanette Wheeler</i>	Large-scale phenomena arising from small-scale biophysical processes roundtable

Thursday Program Morning Sessions

Note: Presenter is first author unless noted by an asterisk (*).

8:00 AM – 9:45 AM

Rooms 402-403

Complementary to S1: Genomics of Marine Larval Evolution and Development

Chair: Christina Zakas

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|---------|---|--|
| 8:00 am | <i>Sydney Birch, David Plachetzki</i> | Phototactic preference and its genetic basis in the planulae of the <i>Hydractinia symbiolongicarpus</i> |
| 8:15 am | <i>Yi-Jyun Luo, Eunice Wong, Mikhail Matz*</i> | Development of neuronal diversity in coral larvae as they become competent to settle |
| 8:30 am | <i>Nathan Harry, Christina Zakas</i> | The Making of A Life History Transition |
| 8:45 am | <i>Antonia Bock, Hereroa Johnston, Park Masterson, Jessica Goodheart, Deirdre Lyons</i> | Insights into the nervous system during metamorphosis in the nudibranch <i>Berghia stephanieae</i> |
| 9:00 am | <i>Patricia Álvarez-Campos, Helena García-Castro, David Salamanca-Díaz, Bria Metzger, Elena Emili, Vincent Mason, Nathan Kenny, B. Duygu Özpolat*, Jordi Solana</i> | Single-cell transcriptomics reveal specific gut regions in a freshwater annelid |
| 9:30 am | <i>Thea Rogers, Gözde Yalçın, Natalie Grace Schulz, Darrin Schultz, Carrie Albertin, Oleg Simakov</i> | Novel regulatory units underlie the evolution of complex traits in coleoid cephalopods |

8:00 AM – 9:15 AM

Rooms 203-204

Comparative Genomics and Proteomics

Chair: Sarah E. Orr

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|---------|---|---|
| 8:00 am | <i>Chris Claypool, John Ely, Mary Ann Raghanti, William Hopkins, Patrick Hof, Chet Sherwood, Amy Bauernfeind, Jason Kamilar, Courtney Babbitt</i> | Evolution of gene expression in the primate prefrontal cortex |
| 8:15 am | <i>Brendan Mobley, Suzy Renn, Andrew Anderson</i> | Runaway chromosome evolution in a clade of freshwater fish |
| 8:30 am | <i>Andre Ortiz, Joel Sharbrough</i> | Genome-wide patterns of homoeologous gene flow in allotetraploid coffee |
| 8:45 am | <i>Joel Sharbrough</i> | The consequences of whole-genome duplications for cytonuclear stoichiometry |
| 9:00 am | <i>Sarah Orr, Michael Goodisman</i> | Intralocus conflict and the evolution of social phenotypes of wasps |

8:00 AM – 9:30 AM

Lonestar G

Collective Behavior: Schools, Swarms and Blobs

Chair: TBD

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|---------|--|---|
| 8:00 am | <i>Hungtang Ko, Mathias Hagdu, Keyana Komilian, Ting-ying Yu, David Hu</i> | Collective behaviors of fire ants on the water surface |
| 8:15 am | <i>Ishant Tiwari, Harry Tuazon, Saad Bhamla</i> | Strength in Unity: Force measurements of active entangled worm blobs |
| 8:30 am | <i>Nina Mohebbi, Matthew Fu, John Dabiri</i> | 3D aggregation dynamics of vertically migrating brine shrimp at different swarm densities |
| 8:45 am | <i>Hungtang Ko, Yangfan Zhang, George Lauder, Radhika Nagpal</i> | Tracking transient formations of fish schools |
| 9:00 am | <i>Yangfan Zhang, George Lauder</i> | Fish schooling dynamics: reduced use of aerobic capacity and anaerobic energy |
| 9:15 am | <i>George Lauder, Yangfan Zhang</i> | Fish schools as environmental turbulence filters |

Invertebrate Ocean Motion

Chair: TBD

8:15 am	<i>John Costello, Sean Colin, Bradford Gemmell, John Dabiri, Eva Kanso</i>	Turning kinematics of the scyphomedusa <i>Aurelia aurita</i>
8:30 am	<i>Sean Collin, Kakani Katija, Joost Daniels, John Costello, Shirah Strock, Kelly Sutherland, Bradford Gemmell</i>	Behavioral time-series and swimming kinematics of mesopelagic siphonophore jellyfish
8:45 am	<i>Simon Anuszczyk, John Dabiri</i>	Enhanced Swimming and Hydrodynamic Efficiency of Robotically controlled <i>Aurelia aurita</i>
9:00 am	<i>Alexander Hoover</i>	Modeling multiple pacemaker control in jellyfish swimming
9:15 am	<i>Mitchell Ford, Maura Niemisto, Zachary Wagner, Griffin Wagner, Jeannette Yen, David Fields, Arvind Santhanakrishnan</i>	Effects of viscosity and temperature on <i>Paraeuchaeta</i> locomotor performance
9:30 am	<i>Nils Tack, Monica Wilhelmus</i>	Hot and cold: physiological and physical effects of temperature on metachronal swimming

Sensorimotor Integration in Locomotion

Chair: Anabela Maia

8:00 am	<i>Wael Salem, Benjamin Cellini, Eric Jaworski, Jean-Michel Mongeau*</i>	<i>Drosophila</i> adaptively control flight to compensate for added inertia
8:15 am	<i>Marioalberto Ferrero, Benjamin Cellini, Jean-Michel Mongeau</i>	Altering visual feedback in augmented reality reveals that <i>Drosophila</i> 's gaze system is not flexible
8:30 am	<i>Usama Sikandar, Haritha Sigili, Simon Sponberg</i>	A simple linear control template enables a hawkmoth's agile aerial tracking of floral targets
8:45 am	<i>Yu Yang, Dominic Yared, Noah Cowan</i>	Sensorimotor Adaptation to Novel Dynamics in Weakly Electric Fish
9:00 am	<i>Ramses Ngachoko, Florence Li, Adam Hardy, Melina Hale</i>	Sensation by free pectoral fin rays of the hawkfish and its role in benthic station holding.
9:15 am	<i>Anabela Maia, Amina Chamanlal, Zakiyat Djabakatie, Chelsea Yang, Tabitha Almeida, Jessica Clark</i>	Correct stabilizing function of spiny dorsal fin requires local sensorimotor integration
9:30 am	<i>Sophia Beery, Rachel Oslon, Stephane Montuelle, Hannah Curtis, Susan Williams</i>	The effect of sensory input on occlusal dynamics during chewing tough foods in ferrets.

DVM Best Student Presentation: D. Dwight Davis Award

Chair: Richard W. Blob

8:00 am	<i>Anne Kort</i>	Testing the function of interlocking zygapophyses in lumbar vertebrae of early placental mammals
8:15 am	<i>Alexus Roberts-Hughes, Edward Burress, Brian Lam, Peter Wainwright</i>	Pharyngognath enhances — not reduces — evolutionary integration in the fish feeding apparatus
8:30 am	<i>Armita Manafzadeh, Stephen Gates, Bhart-Anjan Bhullar</i>	Joint surface interactions distinguish dinosaurian locomotor poses
8:45 am	<i>Darien Satterfield, Peter Wainwright, Thomas Claverie</i>	Body Shape and Mode of Propulsion Do Not Constrain Routine Swimming in Reef Fishes
9:00 am	<i>Chelsie Snipes, Richard Carter</i>	Vibroacoustic response of the tympanic membrane due to hyoid-borne sound during echolocation in bats
9:15 am	<i>JoJo West, Kory Evans</i>	Catch a Fish, Catch a Ride:How Alternate Piscivory Strategies Drive Skull Evolution

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- 9:30 am *Hannah Darcy, Philip Anderson* Consequences of the land-to-water transition on skull morphology and performance in salamanders
- 9:45 am *Laksh Kumar Punith, Emily Abbott, Gregory Sawicki* Dynamic Muscle Properties Enable Rapid Recovery From Terrain Perturbations Without Neural Control

8:00 AM – 10:00 AM

Lonestar H

Sensory Biology I

Chairs: Joshua B. Gross, Cheyenne C. Tait

- 8:00 am *Cheyenne Tait, Paul Katz* Sensory integration occurs at multiple levels in a nudibranch brain
- 8:15 am *Aubree Jones, Matthew O'Donnell, Amy Regish, Jacqueline Webb* Rearing Temperature Affects the Development of the Lateral Line System in Brook Trout
- 8:30 am *Sönke Johnsen, Eleanor Caves, Tracey Sutton* Grandma, what big pixels you have: optimal visual acuity in marine fish and sharks
- 8:45 am *Marisa McDonald, Megan Porter* Feeding Rates of Larval Stomatopods Under Different Light Environments
- 9:00 am *Nicholas Steichmann, Daniel Speiser, Jenna Mazza* The Function of Crustacean Accessory Eyes: A Behavioral and Physiological Approach
- 9:15 am *Mohammad Maruf Billah, Margaret Grizzaffi, Mar Huertas* Neuromodulation of Olfactory Immune Responses In Rainbow Trout (*Oncorhynchus Mykiss*)
- 9:30 am *Anna Merritt, Faith Leri, Laura Stein* Neural and Physiological Responses to Multiple Sensory Cues of Predation Risk in Trinidadian Guppies
- 9:45 am *Daniel Berning, Tyler Boggs, Alyssa Hamm, Joshua Gross** Gustatory evolution in response to environmental pressure

8:00 AM – 10:00 AM

Lonestar F

Social Behavior

Chairs: Kevin Neumann, Ben K. Tidswell

- 8:00 am *Conner Philson, Daniel Blumstein* Survival consequences of group social structure in a wild free-living mammal
- 8:15 am *Haolin Zeng, Noah Egan, Ram Avinery, Shengkai Li, Daniel Goldman, Takao Sasaki* Building dynamics of self-assembly pontoon bridges in the fire ant, *Solenopsis invicta*
- 8:30 am *Noah Egan, Haolin Zeng, Ram Avinery, Shengkai Li, Takao Sasaki, Daniel Goldman* Global coordination using local information in fire ant pontoon bridge simulations
- 8:45 am *Kevin Neumann, Alison Bell* Social behavior varies across populations, but not ecological contexts, in stickleback fish
- 9:00 am *Julia Weil, Cali Wilson, Richard Hall* Human-provided food and heterogeneity in aggression in urbanized flocks of American white ibis
- 9:15 am *Ben Tidswell, Eric Tytell* Limited Sensory Information Changes Schooling Structure and Behavior of Giant Danios
- 9:30 am *Anna Jirik, Katrina White, Makenzie Reed, Anthony Hinders, Shanna Barber, Calvin Dirickson, Devaleena Pradhan* Evaluating the spectrum of protandrous sex change in the hermaphroditic fish *Lythrypnus dalli*
- 9:45 am *Faith Leri, Laura Stein* Signal Detection Theory: Testing Predictions in Naturally Occurring Uncertainty

Vertebrate Development

Chair: Becca L. Young

8:00 am	<i>Robert Mobley, Karen Maruska</i>	Effects of rearing temperature on neural development of the cichlid fish <i>Astatotilapia burtoni</i>
8:15 am	<i>Cristina Ledón-Rettig</i>	Developmental causes and evolutionary consequences of phenotypic plasticity
8:30 am	<i>Pablo Burraco</i>	Ageing across the great divide: telomere dynamics through amphibian metamorphosis
8:45 am	<i>Becca Young, Andres Romero-Carvajal</i>	The transcriptional basis of embryonic diversification in frogs
9:00 am	<i>Jennifer Austiff</i>	Development and evolution of a carnivorous larval stomach in the frog, <i>Lepidobatrachus laevis</i>
9:15 am	<i>Ruben Tovar, Dana García, Tom Devitt, David Hillis</i>	Deep homology in early eye development across divergent adaptive morphologies of Eurycea salamanders
9:30 am	<i>Steven Byrum, Gareth Fraser, Gavin Naylor</i>	Development of the Bonnethead shark (<i>Sphyrna tiburo</i>)
9:45 am	<i>Gordon Leary, Pierre Le-Pabic, Anthony Long, Tom Schilling</i>	Morphological diversification of the teleost skull through endochondral growth

Interspecific Interactions: Fiends and Foes

Chair: Wouter Halfwerk

8:15 am	<i>Wouter Halfwerk, Ralph Simon</i>	Acoustic camouflage drives body size evolution in a predator-prey arms race
8:30 am	<i>Britt White, Iliam Jackson, Kelly Zamudio, Melissa Kemp</i>	Effect of congeneric competition on size dimorphism in the <i>Anolis carolinensis</i> clade
8:45 am	<i>Jessica Hill, Matt Grisnik, Ryan Hanscom, Jeet Sukumaran, Timothy Higham, Rulon Clark</i>	Describing a Predator-Prey System using Ecological Niche Models: Rattlesnakes and Kangaroo Rats
9:00 am	<i>Collin Gross, Jay Stachowicz</i>	The role of predators in structuring grazer communities across spatial scales
9:15 am	<i>Josephine Antwi, Dianne Baker</i>	Identification of Fungal Strains on Spotted Lanternfly (<i>Lycorma delicatula</i>)
9:30 am	<i>Robert Hall, Sean Schoville, Yi-Ming Weng</i>	Genetic Diversity and Infection Pattern of Spiroplasma in the Beetle, <i>Nebria Ingens</i> Species Complex

Spatial Patterns of Diversity

Chair: Aleksey Maro

8:15 am	<i>Shari Rohret, Elizabeth Borda</i>	Benthic meiofaunal diversity in karst subterranean estuaries of the Yucatan Peninsula, Mexico
8:30 am	<i>Dillon Monroe, Caitlin Gabor</i>	Geographic variation in multiple stress markers in the Gulf Coast Toad (<i>Incilius nebulifer</i>)
8:45 am	<i>Fernando Calderon-Gutierrez, Brett Gonzalez, Thomas Iliffe, Jessica Labonté, Lauren Ballou, Luis Mejía-Ortiz, Elizabeth Borda</i>	DNA barcoding reveals cryptic diversity in the aquifer of the Yucatan Peninsula and Cozumel, Mexico
9:00 am	<i>Aleksey Maro, Robert Dudley</i>	Non-random distribution of ungulate salt licks relative to distance from N. American oceanic margins
9:15 am	<i>Alondra Medina-Charriez, Anthony Gelona, Kelsey Reider</i>	Does soil stoichiometry affect leaf litter herpetofauna in a lowland tropical wet forest?

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9:30 am	<i>Gabrielle Silva, Elizabeth Borda, Jose Valdez</i>	Species Diversity and Barcoding of Macroinvertebrate of the San Antonio River
9:45 am	<i>Sara Paull, Cory Ritz</i>	Enabling PI Research at NEON – Assignable Asset Program Explained

9:00 AM – 10:00 AM

Rooms 303-304

Diversification and Macroevolution

Chair: Edward Burress

9:00 am	<i>Abisage Sekarore, Chryssanthi Tzetzis*, Julia Capiello, Erin Patton, Nicole Fuller, Gabriel Rosado, Emily Morgan, Makena Scarlata, Brent Woodworth, Mackenzie Gerringer</i>	Drivers of deep-sea fish community biodiversity in Puerto Rican waters
9:15 am	<i>Benjamin Titus, Theo Gaboriau, Alberto Garcia-Jimenez, Nicolas Salamin</i>	Sea anemone host use drives convergent clownfish evolution and disentangles an iconic radiation
9:30 am	<i>Michael O'Connor, Samantha Giancarli, Arthur Dunham</i>	Clade-based differences in vertebrate metabolic allometries.
9:45 am	<i>Edward Burress, Meaghan Gade, Eric Riddell, Martha Munoz</i>	Innovations and mountains act synergistically to drive the evolution of lungless salamanders

10:00 AM – 12:00 PM

Rooms 203-204

DNNSB Best Student Presentation

Chair: James Newcomb

10:00 am	<i>Emily Ray, Julie Butler, Karen Maruska</i>	Neural mechanisms of mouthbrooding, maternal care, infanticide, and fry release in a cichlid fish
10:15 am	<i>Kristianna Lea, Jessica Fox, Bradley Dickerson</i>	Direct control of fly haltere movement by optogenetic activation of haltere steering muscles
10:30 am	<i>Alexandra Venuto, Timothy Erickson</i>	Initial swim bladder inflation in larval zebrafish is mediated by the mechanosensory lateral line.
10:45 am	<i>Karl Hill, Vikram Chandra, Mansi Srivastava</i>	Simple growth rules could explain brain assembly in an acoeel worm
11:00 am	<i>Joanna Reinhold, Ella Halbert, James Hurley, Gabriel Isaacman-VanWertz, Teresita Insausti, Claudio Lazzari, David McLeod, Chloe Lahondere</i>	In cold blood: deciphering the mechanisms underlying mosquito-frog interactions
11:15 am	<i>Dana Lim, Kayla Goforth, Catherine Lohmann, Kenneth Lohmann</i>	The magnetic field in which hatchling sea turtles initially swim affects subsequent orientation
11:30 am	<i>Cara Brittain, Haruka Wada, Dan Cristol</i>	Neural effects of lifelong dietary methylmercury in a model songbird
11:45 am	<i>Mehrnoush Nourbakhsh-Rey, Michael Markham</i>	Species differences in the leptinergic regulation of electric signals in weakly electric fish

10:15 AM – 12:00 PM

Lonestar G

Getting to the Point: Puncture and Defense in Biology

Chairs: Philip Anderson, Linnea L. Lungstrom

10:15 am	<i>Jules Chabain, Liu Hong, Leonardo Chamorro, Philip Anderson</i>	Influence of serrations on puncture performance in the barbs of stingrays
10:30 am	<i>Emily Poulin, Jonathan Huie, Jules Chabain, Karly Cohen, Matthew Kolmann, Christopher Martinez</i>	Making a point: exploring the form and function of stingray spines
10:45 am	<i>Philip Anderson, Kehan Pan, Bradley Scott, Abby Weber, Bingyang Zhang</i>	A Thorny Landscape: The Diversity of Biological Puncture Systems

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11:00 am	<i>Jack Rosen, Cassandra Donatelli, Karly Cohen, Adam Summers, Matthew Kolmann</i>	Fruit ninja: puncture performance of frugivorous fish dentitions (<i>Serrasalmodae</i>)
11:15 am	<i>Binyang Zhang, Philip Anderson</i>	Modeling biological puncture: on the mechanics, energetics, and scaling
11:30 am	<i>Linnea Lungstrom, Mark Westneat, Jonathan Huie, Matthew Kolmann, Karly Cohen</i>	Sink Your Teeth into the Puncture Performance of a Payara Pendulum
11:45 am	<i>Alexander Waye, Andrew Ray, Matthew Holding, Talia Moore</i>	Cutting down the time for comparative FEA studies: a case study with snake fangs

10:15 AM – 12:00 PM

Rooms 402-403

Global Change Biology II: Invasions and Toxins

Chair: *Abigail Cahill*

10:15 am	<i>Melissa Kemp</i>	Defaunation and species introductions alter long-term functional trait diversity in insular reptiles
10:30 am	<i>Braulio Assis, Alexis Sullivan, Stephanie Marciniak, Christina Bergey, Tracy Langkilde, George Perry</i>	70 years of invasion: genetic adaptation of fence lizards in response to the invasive fire ant
10:45 am	<i>Richard Li, Walter Jetz</i>	Temporal dynamics of realized niches during biological invasion
11:00 am	<i>Abigail Cahill, Emily Rollinson, Katie Ferrero, Patrick Mayo, Elizabeth Deecher, Brittney O'Connor, Nijmih Siryani</i>	Population sizes of introduced milkweed aphids (<i>Aphis nerii</i>) and their effect on plant traits
11:15 am	<i>Adrian Fisher, Jordan Glass, Nicole DesJardins, Cahit Ozturk, Yash Raka, Keerut Chahal, Gloria DeGrandi-Hoffman, Brian Smith, Jennifer Fewell, Jon Harrison</i>	The impact of a widely used fungicide on honey bee (<i>Apis mellifera</i>) health
11:30 am	<i>Tim Mitchell, Alex Shephard, Emiliee Snell-Rood</i>	Pollutant uptake by plants exposes butterflies to elevated toxins loads
11:45 am	<i>Patrick Wright, Janet Steven</i>	Accumulation of metals in an agricultural weed and implications for phytoremediation

10:15 AM – 12:00 PM

Lonestar A

Interspecific Interactions: Friends and Facilitators

Chair: *Jason Macrander*

10:15 am	<i>Jason Macrander, Alyah Bennett, Katie Statile, Kerry Broderick</i>	Clownfish Influence on Differential Levels of Gene Expression in Sea Anemones
10:30 am	<i>Hannah Aichelman, Alexa Huzar, Daniel Wuitchik, Kathryn Atherton, Nicola Kriefall, Sarah Davies</i>	Do facultative coral hosts buffer their symbionts in response to thermal extremes?
10:45 am	<i>Colleen Bove, Annabel Hughes, Alexa Huzar, Karl Castillo, Daniel Segrè, Sarah Davies</i>	Environmental drivers of coral-associated algal and microbial communities across multiple scales
11:00 am	<i>Geoff Mitchell, Nathan Faulstich*</i>	Evidence for phosphorous-dependent control of symbiont cell growth
11:15 am	<i>Erica Westerman, Sushant Potdar, Madison Jennings, Conor Moriarty, My Ly, Neelendra Joshi</i>	What apples do in the shadows: plant-pollinator interactions at night
11:30 am	<i>Bryan MacNeill, Michael McKain, Aaron Rodriguez, Eduardo Ruiz-Sanchez</i>	Dissecting pollinator-driven floral-trait evolution in Agave subg. Manfreda
11:45 am	<i>Liming Cai</i>	The Bloody Queen Hypothesis for the Evolution of Parasitic Plants

10:15 AM – 12:00 PM

Brazos

Movement, Migration And Dispersal II: Below the Surface

Chairs: Hosain Bagheri, M. Zachary Darnell

- 10:15 am *Eliza Mills, Dara Orbach, Sarah Piwetz* Theodolite tracking bottlenose dolphin movement and behavior in a busy Texas ship channel
- 10:30 am *Harry Tuazon, Emily Kaufman, Daniel Goldman, Saad Bhamla* Floatation of aquatic blackworm blobs
- 10:45 am *William Gough, Max Czapanskiy, Matthew Savoca, Elliott Hazen, William Oestreich, James Fahlbusch, Jeremy Goldbogen* Energetic Tradeoffs for Foraging and Migration in Large Whales
- 11:00 am *Magdalena Phillips, Jesse Granger, Sönke Johnsen* Collective Navigation by Talitrid Amphipods
- 11:15 am *Hosain Bagheri, Paige Caine, Michael Goodisman, Daniel Goldman* Detecting Subtle Subterranean Movement Via Laser Speckle Spectroscopy
- 11:30 am *Cheyne Springbett* Digging In: An Investigation of Burrowing Behavior in *Muosoctopus leioderma*
- 11:45 am *M. Zachary Darnell* Environmental and social context influences decisions associated with fiddler crab burrow retreats

10:30 AM – 11:45 AM

Lonestar B

Inclusion and Outreach in Education

Chair: Molly Jacobs

- 10:30 am *Jacqueline Rich, Katie Doyle, Dara Orbach* Future of Open Educational Resources: Student Teaching in a University-Middle School Collaboration
- 10:45 am *Sam Sharpe* Developing LGBTQIA+ Inclusive Biology Classrooms and Curricula
- 11:00 am *Connor O'Brien, Andrew Schulz* SciComm that reaches millions through livestreaming platforms Twitch & YouTube.
- 11:15 am *Molly Jacobs, Lora Babb* U360: Training College Students as Real-World Sustainability Superheroes
- 11:30 am *Andrew George, Sara Yeo, Nalini Nadkarni* The STEM Ambassador Program – Bridging Science and Society

10:30 AM – 12:00 PM

Rooms 303-304

DEDB Best Student Presentation

Chair: Dave Angelini

- 10:30 am *Gwendolyn Lam, Bradley Davidson, Hannah Gruner, C. J. Pickett* Evolutionary Conservation of Chordate Metamorphic Cues
- 10:45 am *Cody Limber, Gunter Wagner, Richard Prum* Single Cell Transcriptomics Reveals a Diverse Set of Feather Germ Cell Types
- 11:00 am *James Nowotny, Alexandra Bely* Building a blastema: Early cell dynamics in annelid head regeneration
- 11:15 am *Yareli Alvarez, Leslie Babonis* Dueling anemones: Inducible defense structures as a model for the evolution of cell type plasticity
- 11:30 am *Kathleen Garland, Alistair Evans* A Universal Model of Growth Describing the Evolution and Development of Theropod Beaks
- 11:45 am *Taylor Harrison, Frank Smith* Investigation of the segment polarity network in the tardigrade *Hypsibius exemplaris*

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12:00 pm	Kira Heikes, Mandy Game, Frank Smith, Bob Goldstein	Uncovering the Embryonic Origin of Germ Cells in the Tardigrade <i>Hypsibius exemplaris</i>
12:15 pm	Wesley Dillard, Gareth Fraser	Evolution of the Dermatoskeleton: Insights from Odontode Scute Development in Armored Catfish

10:30 AM – 12:00 PM

Rooms 408-409

Locomotion Where Water Meets Air and Land

Chairs: Noah Ryan Bressman, Cassandra M. Donatelli

10:30 am	Noah Bressman, Doug Fudge, Andy Turko, Peter Ly, Christian Quinteros	Vertical jumping from extremely shallow water by the amphibious killifish <i>Fundulus heteroclitus</i>
10:45 am	Pankaj Rohilla, Johnathan O'Neil, Victor Ortega-Jimenez, Prateek Sehgal, Saad Bhamla	Physical and computational models of vortex recapture during <i>Microvelia</i> 's walking on water
11:00 am	Haodong Zhou, Cassandra Donatelli*, Kaelyn Gamel, Henry Astley, Odette Laneuville, Emily Standen	Feel it in Your Bones: Differences in the Skeletal Anatomy of Terrestrial and Aquatic Mudskippers
11:15 am	Johnathan O'Neil, Victor Ortega-Jimenez, Pankaj Rohilla, Xingwan Zhu, Saad Bhamla	<i>Microvelia</i> bugs spin up their own wake while tripod-gait walking on water
11:30 am	Kiersten Formoso	Axial morphology may drive swimming style in secondarily aquatic tetrapods

10:30 AM – 12:00 PM

Lonestar H

Sensory Biology II

Chair: Richard Bompfrey

10:30 am	Toshiyuki Nakata, Patricio Simoes, Simon Walker, Ian Russell, Richard Bompfrey*	Auditory sensory range in mosquitoes: whence can males hear female flight tones?
10:45 am	Lorian Schweikert, Daniel Chappell, Zijin Huang, Gabrielle Delpizzo, Krish Wahi, Madeline Saunders, Vivian Slye, Lydia Naughton, Nicholas Rummelt, Laura Bagge	Multisensory Integration of Aposematic Signals by a Mantis Predator
11:00 am	Scott Dixon, Simon Walker	Using the Optomotor Response to Determine the Flicker-Fusion Frequency of Insects
11:15 am	Ruchao Qian, Jamie Theobald	The visual influence of swaying behavior of praying mantises
11:30 am	Kyle McCulloch, Leslie Babonis, Kristen Koenig	Exceptional opsin diversity and light behaviors of the sea anemone <i>Nematostella vectensis</i>
11:45 am	Leo Fleishman	The visual ecology of <i>Anolis dewlap</i> colors

10:30 AM – 12:00 PM

Rooms 301-302

Sticking to Surfaces

Chairs: Austin M. Garner, Alyssa Hernandez

10:30 am	Smith Drupa, Cassandra Donatelli, Adam Summers, Jonathan Huie, Karly Cohen	The Hardest Part is Letting Go: Shear Adhesion in the Northern Clingfish
10:45 am	Alyssa Stark, Austin Garner, Stephen Yanoviak	Adhesive performance of arboreal ants as a function of substrate surface temperature and shear rate
11:00 am	Austin Garner, Andrew Moura, John McCormack, Carla Narvaez-Diaz, Alyssa Stark, Michael Russell	Hyposalinity negatively impacts sea urchin locomotor performance and tube feet kinematics
11:15 am	Alyssa Hernandez, Jessica Sandoval, Michelle Yuen, Robert Wood	Elongated shapes in bio-inspired suction cups resist shear loading on diverse surfaces

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- 11:30 am *Aurora Ocegueda, Carla Narvaez-Diaz* Comparative Study of Sea Urchins *S. purpuratus* and *S. droebachiensis* Adhesive Performance
- 11:45 am *Bernd Steklis, Todd Blackledge* Comparing Semi-Aquatic and Terrestrial Spiders Attachment Disc Adhesion in Wet Conditions

10:30 AM – 12:00 PM

Lonestar F

Symbiosis and Immunity

Chair: *Laura D. Mydlarz*

- 10:30 am *Madison Emery, Bradford Dimos, Laura Mydlarz* Trade-offs between symbiosis and immunity in *Cassiopea* sp. following *Serratia marcescens* exposure
- 10:45 am *Erin Borbee, Isabella Changsut, Kira Bernabe, Alicia Schickle, David Nelson, Koty Sharp, Lauren Fuess* New insights on immunity in temperate coral larvae in response to pathogenic and probiotic bacteria
- 11:00 am *Hannah Reich, Marley Gonsalves, Elizabeth Harvey* CLUE special edition: Resolving the mysterious zombification of marine microalgae
- 11:15 am *Kelsey Beavers* Stony Coral Tissue Loss Disease Triggers in situ degradation of Dysfunctional Endosymbionts
- 11:30 am *Sarah Davies, Maria Ingersoll, Niharika Desai, Kate Mansfield, Phillip Cleves, Hanny Rivera, Leah Williams, Rachel Wright, Thomas Gilmore* Interactions between symbiosis and innate immunity in cnidarians
- 11:45 am *Aliyah True, Grace Snyder, Rowan Thomas, Nikki Traylor-Knowles, William Browne* Comparing the Cell-Specific Microbiome of *M. leidyi*, *P. damicornis*, and *N. vectensis*

10:45 AM – 12:00 PM

Rooms 201-202

The Ecology and Evolution of Life History

Chair: *Karim Dean Primov*

- 10:45 am *Jamie Marks, Mahaut Sorlin, Simon Lailvaux* The maternal energetic environment affects both egg and offspring phenotypes in green anole lizards
- 11:00 am *Grace Kropelin, Clare Scott-Chialvo** Assessing the impact of novelties on a generalist species' (polka-dotted fruit fly) life history
- 11:30 am *Natasha Tigreros, Goggy Davidowitz* Can nectar-feeding compensate for nutritional deficiencies from the larval diet?
- 11:45 am *Hannah Weller, Maya Weissman, Hernan López-Fernández* Bet-hedging theory helps explain life history differences between among mouthbrooding cichlids

Thursday Program Afternoon Sessions

Note: Presenter is first author unless noted by an asterisk (*).

1:30 PM – 3:00 PM

Brazos

High-impact Practices in Undergraduate Teaching

Chair: *Kelly Caitlin Kissane*

- 1:30 pm *Kelly Kissane* The Effects of High Impact Practices on Student Success in Undergraduate Biology Courses.
- 1:45 pm *George Meindl, Jessica Hua* Course-based undergraduate research: phytoremediation in Cu-polluted aquatic environments
- 2:00 pm *Sarah Wofford-Mares, Lori Tolley-Jordan* Budget Science: How to implement inquiry-based organismal labs without breaking the bank.

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2:15 pm	<i>Michelle Osovitz, Taegan McMahon</i>	An interdisciplinary and equitable team based science approach to the undergraduate laboratory class
2:30 pm	<i>Dianne Baker, Kyle Schultz, Katherine Crowder</i>	Impacts of Research Experiences and Academic Supports on Student Retention, Success, and Identity
2:45 pm	<i>Tonia Schwartz, Amanda Clark</i>	An RNAseq CURE contrasting 18 pipelines from mapping to functional pathway enrichment

1:30 PM – 3:30 PM

Rooms 408-409

Biomaterials, Structure & Mechanics I

Chair: *Sheila Patek*

1:30 pm	<i>Sheila Patek, Suzanne Cox, Mark Ilton, Megan Porter</i>	Exquisite energetics of spring-propelled, latch-mediated movements
1:45 pm	<i>Ivana Serra, Jeanette Wyneken</i>	Mechanical behavior of sea turtle shells throughout ontogeny
2:00 pm	<i>Zachary Baker, Doug Fudge, Andrew Lowe, Dakota Piorkowski</i>	The Biomechanics of Hagfish Eggs
2:15 pm	<i>Artis Brasovs, Pavel Aprelev, Alexandre Palaoro, Charles Beard, Peter Adler, Kostya Kostya</i>	How blood viscosity correlates with the hawkmoth size
2:30 pm	<i>Madison Hales, Aradhya Rajanala, Christopher Pierce, Ram Avinery, Isaiah Taylor, Mingyuan Zhu, Philip Benfey, Daniel Goldman</i>	Visualizing root response to shifting gravity in real time and three dimensions
2:45 pm	<i>Teagan Mathur, Liyuan Zhang, Marianne Alleyne, Jake Socha, Sara Wilmsen, Kamel Fezzaa, Samuel Clark, Aimy Wissa</i>	Latching, Loading, and Release in Click Beetles under Different Mechanical Constraints
3:00 pm	<i>Alissa Coonfield, Damian Elias, Ross Hatton, Todd Blackledge</i>	Thread tensioning alters acoustic properties of <i>Argiope trifasciata</i> orb webs
3:15 pm	<i>Justin Jorge, Sheila Patek</i>	Comparative biomechanics of energy storage and release across seed-shooting witch hazels

1:30 PM – 3:30 PM

Rooms 303-304

DAB Best Student Presentation: Marlene Zuk Award

Chair: *Avery Russell*

1:30 pm	<i>Grace Zhong, Laurel Kroo, Manu Prakash</i>	Thermotaxis in an apolar, non-neuronal animal
1:45 pm	<i>Annaliese Novinger, Katherine Naumer, Dalton McCart, Rachel Wilkins, Haley Muse, Tia-Lynn Ashman, Avery Russell, Maggie Mayberry</i>	Learned bee-haviors of pollen-foraging bees
2:00 pm	<i>Rebecca Westwick, Gavin Brackett, Brown Cameron, Bethany Ison, Clare Rittschof</i>	Alarm cues alter nursing behavior in aggressive honey bee colonies (<i>Apis mellifera</i>)
2:15 pm	<i>Melanie Kimball, Courtney Harding, Kaitlin Couvillion, Keegan Stansberry, Tasha Kelly, Christine Lattin</i>	Estradiol and predator cues affect behavior and brain responses of captive female house sparrows
2:30 pm	<i>Annelise Blanchette, Myra Finkelstein, Jordan Karubian, Alex Gunderson</i>	Lead exposure is associated with significant physiological detriments in urban lizards
2:45 pm	<i>Subhasmita Patro, Thejaswini Saravanan, Ayush Parag, Maria Thaker</i>	Integration of signaling traits during social interaction in a color-changing lizard
3:15 pm	<i>Lisa Surber, Eva Fischer</i>	Behavioral, morphological, and hormonal plasticity in cannibalistic poison frog tadpoles

1:30 PM – 3:30 PM

Rooms 301-302

DCB Best Student Presentation: Mimi A. R. Koehl and Stephen A. Wainwright Award

Chair: John H. Long

1:30 pm	<i>Alice Leavey, Laura Porro, Christopher Richards</i>	Modelling the effect of different skeletal proportions on hindlimb mechanics in frogs
1:45 pm	<i>Christian Brown, Erik Sathe, Robert Dudley, Stephen Deban</i>	Skydiving salamanders: How some lungless salamanders jump, glide, and generate lift
2:00 pm	<i>Bradley Scott</i>	Competition from jawed vertebrates was not the only cause of Heterostraci (<i>Agnatha</i>) extinction
2:15 pm	<i>Melody Young, Edwin Dickinson, Nicolas Flaim, Daniel Tanis, Alexander Lopez, Michael Granatosky</i>	Climbing is hard (at least for humans).
2:30 pm	<i>Mikayla Struble</i>	Terrestrial to Aquatic Locomotor Transitions in <i>Notophthalmus viridescens</i>
2:45 pm	<i>Divya Ramesh, Qiyuan Fu, Gargi Sadalgekar, Zachary Souders, Luke Moon, Jack Rao, Mia Urban, Milla Ivanova, Kapi Ketan Mehta, Lucas An, Chen Li</i>	Studying terrestrial fish locomotion on wet deformable substrates
3:00 pm	<i>Theodora Po, Matt McHenry</i>	The collective and central control of locomotion in sea stars
3:15 pm	<i>Gargi Sadalgekar, Qihan Xuan, Qiyuan Fu, Chen Li</i>	Template-level robophysical models for studying sustained terrestrial locomotion of amphibious fish

1:30 PM – 3:30 PM

Lonestar F

Disease and Immune Trade-offs

Chair: Charles M. Watson

1:30 pm	<i>Jennifer Terry, Lorin Neuman-Lee, Emily Letner, Alexia Vanoven</i>	Innate immune component tradeoffs in a wild freshwater turtle
1:45 pm	<i>Marissa Wright, Lucas Kirschman, Kelley Fritz, Logan Oleson, Rebecca Witty</i>	Larval metabolic rate varies with developmental stage and does not predict disease susceptibility
2:00 pm	<i>Kwanho Ki, Elizabeth Wu, Erin Lewis, Susannah French, Dale DeNardo</i>	Effects of a high sugar diet on immune response in the green iguana
2:15 pm	<i>Weston Perrine, Sarah DuRant, Erin Sauer, Ashley Love, Ashley Morris</i>	Diet composition affects on <i>Serinus canaria</i> infected with <i>Mycoplasma gallisepticum</i> .
2:30 pm	<i>Charles Watson, Sadie Gent, Christian Cox</i>	Sex-specific interactions between signal expression, energetics, and parasitism in canyon lizards
2:45 pm	<i>Jessica Dudley, Marilyn Renfree, Oliver Griffith</i>	The evolution of extended pregnancy involves taming inflammation; evidence from the tammar wallaby
3:00 pm	<i>Stefanny C Titon, Braz Titon-Jr, Vania R Assis*, Alan Lima, Fernando Gomes</i>	Restraint during breeding season impacts hormone levels and immune response of male and female toads

1:45 PM – 3:15 PM

Lonestar B

Ecophysiology: A Spotlight on Moisture

Chair: Jill L. Azzolini

1:45 pm	<i>Adam Rosenblatt, Laura Habegger</i>	Decreasing humidity leads to dramatic increase in American alligator egg failure
2:00 pm	<i>Thomas Luhring, Lyndsie Wszola, Grant Connette, Christopher Schalk</i>	Droughts reduce growth and increase vulnerability to increasingly frequent and severe drying events.
2:15 pm	<i>Caleb Loughran, Michael Kearney, Blair Wolf</i>	Modeling evaporative cooling and the potential for extended activity in lizards under future climate
2:30 pm	<i>Carrie Veilleux, Rebecca Lewis</i>	Fat storage as a possible strategy for coping with drought in a seasonally-adapted lemur

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2:45 pm	<i>Meron Dibia, Hunter King</i>	The termite mound as passive, sorbent-based, vapor harvesting device
3:00 pm	<i>Samantha Skerlec, Stephanie Bristow, Krista Ward, Clarke Burgert, Thomas Luhring</i>	No free refills: the costs of pond drying to growth and survival of aquatic ectotherms

1:30 PM – 3:15 PM

Rooms 203-204

Fish Locomotion

Chairs: *Haley Amplo, Yordano Jimenez*

1:30 pm	<i>Brendan Gibbs, Clark Morgan, Steven Longmire, James Liao</i>	Swimming kinematics and energetics of wild red drum under ecologically relevant flows
1:45 pm	<i>Michael Fath, Eric Tytell</i>	Bluegill (<i>Lepomis macrochirus</i>) minimize destabilizing torques by resting at an unstable equilibrium.
2:00 pm	<i>Connor White, Theodore Castro-Santos, George Lauder</i>	Volitional burst swimming in White Sucker, <i>Catostomus commersonii</i> , quantified with biologgers
2:15 pm	<i>James Liao, Monica Corraggioso, Leonardo Demarchi, Faustine Ginoux, Miguel Paço, Gautam Sridhar, Olivier Mirat, Claire Wyart</i>	Fine motor kinematics of larval zebrafish in laminar flow
2:30 pm	<i>Haley Amplo, Ariel Camp, Brooke Flammang</i>	Exploring the Range of Motion of <i>Antennarius commerson</i> using XROMM
3:00 pm	<i>Yordano Jimenez, Janne Pfeiffenberger, Gina Kim, Erik Anderson, Eric Tytell</i>	Linking body mechanics and swimming kinematics of scup, <i>Stenotomus chrysops</i>

1:30 PM – 3:15 PM

Lonestar G

Flying & Landing II

Chair: *Andrew M. Mountcastle*

1:30 pm	<i>Robert Hanna, Tyson Hedrick, Alejandro Rico-Guevara, Diego Sustaita, Kira Delmore</i>	Quantification of multimodal aspects of hummingbird courtship display dives
1:45 pm	<i>Linden Jones, Thaddeus Gunther, Oliver Todreas*, Andrew Mountcastle</i>	Aerodynamic benefits of wing flexibility diminish with body size in <i>Bombus impatiens</i> bumblebees
2:00 pm	<i>George Yi, Matthew Penn, Mario Martinez-Groves-Raines, Simon Watkins, Mohamed Abdulghani, Shane Windsor*</i>	Flight configurations of hang flying kestrels in a turbulent wind tunnel
2:15 pm	<i>Tsevi Beatus, Noam Lerner</i>	Flying mosquitoes use their legs as inertial rudders
2:30 pm	<i>Andrew Orkney, Brandon Hedrick</i>	Divergent trends in integration with increasing mass in the avian wing and trunk.
2:45 pm	<i>Stacey Combes, Nicholas Burnett, Susan Gagliardi</i>	Chordwise wing flexibility improves bumblebee stability but inhibits maneuverability during tracking
3:00 pm	<i>Ethan Wold, Manon Harris, Brett Aiello, Usama Sikandar, James Lynch, Nick Gravish, Simon Sponberg</i>	What drives interspecific variation in moth wingbeat frequencies?

1:30 PM – 3:30 PM

Rooms 402-403

Invertebrate Evo Devo

Chair: *Kristen Koenig*

1:30 pm	<i>Kristen Koenig, Christina Daly</i>	Gene Regulation and Lens Evolution in the Squid <i>Doryteuthis pealeii</i>
1:45 pm	<i>Mandy Game, Frank Smith</i>	<i>Orthodenticle</i> is required for the expression of both r-opsins and c-opsins in tardigrades
2:00 pm	<i>Raul Chavarria, Frank Smith</i>	<i>Shaggy</i> , a Wnt signaling inhibitor, regulates anteroposterior axis development in tardigrades
2:15 pm	<i>Ariel Chipman</i>	Serial Homology and Segment Identity in the Arthropod Head

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2:30 pm	<i>Fredrik Hugosson, Brent Foster, Mark Martindale</i>	Expansion of Notum genes in <i>Nematostella vectensis</i> : Implications for Wnt signaling in development
2:45 pm	<i>Brent Foster, Fredrik Hugosson, Joseph Ryan, Mark Martindale</i>	Characterizing Notch Signaling in the Ctenophore <i>Mnemiopsis leidyi</i>
3:00 pm	<i>Richard Gawne, Michael Levin</i>	Using Tissue Chimeras to Probe Regenerative Patterning and Physiological Controls in <i>Planaria</i>
3:15 pm	<i>Elaine Seaver</i>	Characterization of a putative stem cell niche in the annelid <i>Capitella teleta</i>

2:00 PM – 3:30 PM

Lonestar A

Living in Stressful Environments

Chair: *Mike W. Butler*

2:00 pm	<i>Erin Lewis, Alison Webb, Spencer Hudson, Karen Kapheim, Charles Knapp, John Iverson, Susannah French</i>	Anthropogenic effects of wildlife-feeding on the physiological health of Bahamian Rock Iguanas
2:15 pm	<i>Samuel Lane, Ben Vernasco, Taylor Fossett, Isaac VanDiest, Heather Watts, Kendra Sewall</i>	Effects of urbanization and brood parasites on avian telomere length across sexes and age classes
2:30 pm	<i>Mike Butler, Zachary Cullen, Caroline Garti, Dory Howard, Bridget Corpus, Bridget McNish, Justin Hines</i>	Physiologically relevant levels of a putative antioxidant do not oppose oxidative damage in plasma
2:45 pm	<i>Esmirna Cantu, MD Rahman</i>	Pesticide Mixtures Influences the Physiology and Induces Oxidative/Nitrative Stress in Goldfish
3:00 pm	<i>Chelsea Bowers-Doerning, Justin Hertel, Ashley Ibrahim, Misty Paig-Tran</i>	Ingestion and assimilation of microplastics in the Pacific sardine, <i>Sardinops sagax</i>
3:15 pm	<i>Erynn Johnson, Nimran Shergill, Madhusudhan Venkadesan, Derek Briggs</i>	Specialized shell-peeling morphologies are advantageous to durophagous crabs

1:30 PM – 3:30 PM

Lonestar H

Sensory Motor Control

Chair: *Alexandra C N Kingston*

1:30 pm	<i>Erin Giglio</i>	Using pose estimation to identify differences in movement across sex and neurodivergence in mice
1:45 pm	<i>Alexandra Kingston, Sarah Woodin, David Wethey, Rebekah Hansen, Daniel Speiser</i>	Helmet-like orbital hoods protect snapping shrimp from shock waves
2:00 pm	<i>Rachel Parsons, Robyn Crook</i>	Neural control of quadrupedal walking in the flamboyant cuttlefish, <i>Metasepia pfefferi</i>
2:15 pm	<i>Kate Feller</i>	Neuromechanics of latch & spring ballistic movement control in the mantis shrimp, <i>Squilla empusa</i>
2:30 pm	<i>Abbigale Koenigsmark, Robyn Crook</i>	Injury-induced nociceptive sensitization affects male contests in the cuttlefish <i>Sepia bandensis</i>
2:45 pm	<i>Christopher Pierce, Lucinda Peng, Hang Lu, Daniel Goldman</i>	Aperiodic Undulation in High Resistance Environments
3:00 pm	<i>Lucinda Peng, Christopher Pierce, Xuefei Lu, Daniel Goldman, Hang Lu</i>	Feedforward and feedback mechanisms interact to control environment-dependent gait adaptation
3:15 pm	<i>Rachel Crane, Christofer Brothers, Paul Leary, Stacey Combes</i>	Dragonfly pursuit of artificial prey with biologically relevant flight behaviors

The Evolution of Shape and Function

Chair: Travis Hagey

2:15 pm	<i>Travis Hagey, Alaina Dawkins</i>	Toepad shape allometry and evolution across Hemidactylus geckos
2:30 pm	<i>Tony Williams</i>	Why is egg size the ‘Cinderella’ of avian life-history traits?
2:45 pm	<i>Nicholas Hebdon, Alexa Ortega, Lindsay Waldrop</i>	The Curious Case of Snout Design in Canine Olfaction
3:00 pm	<i>Brittany Dobbins, Maia Rogers, Ruben Tovar, Tom Devitt, Dana García, David Hillis</i>	Expansion of the Lateral Line System Among Blind Salamanders of the Genus Eurycea
3:15 pm	<i>Vinicius Anelli, Priscila Rothier, Anthony Herrel, Tiana Kohlsdorf</i>	Head shape variation in fossorial lizards reflects distinct burrowing substrates

Howard A. Bern Lecture: Dr. Tyrone Hayes

Right back where I started: Enamored with anurans

Thursday POSTER SESSION P2

JW Grand Ballroom, 3:30-5:30 PM

Poster Set Up: 7:00-8:00 am; Poster Teardown: 5:30-6:00 pm

Even # - Authors present from 3:30-4:30 pm; Odd # - Authors present from 4:30-5:30 pm

Biochemistry and Muscle Physiology

- P2-001** *Allyn Nguyen, Natalie Holt* No speed-endurance tradeoff during the “Love Bite” of southern alligator lizards (*E. multicarinata*).
- P2-002** *Juliette Rault-Wang, Arpitha Parthasarathy, Audrey Yung, Susan Park, Jenna Monroy* Exercise decreases muscle stiffness in mice with a deletion to titin
- P2-003** *Natalee Hite, Diana Sarko* Contractile Properties of the Naked Mole-Rat Masseter: Impacts of Tooth Loss
- P2-004** *Jacob Pithan, Joseph Rinehart, Kendra Greenlee, Giancarlo López-Martinez* Oxidative damage and age-related declines in locomotion
- P2-005** *Kyle Leong, Allyn Nguyen, Anthony Cobos, Natalie Holt* Contratile Properties of Iliotibialis Muscles Compared to Jaw Muscles in Southern Alligator Lizard
- P2-006** *Salih Elnour Salih Awouda, Angela Clemens, John Long, Candido Diaz* The Glue of Moth-Catching Spiders: Biochemical Properties of Spread Droplets
- P2-007** *Rachelle Belanger, Mariana Muskovac*, Diana Chammout, Kenia Contreras, Dorian Goolsby, Reema Hamdan, Christina Rabban, Kendra Evans* A morphological and biochemical analysis of crayfish tissues post-atrazine exposure
- P2-008** *Alexandra Krak, Jason Bystriansky, Caleb McMahan* Salinity tolerance of the swordtail, *Xiphophorus hellerii*

Biology Education, Outreach, and Citizen Science

- P2-009** *Ana Jurcak-DeTter* Power of the People! Utilizing Citizen Science in Course Curriculum
- P2-010** *Alexandria Hansen* Investigating undergraduate students' engagement in a bio-inspired design course
- P2-011** *Jerry Husak, Rachelle Belanger, Michele Johnson, Kristopher Karsten, Matthew LeFauve, Jason Macrander, Thomas Sanger, Kari Taylor-Burt, Lisa Whitenack* Integrative Biology at Primarily Undergraduate Institutions
- P2-012** *Ulrike Muller, Rory Telemeco, Alexandria Hansen, Manuel Gonzalez, Fatima Awad* A conference proceedings journal shows changes in the publication process since the start of COVID19
- P2-013** *Alicia Fox* Bringing wildlife into the lab: Lower division Zoology students use camera traps to observe animals
- P2-014** *Cathy Chen, Emily Low, Kathleen Lu, Kyra Ricci, Carmela Buono, Elias Miller, Kirsten Prior, Jessica Hua* Citizen science from the perspective of community members and scientists: case study of an EcoBlitz
- P2-020** *Jason Macrander, Conner Philson, Bryan MacNeill, Armita Manafzadeh, Kathleen Munley, Maria Stager, Jennifer Houtz, Anusha Shankar, Rebecca Varney, Emily Lessner, Adrien Arias* SPDAC PRESENTS: Questions you didn't know you had - The graduate student and postdoc edition
- P2-015** *Sheila Patek, Sophie Hanson, Kim Manturuk, Mark Ilton, Jeffrey Blanchard, Theo Cai, Donovan Hardy* Muser: a platform for enhancing equity in and access to interdisciplinary academic research
- P2-016** *Kelsey Jennings* LGBTQ+ People in the Outdoors: Insights and Gaps
- P2-017** *Rowan Marshall, Jason Macrander* Science Communication Through a Blog: A Case Study with ICB
- P2-018** *Lily Palumbo, Ioulia Bernalova, Heather Axen, James Waters* Biodiversity bootcamps and a vision for a regional network of community engagement
- P2-019** *Cassie Shriver, Margaret Zhang, Staci Wiech, David Hu, Young-Hui Chang, Joseph Mendelson, Andrew Schulz* Implementing a Zoo Biomechanics Day to Improve Public Outreach
- P2-021** *Eloise Parish-Mueller, Victor Gonzalez, Charles Abramson* Investigating residents' knowledge and perceptions of bees in Lesvos, Greece

P2-022 *Gloria Rodriguez, Davida Smyth*

Developing a faster, inexpensive, accessible, microbial detection method for wastewater surveillance

Complementary to S4: Daily Torpor Across Birds and Mammals: Recent Progress and How Do We Advance the Field?

P2-023 *Leonardo Rodriguez, Cecilia Doan, Alexis Ayala, Rachael Tang, Derrick Groom*

High-temperature effects on behavior and torpor in *Calypte anna*

P2-024 *Shenni Liang, Emily Blackwell, Sophia Wolfe, Irby Lovette, Donald Powers, Anusha Shankar*

Differential gene expression analysis across organs during daily torpor in Anna's Hummingbirds

P2-025 *Sophia Wolfe, Emily Blackwell, Nora Prior, Irby Lovette, Donald Powers, Anusha Shankar*

Differential gene expression between normothermy and torpor in 4 brain regions in *Calypte anna*

P2-026 *Emily Blackwell, Shenni Liang, Sophia Wolfe, Irby Lovette, Donald Powers, Anusha Shankar*

Surface body temperature as a proxy for metabolic rate during torpor in hummingbirds

P2-027 *Santi Tabares-Erices, Grace Guo, Irby Lovette, Anusha Shankar*

Reassessing torpor use across mammals: does diet influence torpor?

P2-028 *Grace Guo, Santi Tabares-Erices, Irby Lovette, Anusha Shankar*

A comprehensive phylogeny of avian torpor with ecological context

Complementary to S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function

P2-029 *Penelope Baker, Julie Butler, Lauren O'Connell*

Parent Recognition and Preference in Poison Frog Tadpoles

P2-030 *Thomas Clark, Dillon Monroe, Caitlin Gabor*

Effects of chronic exposure to heat on water-borne stress hormones over time in tadpoles

Complementary to S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes

P2-031 *Amanda Platt, Kristen Whalen, Marta Wilbrink*

Designing a bacterial biosensor to detect chemical signals within the phycosphere

DCPB Best Student Poster Competition

P2-032 *Julia Newcomb*

Characterization of Biogenic Amine Receptors in the Y-Organ of *G. lateralis* and *C. maenas*

P2-033 *Kyle Raney, Talia Head, Donald Mykles*

Characterization of Catalase and its Role in Molting in *G. lateralis* and *C. maenas*

P2-034 *Adrian Macedo, Jacob Hutton, Jason Dallas, Robin Warne*

Glucocorticoid effects on thermal acclimation capacity in a frog

P2-035 *Laura Antizzo, Donald Mykles, Talia Head*

Characterization of protein kinase C in the molting gland of two decapod crustaceans

P2-036 *Etti Cooper, Ryan Bavis*

Critical Thermal Maxima and Plasticity in Metabolic Rates: A Comparison of Two Ant Species

P2-037 *Talia Head, Donald Mykles*

Comparative analysis of protein kinase G in the decapod crustacean molting gland

P2-038 *James Harper, Elizabeth Kirkland-Bailey**

Effects of Acute Food Restriction on Endoplasmic Reticulum (ER) Stress Response in *Nauphoeta cinerea*

P2-039 *James Harper, Sami Badwan**

Does availability impact immune function in speckled cockroaches (*Nauphoeta cinerea*)?

P2-040 *Rylee Vigil, Isabella Garino-Heisey, Victor Gonzalez, John Hranitz*

Summer acclimatization by high/low elevation bees yields different thermal and desiccation tolerance

P2-041 *Julie Karlsson, Aubrey Jane, Markus Frederich, Doug Rasher, Jessica Waller, Eric Annis*

Cardiac performance as a function of temperature in larval American lobsters (*Homarus americanus*)

P2-042 *Sarah Heissenberger, Sarah DuRant, Maya Tipton, Daniela Kim, Kaja Arusha, Luis Luis, Daniela Rivera, Francisco Bozinovic, Grisel Cavieres, Daniela Vera, Pablo Sabat, Carolyn Bauer*

Effects of maternal water restriction on offspring water balance physiology in *Octodon degus*

P2-043 *An-Ping Yu, Mihika Kozma, Donald Mykles*

Gene expression of insulin-like peptides (ILP) across the molt cycle of the blackback land crab

P2-044 *Sydney Collins, Mihika Kozma, Donald Mykles*

A novel model for RTK mediated regulation of the molt cycle in the blackback land crab

Ecomorphology

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- P2-047** *Monique Ades, Ulrike Muller* Using a vertebrate collection to examine bat species representation and bone conservation
- P2-048** *Magrieli Rodriguez-Ruiz, Kristen Mazzarella, Jacob Lasala* Measurement relationships for sea turtles nesting on the Gulf of Mexico
- P2-049** *Tyler Hunt, Michael Hogan, Niall Whalen* Visual Field Analysis of Two Viperid Snakes
- P2-050** *Katherine Slenker, Haley O'Brien, Lindsey Yann* Variance of Carotid-Rete-Mediated Selective Brain Cooling Across Aridity Indices
- P2-051** *Francesca Socki, David Fox* Exploring cranial integration in geomyoid rodents
- P2-052** *Sydney Turner, Crystal Kelehear-Graham* *Rhinella marina*: adaptations in limb morphology that potentially promote invasion success.
- P2-053** *Tasha Mulvena, Manyu Amarasinghe, Amaya DeVore, Isaac Tamez, Steve Morales, Ulrike Muller* Decolonizing a vertebrate collection housed at a minority-serving university
- P2-054** *Audrey Kellogg, Christin Murphy, Sarah Kienle, Marilyn Marx, Joy Lapsertitis, Michael Moore* Post-process Imaging Techniques to Create Photorealistic 3D Models
- P2-055** *Kayla Garza, Juan Daza* From symplesiomorphy to synapomorphy: The case of the stapedial foramen in Lepidosaurs
- P2-056** *Margaret Hall, Ruxandra Dane, Angel Olivares, Shirinithi Kalai, Alexandra Miller, Dominik Valdez, Justin Georgi* Comparative anatomy of the Brachial Plexus in Mammals
- P2-057** *Devya Hemraj-Naraine, Hernan López-Fernández, Kirk Winemiller, Gyanpriya Maharaj, Donald Taphorn* Habitat structure and ecomorphology of fishes in neotropical blackwater creeks.
- P2-058** *Vinicius Anelli, Anthony Herrel, Ana Carolina Carnaval, Tiana Kohlsdorf* Phenotype-environment associations in the morphological evolution of neotropical lizards
- P2-059** *Deon Bakkes, Anne Ropiquet, Lidia Chitimia-Dobler, Dikeledi Matloa, Dmitry Apanaskevich, Ivan Horak, Ben Mans, Conrad Matthee* Adaptive Radiation and Speciation in Rhipicephalus ticks

Evolutionary Morphology II

- P2-060** *Jordan Davidson-Frazier, Courtney Miller, Rachel Menegaz* Mechanical Advantage of Jaw Muscles in a Mouse with Facial Shortening
- P2-061** *Chi Zhang, Stephen Mather, A. Murat Maga* An open-source photogrammetry pipeline for acquiring 3D biological models
- P2-062** *Carmen Urban, Julia Clarke* Description and comparison of ostrich and common quail natal down: developmental implications
- P2-063** *Jessica Arbour* good.fibes: an R approach for semi-automated detection of muscle fibers from diceCT scans
- P2-064** *Stephen Manning, Mark Nohomovich*, Jennifer Olori, Eli Amson, Roy Ebel* Are all caudates boneheads? Exploring lifestyle signals in the microanatomy of amphibian skull roofs
- P2-065** *Katherine Steinfield, Andrew Knapp*, Ryan Felice* What a carrion: morphological convergence in vulture skull shape is driven by feeding ecology
- P2-066** *Kelly Diamond, Clarie Olson, Kaera Utsumi, Maria Eifler, Douglas Eifler* Allometry of size and performance in the desert horned lizard (*Phrynosoma platyrhinos*)
- P2-067** *Tobin Hieronymus, Patricia Sanchez-Montejo, Caleb Oleson, Bret Tobalske* Blocking feather muscles activity in vivo in fowl (*Gallus gallus*) with 6-hydroxydopamine

Evolutionary Physiology

- P2-068** *Andrew Dang* Characterizing the molecular basis of red-green color vision in Heliconius butterflies
- P2-069** *Jesus Buenrostro, Nathalie Alomar, Martha Munoz* The Effects of Temperature Preference in Salamander Physiology.
- P2-070** *Aha Anderson, Martha Munoz, Nathalie Alomar* Differences in Critical Temperature Minimum across the Plethodontidae Family

- P2-071** *Anabarbara Gonzalez, Maria Alcivar, Karla Alujevic, Leah Bakewell, Guillermo Garcia-Costoya, John David Curlis, Noah Gripshover, Akhila Gopal, Samir Gulati, Renata Pirani, Daniel Romero, Claire Williams, Kelly Wuthrich, W. Owen McMillan, Michael Logan, Christian Cox* Temporal dynamics of ectoparasite infection during island colonization in *Anolis* lizards
- P2-072** *Brooke Bodensteiner, Martha Munoz* Thermal physiological and parity mode evolution across squamates
- P2-073** *Eric Brown, Danielle Levesque* Modeling Treeshrew Climatic Niches to Approximate Thermoregulatory Physiology
- P2-074** *Aaron Ortiz, Cameron Steffensen, Omera Matoo, Danielle Turner, Snezna Rogelj, Kristi Montooth, Maurine Neiman, Joel Sharbrough* Mitochondrial performance in diploid vs. polyploid *Potamopyrgus antipodarum*
- Fluid Movement and Invertebrates**
- P2-075** *Sophie Hanson, William Ray, Arvind Santhanakrishnan, Sheila Patek* Mantis shrimp locomotion: stroke kinematics in a hybrid metachronal system
- P2-076** *Alina Grossweiner, James Townsend, Bradford Gemmell, Sean Colin, John Costello, Kelly Sutherland* Morphometric and kinematic variability underpin swimming performance among three ctenophore orders
- P2-077** *Nick Battista* Paddling and squirming: exploring swimming performance in an idealized Tomopteris model
- P2-078** *Bikram Dhoj Shrestha, Santhan Chandragiri, Vivek Prakash* Confinement effects on fluid flows generated by marine larvae
- P2-079** *Tia Bottger, Brett Klaassen-van-Oorschot, Rachel Pepper* The effect of ambient flow on the 3D kinematics of the sessile microorganism, *Vorticella convallaria*
- P2-080** *Roi Gurka, Asif Nafi, Daniel Weihs* On an adaptation of the Reynolds number to aquatic locomotion
- P2-081** *Megan Schellhase, Tia Bottger, Vermilion Villarreal*, Brett Klaassen-van-Oorschot, Rachel Pepper* The effect of oscillatory flow on the orientation and feeding flow of *Vorticella convallaria*
- P2-082** *Hana Larkins, Emily Carrington, Matthew Reidenbach, Kindall Murie, Kelsey O'Donnell* The effect of flow on filtering and gaping behavior in *Mytilus galloprovincialis*
- P2-083** *Mikayla DeSaye, Alyssa Stark, Stephen Yanoviak* Blowin' in the Wind: The Effect of Wind on Ant Behavior, Locomotion, and Adhesion
- P2-084** *Jacqueline Esimike, Mitchell Ford, Arvind Santhanakrishnan* Multi-scale flow characterization around and through physical models of a reticulate sea fan
- Foraging Behavior and Predator Prey Interactions**
- P2-085** *Mohammed Murtuza, Ethan Lumongsud, Sreevalli Kolli, Christine Prater, James Carr, Breanna Harris* Role of Tectal CRF Administration on Multisensory and Discrete Feeding Behavior
- P2-086** *Katelyn Graver, Jordanna Sprayberry* How do bumblebees use visual versus olfactory information from flowers at different spatial scales?
- P2-087** *Nour Yousry, Paige Henderson, Jordanna Sprayberry* The effect of fungicide odor-pollution on floral search and selection in bumblebees
- P2-088** *Joseph Caldwell, Patricia Couvillon* Category and Relational Learning in Honeybees (*Apis mellifera*)
- P2-089** *Wave Moretto, Jennifer Taylor* The effect of temperature on the feeding ecology of Brown Box Crabs
- P2-090** *Tanner Senti, Matthew Gifford* Prey and Macronutrient Selectivity in a Common Insectivorous Predator, *Sceloporus consobrinus*
- P2-091** *Moth Castagna, Jenny Burrow, Ciara Stewart, Avery Russell* Take it or Leaf it: Is Leaf Shape a Reliable Pollinator Learning Cue?
- P2-092** *Jenny Burrow, Maggie Mayberry, Jacob Francis, Faith Dall, Michelle Bowe, Anne Leonard, Avery Russell* Picky eaters: generalist bees sample pollen on flowers by ingestion before collection
- P2-093** *Abilene Mosher, Daniel Papaj, Stephen Buchmann, Thomas Eltz, Avery Russell* Extra, extra, buzz all about it: anther chemical cues signal bees to buzz for pollen.
- P2-094** *Tylar Morano, Jennifer Grossman, Chelsea Bennice, Kenddra Buresch, Roger Hanlon* Octopus Arm Flexibility: Characterization of Arm Movements in Freely-Moving Octopus
- P2-095** *Breonna Cox, Sarah Foltz* Frequency of the use of garbage in nest construction by cavity-nesting bird species and correlations

- P2-096** *Lily Gray, Harry Siviter, Felicity Muth* Does chronic flupyradifurone exposure impair bumblebee memory?
- P2-097** *Abiageal Ketchersid, Sophi Brice, Jason Macrander* What happens when you take the sting out of venom?
- P2-099** *Jace Gertz, Allison Davis* The brave and the bold: effects of pollution on boldness behaviors in fish
- P2-100** *Emily Buska, Arthur Martin* The impact of a predator, Largemouth Bass, on the shelter usage of the Rusty Crayfish
- P2-101** *Molly Buehler, Joseph Leese* The effect of predator exposure on territorial aggression in female *Amatitlania nigrofasciata*s
- P2-102** *Diane Cordero, Alva Mihalik, Lindsey Swierk, Alexandra Martin* Going with the flow and using bubbles to escape threats: Diving preferences of *Anolis aquaticus*
- P2-103** *Christofer Brothers, Daniella Guizarnotegui-Gomez, Stacey Combes* Striking Dragons: Dragonfly nymph attack frequency and success at varying angles on live prey

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- P2-104** *Catherine Waggoner, Kayla Pehl, John Swallow, Jason Vance* Growth and allometry in the adult stalk-eyed fly, *Teleopsis dalmanni*
- P2-105** *Saba Zerefa, Debojyoti Biswas, Yu Yang, Noah Cowan* Decoding Active Sensing via Tracking Behavior in Weakly Electric Fish
- P2-106** *Huanying Yeh, Yu Yang, Noah Cowan* Luminance modulates sensorimotor delay in refuge tracking of *Eigenmannia virescens*
- P2-107** *Moey Rojas, Amberle McKee, Madeleine Frey, Kelly Dorgan* Use of a novel "Ant Farm" tank to explore the role of hydraulic fracture in burrowing
- P2-108** *Patrick Liu, Catherine Loudon, Cameron Crook, Tommaso Baldacchini, Lorenzo Valdevit* Using microfabricated surfaces to trap bed bugs

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- P2-109** *Matthew Godino, Elyse Wick, Matt Steffenson* The effect of apiculture stressors on the immunological response of Italian honeybees
- P2-110** *Andrea Flores, Gerard Sandate, Matt Steffenson* The effect of energy expenditure on immunological response between drones and worker honeybees
- P2-111** *Sarah Troy* Infection dynamics under heat stress in tall fescue: A case for stress-mediated defense tradeoffs.
- P2-112** *Madeline Choi, Kevin Pham, Wonil Choi, Haruka Wada* The effects of nighttime light exposure on avian bacterial killing ability and gut microbiota
- P2-113** *Stephen Ferguson, Morgan Fimreite, Harrison Williams, Elizabeth Danka* A test of physiological trade-offs in response to artificial light at night in passerine nestlings
- P2-114** *Kaitlyn Ross, Katie Talbot, Ellen Ketterson* Investigating factors driving the impact of Plasmodium on songbird sperm quality
- P2-115** *Rebecca Witty, Lucas Kirschman, Timothy Judd* Iron supplementation and immune responses in a social insect
- P2-116** *Atul Pandey, Delbert Green* Pre-adult stage Juvenile Hormone level regulation affects the immunity-lifespan trade-off in Monarch
- P2-117** *Natalie Villafranca, Sofia Diaz-de-Villegas, Isabella Changsut, Haley Womack, Alicia Schickle, Koty Sharp, Lauren Fuess* Investigation of trade-offs associated with immunity and reproduction in *Astrangia pocolata*

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- P2-119** *Olivia Redding, Jacob Lasala* Invasive Plant Root Penetration in Loggerhead Nests on the Gulf of Mexico
- P2-120** *Lizbeth Gonzalez, Louie Yang* Can aphid excretion serve as restoration for native vegetation?
- P2-121** *Anna List, Sarah Wofford-Mares, Tabitha Siegfried, Melissa Cook* Disproportionate rates of incidental sea turtle bycatch at fishing piers in the Florida Panhandle

- P2-122** *Dakota McCoy, Dale Burns, Elissa Klopfer, Liam Herndon, Baba Ogunlade, Jennifer Dionne, Sönke Johnsen* Windows in a clamshell: how heart cockles use fiber optics and condensing lenses for photosynthesis
- P2-123** *Kaylah Del-Simone, Rebecca Wheatley, Theodore Pavlic, Robbie Wilson* Performance ecology & conservation: Modelling the effect of habitat change on predator-prey dynamics
- P2-124** *Ryan Ferrer, Eric Long, Baine Craft* Effects of predator odors on deer-fir interactions in a predator-free environment
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- P2-126** *Kameron Orel, Glenna Clifton* Walking kinematics of the purple shore crab over hemispherical obstacles
- P2-127** *Ruiqi Wang, Yakun Cao, Nick Gravish* The roles of traction and actuation in cockroach crevice traversal
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- P2-130** *Joseph Alexander, Madeleine Hagood, Marianne Porter* Mechanical Properties of Atlantic Stingray (*Dasyatis sabina*) Skin
- P2-131** *Sara Siwiecki, Lauren Mellenthin, Casey Dunn, Alison Sweeney* Ultra-soft ctenophore mesoglea and bulk extracellular matrix diversity in metazoans
- P2-132** *Kate Appleman, Katarina Lettner, Andrew Behrmann, Pirooz Eghtesady, Lucas Kirschman* Measuring the Efficacy of Left Atrial Appendage Tissue to Function as an Aortic Valve
- P2-133** *Molly Dobrow, Laura Habegger, Mason Dean, Stephen Stagon* The mechanics of energy dissipation of tessellated cartilage in sharks
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- P2-134** *Sydney Birch, Adam Reitzel, Ed Smith, Yehu Moran* Connecting copy number variation to microbial and viral diversity of an estuarine anemone
- P2-135** *Rita Afagwu, Avery Russell* How flower longevity affects epiphytic microbial abundance and community composition
- P2-136** *Rebecca Bachtel, Theo Modla, Anna Schumacher, Ioulia Bespalova, Heather Axen* Species survey and assessment of endosymbionts in wild-caught Drosophilidae from Rhode Island
- P2-137** *Danielle Rios, Elizabeth Borda, Davida Smyth, Jose Valdez* Plant-Vector-Microbe Interactions of Texas Grasslands
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- P2-139** *Maya Powell, Verena Schoepf, Sarah Solomon, Chris Lippens, Anastasia Dulskiy, Karl Castillo* Coral algal and microbial communities in extreme environments provide insights into reef resilience
- P2-140** *Brent Zeyus Valdez Valdez, Daravuth Cheam, Michele Nishiguchi* Can we mow your bacterial lawn? Protozoan grazing on evolving *Vibrio* biofilms
- P2-141** *Cassandra Maldonado* Characterization of Antibiotic Production and Microbial Diversity in the Soils of San Antonio
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- P2-142** *Santhan Chandragiri, Bikram Dhoj Shrestha, Vivek Prakash* Modelling the effects of confinement on fluid dynamics of micro-swimmers
- P2-143** *Ayane Garrison, Ibrahim Waheed, John Long, Candido Diaz* Modeling the Microscale Morphology of Moth Wings
- P2-144** *Dimitri Smirnoff, Mary Guzowski, William Weber, Jessica Rossi-Mastracci, Alan Love, Ruth Shaw, Mike Travisano, Mark Borrello, Gillian Roehrig, Emilie Snell-Rood* Staying accurate while being useful: biological principles in bioinspiration
- P2-145** *Jenna McNally, Mark Jankauski* Investigation of the Poricidal Anther Frequency Response through Finite Element Modeling
- P2-146** *Steven Snipes, Michael Rosario* Modeling dynamic muscle-tendon interactions in interrupted movements
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- P2-150** *Isabella Gravante, Audrey Hurt, Rachel Pepper, Brett Klaassen-van-Oorschot, Vermilion Villarreal** Morphologic Differences in Bird's Nest Fungi as a Predictor for Dispersal Behavior
- P2-151** *Audrey Hurt, Rachel Pepper, Brett Klaassen-van-Oorschot, Isabella Gravante* The effect of peridiole shape on the kinematics of splash cup dispersal in bird's nest fungi.
- P2-152** *Sangjin Ryu, Haipeng Zhang, Mary Salcedo, Jake Socha, Günther Pass* Transient perfusion flow patterns in a dragonfly forewing elucidated using a microfluidic model

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- P2-155** *Cassidy Reynolds, Esmeralda Rosas, Matthew Barnes, Romi Burks* Large snails & small DNA: Relating *Pomacea maculata* biomass & environmental DNA concentration
- P2-156** *Aleksey Maro, Robert Dudley* Field portable methods for the quantification of fruit ethanol concentrations
- P2-157** *Sara Filler, Nivea Patel, Sophie Kogut, Daniel Munteanu, Sara Cahan, James Waters, Seth Fietze* Comparative analysis of RNA-seq library preparation protocols on thermally-stressed *D. melanogaster*
- P2-158** *Paul Jerem, Judith Smit, Andrew Cronin, Peter Moran, Wouter Halfwerk* Interactive phenotypes as a novel tool to study signal evolution under field conditions

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- P2-160** *Emily Rose, Darshi Patel, Dalila Sanchez* Investigating effects of algal turbidity on the dwarf seahorse (*Hippocampus zosterae*) mating system
- P2-161** *Sydney Wayne, Daniel Warner, Kerry Cobb, Jocelyn Miracle, Cindy Scruggs* The influence of water availability on reproduction and embryo development in the brown anole lizard
- P2-162** *Kara Titus, Richardo Castellon, Julie Cooper, Cyrus Washington, Samantha Coy, Carsten Grupstra, Sonora Meiling, Jason Quetel, Alex Veglia, Joyah Watkins, Amy Apprill, Marilyn Brandt, Daniel Holstein, Laura Mydlarz, Adrienne Simoes-Correa* Caribbean fish feces disperse live and dead Symbiodiniaceae across endemic and epidemic reef zones
- P2-163** *Aimee Deconinck, Olivia Madalone, Christopher Willett* Take My Breath Away: Mitonuclear mismatch disrupts hypoxia tolerance in *Tigriopus californicus*
- P2-164** *Nicholas Heslep, Njaratiana Raharinoro, Richard Lawler, Roshna Wunderlich* Locomotor energetics and development in wild Verreaux's sifaka (*Propithecus verreauxi*)
- P2-165** *Tyler Daly, Christine Ramsay* Predicting the spread of an invasive marine fouling organism via physiological temperature tolerance
- P2-166** *Ahmani Browne, Tyler Daly, Christine Ramsay* Physiological tolerance to salinity predict the invasion of a marine biofouler *Tricellaria inopinata*
- P2-167** *Victoria Pagano, Samantha Bock, Josiah Johnson, Benjamin Parrott* Effect of incubation temperature on American alligator (*Alligator mississippiensis*) telomere length

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- P2-170** *Courtney Gula, George Yocum, Julia Bowsher** Regulation of metamorphosis in the solitary bee *Megachile rotundata*
- P2-171** *Robert Walsmith, Elizabeth Walsh, Rick Hochberg* Nervous system morphology of three gnesiotrochan rotifers with a focus on metamorphosis and sex
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P2-190	<i>Ezekiel Martin, Henry Steinmetz, Seo Baek, Frederick Gilbert, Nicholas Brandley</i>	Rapid Shifts in Visible Carolina Grasshopper (<i>Dissosteira carolina</i>) Coloration During Flights
P2-191	<i>Christine Gordon, James Newcomb</i>	Localization of extraocular opsin in the brain of <i>Berghia stephanieae</i>
P2-193	<i>Luberson Joseph, Emily New, Jordyn Sisovksy, Adam Ramirez, Woodley Tamarra, Vanessa Franco, Liz McCullagh</i>	Species Differences in Binaural Hearing Ability of Small Mammals in Oklahoma, USA.
P2-194	<i>Whitney Walkowski, Robert Rosencrans, Elizabeth Alexis, Joshua Lott, Fernando Blank, Corinne Richards-Zawacki, William Gordon, Nicolas Bazan, Zhide Fang, Hamilton Farris*</i>	Differences in the Retinal Inner Nuclear Layer of Diurnal vs. Nocturnal Amphibians and Reptiles
P2-195	<i>Nicholas Brandley, Claire Campbell</i>	Coarse Vision, Small Legs: Active Space of Visual Signaling in the Carolina Grasshopper
P2-196	<i>Veronica Muzio-Crego, Yash Sondhi, Elina Barredo, Nicolas Jo, Erickson Francisco, Jamie Theobald</i>	Changes in circadian rhythm activity of moths subjected to simulated light pollution
P2-197	<i>Elaine Zhou, Abraham Lineaweaver, Kendra Buresch, Jean Boal, Roger Hanlon</i>	Mechanotactile 3D shape discrimination by octopus arms suckers
P2-198	<i>Darene Assadia, Sean Polidori, Delbert Green</i>	Plasticity in Sensory Perception: Role of Visual and Olfactory Systems in Monarch Butterflies

- P2-199** *Jessica Bowers, Cheng-Yu Li, Theresa Alexander, Scott Juntti* Single nucleus RNA-seq of the olfactory epithelium in an African cichlid fish
- P2-201** *Lisa Brady, Tobias Ziemke, Amu Tawawalla, Greg Pask* Constructing an Improved System for Decoding Insect Odorant Receptors
- P2-202** *Yuriy Bobkov, Alexandra Hernandez, Joseph Ryan* Molecular and physiological properties of ctenophore excitable cells
- P2-203** *Jennifer Ortiz, Yuriy Bobkov, Melissa DeBlasse, Dorothy Mitchell, Allison Edgar, Mark Martindale, Anthony Moss, Leslie Babonis, Joseph Ryan** Independent innexin radiation shaped signaling in ctenophores
- P2-204** *Jessica Ward, Alexa McDonald* Role of the lateral line in embryonic communication in oviparous fishes
- P2-205** *Spruha Rami, Karthikeyan Chandrasegaran, Clément Vinauger* Influence of mosquito ecology on the neural encoding of human host odors
- P2-206** *Molly Westbrook, Nicholas Guilbeault, Aristides Arrenberg, Tod Thiele, Scott Juntti* A Comparison of the Visual Behavior of *Astatotilapia burtoni* and *Danio rerio*
- P2-207** *Jared Ingram, Matthew Fuxjager, Nigel Anderson, Doris Preininger, Madeline Ketner* Measures of visual acuity in male and female Asian common toads
- P2-208** *Kenneth Garcia, Daniel Powell, Elise Martin, Alexandra Miller, Grace Bukowski-Thall, Patsy Dickinson* Flexibility of cardiac ganglion does not correlate with complexity of feeding in 3 species of crab
- P2-209** *Karin van-Hassel, Grant Greisman, Evyn Dickinson, Xuan Qu, Daniel Powell, Patsy Dickinson* Modulation of the stretch feedback pathway by neuropeptides in the heart of the American lobster

Sexual Selection and Dimorphism

- P2-211** *Austen Ehrie, Alec Iruri-Tucker, Yasmin Lord, Kevin Hunt, P. Polly, Adam Fudickar, Michael Wasserman* Measuring Mantled Howler Monkey (*Alouatta palliata*) Testes via Parallel Laser Photogrammetry: Expanding the use of Non-Invasive Methodologies
- P2-212** *Yichen Li, Gayatri Raina, Benjamin Jarrett, Christine Miller* The effect of male-male competition and group living on female injury
- P2-213** *Valerie Brewer, Jamie Cornelius, Suzanne Austin* Western bluebird sex ratios over years with varying temperature and precipitation

Striking, Biting and Feeding

- P2-214** *Ryan Sesler, Lisa Whitenack* The Art of Biting: The Effects of Wear on the Morphology and Puncture Force of Shark Teeth
- P2-215** *Olivia Walthaus, Frederik Püffel, Victor Kang, David Labonte* A comparison of cutting and bite forces in *Atta vollenweideri* leaf-cutter ants
- P2-216** *Casey Holliday, Alec Wilken, Kaleb Sellers, Ian Cost, Kevin Middleton, Lawrence Witmer* Avian cranial kinesis is the result of increased encephalization during the origin of birds.
- P2-217** *Sara Wilmsen, Clément Vinauger, Chloe Lahondere, Pascha Shevchenko, Kamel Fezzaa, Jake Socha* Comparison of the feeding mechanism between sexes in two blood-feeding mosquitoes
- P2-218** *Danielle Taylor, Daisy Dan, Gavin Svenson, Joshua Martin* Comparative morphology and mechanics of the predatory foreleg of praying mantis species (*Mantodea*).
- P2-219** *Noah Nadeau* Context Dependant Strike Modulation in Pistol Shrimp
- P2-220** *Leah Kahn, Seth Finnegan, Z. Jack Tseng* Mechanics and defensive functions of gastropod shell ornamentation
- P2-221** *Hayden Biggs, Karly Cohen, Stephanie Crofts* Functional heterodonty vs homodonty in extant crocodylians
- P2-222** *Jimmy Oberlin, John Robertson* Musculature of the Gill Arch of Paddlefish: A Role in Gill Raker-Based Filter Feeding?

Terrestrial Locomotion

- P2-223** *Andrew Schulz, Cassie Shriver, Suzanne Stathatos, Benjamin Seleb, Saad Bhamla, Young-Hui Chang, David Hu* A Review of Advancing Conservation Practices using Conservation Tools
- P2-224** *Michael Loukeris, Matthew O'Neill, Nathan Thompson* Do chimpanzees modulate substrate-to-body distance during vertical climbing?

- P2-225** *Michael Granatosky, Melody Young, Edwin Dickinson, Daniel Tanis, Aleksandra Ratkiewicz, Christopher Hanna, Allen Currier, Felix Kong, Clyde Webster* The Onset of Beak and Tail Use are Triggered by Changes in Substrate Orientation in Parrots
- P2-226** *Emily Yamauchi, Elizabeth Mendoza, Manny Azizi* Assessing functional deficits following surgical interventions
- P2-227** *Delyle Polet, Jim Usherwood* Mass distribution effects on optimal gait in quadrupedal rimless wheels
- P2-228** *Kubra Akbas, Zhaoyuan Zhang, Cruz Donato, Elizabeth Archer, Maria Schiavone, Carlotta Mummolo, Eleni Gourgou* Transdisciplinary exploration of the aging-driven locomotive decline in humans and nematodes
- P2-230** *Melody Young, Edwin Dickinson, Daniel Tanis, Nicolas Flaim, Alexander Lopez, PD Dr.-Ing. Andrada, John Nyakatura, Michael Granatosky* Beak-iation expands the locomotor repertoire of birds
- P2-229** *Joonha Hwang, Daniel Soto, Daniel Goldman* Robotic collective structure formation in geometrically entangled soft matters

Tools and Techniques for Understanding Shapes and Forces

- P2-231** *Sam Van-Wassenbergh, Peter Aerts, Falk Mielke, Van Nguyen, Jan Sijbers, Jan De-Beenhouwer, Joris Dirckx, Joaquim Sanctorum* Fast and flexible CT scanning with a high-speed cineradiography system
- P2-232** *Michael Rosario, Abigail Downes, Hailey Smith* STRECH: Strain Tension Recorder Engineered from Cheap Hardware
- P2-233** *Yakun Cao, Ruiqi Wang, Nick Gravish* Development of an FTIR apparatus for observing the dynamics of adhesive engagement in Argentine Ants
- P2-234** *Zachary Nopper, Kaelyn Gamel, Henry Astley* Detecting Hydrodynamic Wake Forces with an Underwater Force Plate

Friday Schedule of Events

Events take place in the JW Marriott Austin, unless otherwise noted

EVENT	TIME	LOCATION
Poster Session 3 Set Up	7:00 AM – 8:00 AM	JW Grand Ballroom
Speaker Ready Room	7:00 AM – 5:00 PM	Room 405
Registration	7:30 AM – 3:00 PM	JW Grand Ballroom Foyer
Coffee Break AM	9:30 AM – 10:30 AM	JW Grand Ballroom
Exhibit Hall	9:30 AM – 5:30 PM	JW Grand Ballroom
Coffee Break PM	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 3 Even Numbers Authors Present	3:30 PM – 4:30 PM	JW Grand Ballroom
Poster Session 3 Odd Numbers Authors Present	4:30 PM – 5:30 PM	JW Grand Ballroom
Poster Session 3 Teardown	5:30 PM – 6:00 PM	JW Grand Ballroom
SPECIAL LECTURE		
Carl Gans Award: Dr. Alejandro Rico-Guevara Comparative ecophysics of avian nectarivory <i>Sponsored by the Journal of Experimental Biology</i>	7:30 PM – 8:30 PM	Lonestar D
SYMPOSIUM ORAL PRESENTATIONS		
S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success	7:45 AM – 3:30 PM	Lonestar E
S8: The Role of Mechanosensation in Robust Locomotion	7:45 AM – 3:30 PM	Lonestar C
S9: Envisioning a Diverse, Inclusive & Safe Future for Field Biology	7:45 AM – 3:30 PM	Lonestar D
CONTRIBUTED PAPER ORAL PRESENTATIONS		
MORNING		
Host-Parasite Interactions	8:00 AM – 9:30 AM	Rooms 402-403
Phenotypic Plasticity Across Scales	8:00 AM – 9:30 AM	Lonestar A
Sensory Biology III	8:00 AM – 9:45 AM	Rooms 201-202
Speciation and Diversity	8:00 AM – 9:45 AM	Lonestar H
Thermal Ecology	8:00 AM – 9:30 AM	Rooms 301-302
Thermal Physiology I	8:00 AM – 9:45 AM	Lonestar G
Ecology and Evolution of Locomotion & Feeding	8:00 AM – 10:00 AM	Lonestar F
Living in the Anthropocene	8:00 AM – 9:45 AM	Lonestar B
Robots and Physical Models I	8:00 AM – 10:00 AM	Brazos
Terrestrial Locomotion II: Mammals	8:00 AM – 9:30 AM	Rooms 408-409
Differentiation and Morphogenesis	8:00 AM – 10:15 AM	Rooms 203-204
Life in Trees I	8:30 AM – 9:30 AM	Rooms 303-304
Examining Mechanisms of Parental, Developmental, or Environmental Impacts	10:00 AM – 12:00 PM	Rooms 402-403
Ecophysiology: Can Organisms Take the Heat?	10:15 AM – 11:45 AM	Rooms 301-302
Foraging Behavior I: Space, Time and Coordination	10:15 AM – 12:00 PM	Lonestar H
Locomotion in Complex Environments	10:15 AM – 12:00 PM	Rooms 303-304
Sensory Biology IV	10:15 AM – 12:00 PM	Rooms 201-202
Life in Trees II	10:30 AM – 11:45 AM	Rooms 408-409
Appendage Kinematics During Aquatic Locomotion	10:30 AM – 12:00 PM	Brazos
Coral Biology and Modeling	10:30 AM – 11:45 AM	Lonestar B
Feeding and Swallowing Anatomy and Mechanics II	10:30 AM – 12:00 PM	Lonestar F
Genomic Windows on Diversity	10:30 AM – 11:45 AM	Lonestar A
Global Change Biology III: Distribution/Ecosystem Effects	11:00 AM – 12:00 PM	Rooms 203-204
Thermal Physiology II	10:30 AM – 12:00 PM	Lonestar G

AFTERNOON

Biological Rhythms and Plasticity	1:30 PM – 3:00 PM	Lonestar H
Flying & Landing III	1:30 PM – 3:15 PM	Rooms 301-302
Reproduction and Development	1:30 PM – 3:15 PM	Lonestar A
Character Development and Evolution	1:30 PM – 3:30 PM	Lonestar G
Energetics	1:30 PM – 3:15 PM	Rooms 402-403
Evolutionary Comparative Morphology	1:30 PM – 3:30 PM	Rooms 408-409
Feeding and Swallowing Anatomy and Mechanics III	1:30 PM – 3:30 PM	Lonestar F
Immunity	1:30 PM – 3:30 PM	Lonestar B
Modeling & Computational Approaches I	1:30 PM – 3:00 PM	Rooms 303-304
Robots and Physical Models II	1:30 PM – 3:30 PM	Brazos
Worlds Within: Microbiome Ecology and Evolution	1:30 PM – 3:30 PM	Rooms 203-204
Reproductive Behavior	2:00 PM – 3:30 PM	Rooms 201-202

COMMITTEE AND BOARD MEETINGS

Development Committee	12:00 PM – 1:00 PM	Room 404
IOB Editorial Board	12:00 PM – 1:00 PM	Room 406
Division Secretaries Meeting	12:00 PM – 1:30 PM	Room 407

BUSINESS MEETINGS

SICB Society Member Meeting & Awards Presentation	6:00 PM – 7:00 PM	Lonestar D
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WORKSHOPS AND PROGRAMS

CRISPR gene editing in non-model organisms	12:00 PM – 1:30 PM	Room 404
Integrative Biology Incubator: How do plants, animals, fungi, and algae solve the same problems differently?	12:00 PM – 1:30 PM	Lonestar B
SPDAC Workshop: Sci-Comm Round Table	12:00 PM – 1:30 PM	Griffin Hall
PAC Workshop: Communicating science across the ideological spectrum	12:00 PM – 1:30 PM	Lonestar C
Bridging Collaborations Between University and K-12 Classrooms: Cross-generational Active Teaching Approaches	7:00 PM – 9:00 PM	Room 404

SOCIAL EVENTS

Morning 5K Run	6:00 AM – 7:00 AM	JW Marriott Lobby
Birding in Austin	7:15 AM – 8:45 AM	Offsite
DVM/DCB Social	8:30 PM – 10:00 PM	Terrace Deck
Libbie Hyman Auction and DIZ/DEDB/TCS/AMS Dessert Social	8:30 PM – 10:00 PM	Brazos

Friday Program Symposia

Note: Presenter is first author unless noted by an asterisk (*).

7:45 AM – 3:30 PM

Lonestar E

S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success

Chairs: Christopher Mayerl, Rebecca German

7:45 am	Rebecca German, Christopher Mayerl	Biology at Birth: Introduction to the Symposium
8:00 am	Kaitlyn Murphy, Samantha Le, Alan Wilson, Daniel Warner	The microbiome as a maternal effect: A meta-analysis on vertical transmission of microbiota
8:30 am	Brett Frye, Dakota McCoy, Jennifer Kotler, Amanda Embury, Judith Burkart, Monika Burns, Simon Eyre, Peter Galbusera, Jacqui Hooper, Irun Idoe, Agustín Goya, Jennifer Mickelberg, Marcos Quesada, Miranda Stevenson, Sara Sullivan, Mark Warneke, Sheila Wojciechowski, Dominic Wormell, David Haig, Suzette Tardif	Exploring the impacts of variation in litter composition in callitrichine monkeys
9:00 am	Chloe Josefson, Emma Sells, Amy Skibiell	Maternal effects of chronic stress during lactation
9:30 am	Coffee Break	Grand Ballroom
10:00 am	Katie Hinde	The Adaptively-Relevant Environment of the Primate Neonate: Mother's Milk in Developmental Context
10:30 am	Peter Aerts, Falk Mielke, Charlotte Vanden-Hole, Merel Van-Gorp, Chris van-Ginneken	Early development of locomotion in the piglet model: does size matter?
11:00 am	Jesse Young, Christopher Mayerl, Alekhya Mannava, Tianhui Fan, Christopher Mamone, Nicole Schapker, Angela Mossor, Rebecca German	Balance development in an infant pig model of preterm birth
11:30 am	Christopher Mayerl, Chloe Edmonds, Kendall Steer, Khaled Adjerid, Maxwell Johnson, Stephen Howe, Rebecca German	The function of the mammalian extrinsic tongue muscular in the transition from suckling to drinking
12:00 pm	Lunch
1:30 pm	Whitney Cole, Karen Adolph	Learning to move in a changing body and a changing world
2:00 pm	Jennifer Gay, Evelynne Dangcil, Jacqueline Nacipucha, Todd Mowery*	An animal model of preterm infant exposure to the neonatal intensive care unit environment.
2:30 pm	Melissa Bates	Long-term impacts of prematurity on cardiorespiratory control
3:00 pm	Joseph Duke	Impact of preterm birth on respiratory and cardiopulmonary function in adult humans

7:45 AM – 3:30 PM

Lonestar C

S8: The Role of Mechanosensation in Robust Locomotion

Chairs: Katie Stanchak, Hilary Katz

7:45 am	Kathryn Stanchak, Hilary Katz	Symposium Introduction: The role of mechanosensation in robust movement control
8:00 am	Bradley Dickerson, Noah Cowan, Andrea Gaede, Auke Ijspeert	Feedforward and feedback control architectures for locomotion using mechanosensory input
8:30 am	Kaushik Jayaram, William McDonnell, Walter Gililand, Heiko Kabutz, Hari Krishna Hari-Prasad	Integrated and Distributed Mechanosensing for Robust Locomotion
9:00 am	Christina Hamlet, Lisa Fauci, Eric Tytell	Neuromechanical modeling of proprioceptive feedback effects on spinal injury recovery in lampreys
9:30 am	Coffee Break	Grand Ballroom

Friday 6 January 2023

10:00 am	<i>Hilary Katz</i>	Rohon-Beard neurons and perspectives on sensorimotor integration after spinal cord regeneration
11:00 am	<i>Claire Wyart, Urs Bohm, Pierre-Luc Bardet, Yasmine Cantaut-Belarif, Martin Carbo-Tano, Laura Desban, Lydia Djenoune, Kevin Fidelin, Jeff Hubbard, Hugo Marnas, Andrew Prendergast, Jenna Sternberg, Mingyue Wu</i>	An axial sensory system detecting spinal curvature impacts locomotion, posture & morphogenesis
11:30 am	<i>Chris Dallmann, John Tuthill</i>	Context-dependent modulation of leg proprioception in <i>Drosophila</i>
12:00 pm Lunch		
1:30 pm	<i>Kathryn Stanchak, David Perkel, Bingni Brunton</i>	The avian lumbosacral organ: A spinal mechanosensor for bird balance?
2:00 pm	<i>Aaron West, Thomas Hart, Eve Schneider*</i>	Tactile Specialization in Domestic and Muscovy Ducks: Integrating Behavior and Physiology
2:30 pm	<i>Julie Simpson</i>	Mechanosensory cues contribute to the fly grooming sequence
3:00 pm	<i>Kathryn Denny, Steve Huskey, Christopher Anderson, Michael Smith*</i>	Communication via biotremors in the veiled chameleon (<i>Chamaeleo calypttratus</i>)

7:45 AM – 3:30 PM

Lonestar D

S9: Envisioning a Diverse, Inclusive & Safe Future for Field Biology

Chairs: Vanessa K Hilliard Young, Robin Verble, Corinne L. Richards Zawacki

7:45 am	<i>Vanessa Young, Robin Verble</i>	Symposium Intro: Current landscape & perspectives from a researcher and a field station director
8:00 am	<i>Nia Morales, Darryl Reano</i>	What is The Field? Conceptualizing inclusive undergraduate field experiences
8:30 am	<i>Maryam Kamran, Kelsey Jennings, Ashley Dayer</i>	Fieldwork and LGBTQ+ identities: Queering the outdoors
9:00 am	<i>Shayle Matsuda</i>	Centering transgender and non-binary experience, access, and safety in ecological fieldwork
9:30 am Coffee Break Grand Ballroom		
10:00 am	<i>Charlotte Devitz</i>	Where the pavement ends: Breaking barriers to accessibility in the field
10:30 am	<i>Alex Troutman</i>	NFWB: Navigating Fieldwork while Black
11:00 am	<i>Itumeleng Moroenyane</i>	The future of Black Lives Matter Legacy: Cultivating an Inclusive and Anti-Racist Environment
11:30 am	<i>Elizabeth Rudzki</i>	Field Safety Manuals: Addressing Exacerbated Field Risks for Marginalized Scientists
12:00 pm Lunch		
1:30 pm	<i>Gillian Bowser, Carmen Cid</i>	Knowing your field community: a model for effective applied ecology
2:00 pm	<i>Victoria McDermott, Lara Roketenetz*, Phoebe Jekielek</i>	IDEA+ and OBFS: Using transdisciplinary strategies to create more inclusive spaces
2:30 pm		Gallery Walk and Discussion

Friday Program Morning Sessions

Note: Presenter is first author unless noted by an asterisk (*).

8:00 AM – 9:30 AM

Rooms 402-403

Host-Parasite Interactions

Chair: Lauren E. Fuess

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|---------|--|---|
| 8:00 am | <i>Katherine Malinski, Christopher Willett, Joel Kingsolver</i> | Heat disrupts parasitic immunosuppression differently in wild vs. domesticated host populations |
| 8:15 am | <i>Zuania Colón-Piñero, Junangel Aleman-Rios, Laura Reinert, Louise Rollins-Smith, Patricia Burrowes, Ana Longo</i> | Juvenile coqui frogs can mount immune response to chytrid fungus: The key to persistence? |
| 8:30 am | <i>Lauren Fuess, Amanda Hund, Daniel Bolnick</i> | Investigating mechanisms of variation in parasite resistance using experimental immune challenge |
| 8:45 am | <i>Ella Halbert, Joanna Reinhold, Megan Roark, Sierra Smith, Katherine Stroh, Cameron Siler, David McLeod, Chloe Lahondere</i> | <i>Culex territans</i> and its role in transmitting <i>Batrachochytrium dendrobatidis</i> to frogs |
| 9:00 am | <i>Anat Belasen, Anna Savage, Michael Campana, Kevin Mulder, Robert Fleischer, Kelly Zamudio</i> | Leveraging the Past to Preserve the Future: Using Museomics to Understand Amphibian Disease Responses |
| 9:15 am | <i>Obed Hernandez-Gomez, Lubna Mulla, Vanessa Wuerthner, Jessica Hua</i> | Commonalities in the response of North American salamander skin microbiotas to wildfires and roads |

8:00 AM – 9:30 AM

Lonestar A

Phenotypic Plasticity Across Scales

Chair: Sarah E. Kienle

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|---------|---|--|
| 8:00 am | <i>Brett Hodinka, Tony Williams</i> | Phenotypic plasticity in mass loss during breeding: annual and individual variation |
| 8:15 am | <i>Anthony Snead, Corey Quackenbush, Shawn Trojahn, Anna McDonald, Luana Lins, Chris Cornelius, Paula Adams, Dengke Ma, Yuying Hsu, Eric Haag, Frédéric Silvestre, Akira Kanamori, Ryan Earley, Joanna Kelley</i> | Plastic Gene Expression in Response to Embryonic Thermal Conditions |
| 8:30 am | <i>Aaron Schrey, Kyle Ashton, Melanie Gibson, M. Ellesse Lauer, Andrea Liebl, Lynn Martin, Lance McBrayer, Earl McCoy, Henry Mushinsky, Daniella Ray, Elizabeth Sheldon, David Tevs</i> | Epigenetic buffering in heterogenous and stressful environments |
| 8:45 am | <i>Joshua Allen, Brett Hodinka, Tony Williams</i> | Experimental manipulation of developmental plasticity and its consequences for juvenile performance. |
| 9:00 am | <i>Kimberly Sheldon</i> | Behavioral plasticity of dung beetle species in warmer, more variable temperatures impacts fitness |
| 9:15 am | <i>Sarah Kienle, Renato Borrás-Chavez, Carolina Bonin-Lewallen, Stephen Trumble, Emily Sperou, Dan Crocker, Michael Goebel, Shane Kanatous, Erin LaBrecque, Krista van-der-Linde, Dan Costa</i> | Phenotypic plasticity across the species range of a Southern Ocean apex predator, the leopard seal |

8:00 AM – 9:45 AM

Rooms 201-202

Sensory Biology III

Chair: Megan D. Gall

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| 8:00 am | <i>Kayla Goforth, Catherine Lohmann, Kenneth Lohmann</i> | Recognition of site-specific magnetic fields by sea turtles: use of dual magnetic parameters |
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Friday 6 January 2023

8:15 am	<i>Karen Maruska, Chase Anselmo</i>	Gonadotropin-releasing hormone as a modulator of vision in a cichlid fish
8:30 am	<i>Julie Butler, Penelope Baker, Lauren O'Connell</i>	Sensory Basis of Caregiver Recognition in Mimetic Poison Frog Tadpoles
8:45 am	<i>Megan Gall, Glenn Proudfoot</i>	Masked Thresholds and Critical Ratios of Northern Saw-whet Owls (<i>Aegolius acadicus</i>)
9:00 am	<i>Eleanor Caves, Laura Kelley</i>	Bigger is not always better: green swordtails <i>Xiphophorus helleri</i> proportionally process body size
9:15 am	<i>Shana Caro, Rebeca Moreno-Villarreal, Camilla Hinde, Hans Hofmann</i>	Into the wild: How real-world complexity and fitness consequences shape decision-making in birds
9:30 am	<i>Steve Nowicki, Alexander Davis, Matthew Zippel, Danae Diaz, Susan Peters, Sönke Johnsen</i>	Influence of visual background on discrimination of signal-relevant colors in zebra finches

8:00 AM – 9:45 AM

Lonestar H

Speciation and Diversity

Chair: Marguerite A. Butler

8:00 am	<i>Marguerite Butler, Ethan Hill, Diana Gao, Dan Polhemus, Allen Allison</i>	Geological drivers of diversification in Papuan microhylid frogs
8:15 am	<i>Christina Ellison, Svetlana Maslakova</i>	Nemertean of Pacific Panama
8:30 am	<i>Greg Rouse, David Caress, Shana Goffredi, Ekin Tilic</i>	Observations on deep-sea <i>Xenoturbella</i> (<i>Xenoturbellida</i> , <i>Bilateria</i>)
8:45 am	<i>Grace Tindall, Greg Rouse, Anja Schulze, Elizabeth Borda</i>	Cryptic Species of the Cosmopolitan <i>Eurythoe</i>
9:00 am	<i>Abigail Uehling, Lisa Mussoi, Gustav Paulay</i>	Cryptic diversity and concordant geographic restriction in Arabian <i>Aquilonastra</i> sea stars
9:15 am	<i>Mason Strickland, Michael Sandel</i>	Conservation Genetics and Environmental DNA of the Bridled Darter
9:30 am	<i>Nine Doutreloux, Michel Marengo, Dimitri Theuerkauff, Martial Laurans, Michela Patrissi, Pierre Lejeune, Martin Laporte, Patrick Berrebi</i>	Genetic structure of Corsican spiny lobsters, a matter of irregular annual recruitment?

8:00 AM – 9:30 AM

Rooms 301-302

Thermal Ecology

Chair: Karla Alujevic

8:00 am	<i>Karla Alujevic, Leah Bakewell, Jelena Bujan, Christian Cox, Luke Frishkoff, Eric Gangloff, Guillermo Garcia-Costoya, Matthew Gifford, Akhila Gopal, Samir Gulati, Alyssa Head, Monica Miles, Ciara Pettit, Charles Watson, Kelly Wuthrich, Michael Logan</i>	Thermal ecology in 3D: new methods for quantifying thermal environments of terrestrial ectotherms
8:15 am	<i>Rory Telemeco, Cha kong Thao, Kira Gangbin, Nicole Gaudenti, Devon Mitchell, Keyanna Pinto, Kathryn Ramirez, Emily Taylor, Vanessa Valencia, Michael Westphal</i>	Plant Communities Determine Thermal Exposure of Endangered Blunt-nosed Leopard Lizards
8:30 am	<i>David Chang-van-Oordt, Conor Taff, Daniel Ardia, Maren Vitousek</i>	The effects of developmental cold exposure on nestling thermoregulation in tree swallows
8:45 am	<i>Analisa Shields-Estrada, David Cannatella</i>	Near-infrared reflectance as a thermoregulatory mechanism in <i>Hyla</i> tree frogs
9:00 am	<i>Lauren Neel, Jacob Youngblood, Dylan Padilla, Zackary Graham, Michael Sears, Michael Angilletta</i>	Thermal landscapes shape life history variation along an altitudinal gradient
9:15 am	<i>Julia Joos, Donald Miles</i>	Thermal ecology and activity patterns of desert-living tortoises

8:00 AM – 9:45 AM

Lonestar G

Thermal Physiology I

Chair: Jason W. Dallas

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| 8:00 am | <i>James deMayo, Joseph Tucker, Jenna Tomkinson, Lahari Gadey, Phillip Freda, Jantina Toxopeus, Gregory Ragland</i> | Life stage and transcriptional dynamics affect differential gene expression during thermal stress |
| 8:15 am | <i>Lani Gleason, Florian Fekete, Richelle Tanner, Wes Dowd*</i> | Divergent transcriptomic and proteomic signatures of plasticity in an intertidal mussel |
| 8:30 am | <i>Jason Dallas, Robin Warne</i> | Early-life Manipulations of the Gut Microbiota in a Vertebrate Ectotherm Affect their Heat Tolerance |
| 8:45 am | <i>Gary Burness, Joshua Tabh, Mariah Hartjes</i> | Do birds and mammals trade-off thermoregulation for the stress response? |
| 9:00 am | <i>Wonil Choi, Haruka Wada</i> | The role of eggshell pores in thermal tolerance of zebra finch embryos |
| 9:15 am | <i>Aubrey Jane, Doug Rasher, Eric Annis, Jesica Waller, Markus Frederich</i> | Ontogenetic shifts in thermal tolerance of the American lobster (<i>Homarus americanus</i>) |
| 9:30 am | <i>Andrea Rummel, Brooke Quinn, Aaron Corcoran, Sharon Swartz</i> | Cold flights on cold nights: extreme regional heterothermy in desert bats |

8:00 AM – 10:00 AM

Lonestar F

Ecology and Evolution of Locomotion & Feeding

Chairs: Sarah Handy, Christopher Martin

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|---------|--|---|
| 8:00 am | <i>Michael Berthaume, Sarah Elton</i> | Accounting for evolutionary relatedness in biomechanical data |
| 8:15 am | <i>Sarah Handy, Karly Cohen, Lauren Simonitis, Matthew Kolmann</i> | Comparative anatomy and evolution of the gizzard in fishes |
| 8:30 am | <i>Samantha Giancarli, Michael O'Connor, Matthew Bonnan</i> | Actively foraging lizards build more robust humeri than similarly sized ambush predators |
| 9:00 am | <i>Elska Kaczmarek, Elizabeth Brainerd</i> | Royal knifefish, <i>Chitala blanci</i> , breathe air using two functionally distinct breath types |
| 9:15 am | <i>Christopher Martin</i> | How to swim across fitness valleys: the origins of scale-eating (<i>lepidophagy</i>) in pupfishes |
| 9:30 am | <i>Shir Bar, Shai Avidan, Roi Holzman</i> | Low feeding rates of larval fish persist across a range of environmental conditions |
| 9:45 am | <i>Candido Diaz, John Long</i> | Behavior and Bioadhesives: How Bolas Spiders, <i>Mastophora hutchinsoni</i> , Catch Moths |

8:00 AM – 9:45 AM

Lonestar B

Living in the Anthropocene

Chair: Anchal Padukone

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|---------|---|--|
| 8:00 am | <i>Caitlyn Jencarelli, John Hranitz, Thomas Klinger</i> | <i>Paracentrotus lividus</i> in the Gulf of Kalloni may represent a thermotolerant ecotype. |
| 8:15 am | <i>Anchal Padukone, Kimberly Sheldon</i> | Temperature means and fluctuations interact to impact life-history traits in <i>Spodoptera frugiperda</i> |
| 8:30 am | <i>Miguel Estrada-Caballero, Brian Tsukimura</i> | Potential Climate Effects on the Chinese Mitten Crab, <i>Eriocher sinensis</i> , Populations in the SF Bay |
| 8:45 am | <i>Luke Schmitz, Clinton Moran, John Zardus</i> | Temperature effects on larval swimming of an important biofouling barnacle |
| 9:00 am | <i>Racine Rangel, Kristy Kroeker, Matthew Bracken, Luke Miller, Cascade Sorte</i> | Climate Change Impacts on the Shell Structure of an Ecologically Important Shellfish |

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9:15 am	<i>Marquise Henry, Kayla Harvey, Paul Moore</i>	Investigating the effects of an SSRI on the physiology and behavior of an aquatic species
9:30 am	<i>Gustav Paulay</i>	Collecting and collections are critical for recording vanishing biodiversity in the Anthropocene

8:00 AM – 10:00 AM

Brazos

Robots and Physical Models I

Chair: *Michael C. Granatosky*

8:00 am	<i>Elizabeth Tucker, Sonia Roberts, Swapnil Pravin, Daniel Koditschek, S. Tonia Hsieh</i>	Toe spacing strongly influences jump height on “sand”
8:15 am	<i>Michael Granatosky, Melody Young, Nicolas Flaim, Edwin Dickinson</i>	Unusual phalangeal proportions improve grasping potential in birds, mammals, and bioinspired design
8:30 am	<i>Baxi Zhong, Juntao He, Shengkai Li, Eva Erickson, Kelimar Diaz, Tianyu Wang, Daniel Soto, Daniel Goldman</i>	Self-propulsion via slipping: frictional swimming in multi-legged locomotors
8:45 am	<i>Karthik Urs, Aditya Srinivas Manohar, Michael Rakowiecki, Faris Tullbah, Jessica Carlson*, Talia Moore</i>	The Robot Of Theseus: A low-cost modular robot for testing the effect of morphology on locomotion
9:00 am	<i>Velin Kojouharov, Tianyu Wang, Christopher Pierce, Kelimar Diaz, Baxi Zhong, Daniel Soto, Valerie Zborovsky, Daniel Goldman</i>	Bilateral actuation mechanism for complex terrain navigation in limbless robots
9:15 am	<i>Leandra Hamann, Hendrik Herzog, Christian Grünewald, Alexander Blanke</i>	Suspension feeders as biological models for bio-inspired filters to reduce microplastic emissions
9:30 am	<i>Jisoo Yuk, Anupam Pandey, Leena Park, Willy Bemis, Sunghwan Jung*</i>	How foxes dive into snow
9:45 am	<i>Tianyu Wang, Velin Kojouharov, Christopher Pierce, Kelimar Diaz, Baxi Zhong, Valerie Zborovsky, Daniel Goldman</i>	Robophysical modeling reveals the role of passive body mechanics in <i>C. elegans</i> locomotion

8:00 AM – 9:30 AM

Rooms 408-409

Terrestrial Locomotion II: Mammals

Chairs: *Christian Michael Hubicki, Andrew Kyle Schulz*

8:00 am	<i>Andrew Schulz, Amir Patel, Ardian Jusufi</i>	Creating Improved Conservation Reintroductions using observational biomechanics of the Cheetah
8:15 am	<i>Lance Brooks, Peter Weyand</i>	From humans to hounds: gravity and balance limit sprint running acceleration
8:30 am	<i>Andrew Lammers, Grace Schepelmann</i>	Do quadrupeds conserve angular momentum during locomotion? A test using <i>Rattus norvegicus</i>
8:45 am	<i>Christian Hubicki, Jacob Hackett, Craig McGowan, Monica Daley</i>	Modeling adaptive locomotion behaviors using risk-aware optimal control
9:00 am	<i>Aja Carter, Ethan Musser, Diego Caporale, Daniel Koditschek</i>	Investigating Spinal Column Dynamics in Crown Terrestrial Amniotes
9:15 am	<i>Benjamin Seleb, Saad Bhamla, Matt Bull</i>	Sled Dog Collective Behavior

8:00 AM – 10:15 AM

Rooms 203-204

Differentiation and Morphogenesis

Chair: *Elaine Seaver*

8:00 am	<i>Jasmine Yimeng Bao, Hannah Gruner, Bradley Davidson</i>	Heart development in the tunicate <i>Ciona robusta</i> (<i>Ciona intestinalis</i> type A)
8:15 am	<i>Ipeknaz Icten, Bradley Davidson, C. J. Pickett</i>	Comparative genomics of <i>D. gegenbauri</i> : The evolution of heart development in a polymorphic chordate

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8:30 am	<i>Gia Bautista, Bradley Davidson, Hannah Gruner</i>	Characterizing cardiac cell proliferation in the tunicate <i>Ciona robusta</i>
8:45 am	<i>Sydney Popsuj, Alberto Stolfi</i>	Examining the Role of Dkk3 in Wnt Regulation during Ascidian Neurodegenerative Events
9:00 am	<i>Aissam Ikmi</i>	Muscular hydraulics drives larva-polyp morphogenesis
9:15 am	<i>Shelly McCain, Eddy Dowle, Gregory Ragland</i>	Synchronization of developmental gene expression and morphogenesis during dormancy in a fly
9:30 am	<i>Stephan Schneider, Gaspar Jekely, Steffanie Meha</i>	Organization and development of multi-ciliated arrays in a marine larva
9:45 am	<i>Nat Clarke, Christopher Lowe, Laurent Formery</i>	Seeing clearly: visualization of whole, intact organ systems in marine invertebrates
10:00 am	<i>Paul Gonzalez, Andreas Baxevanis</i>	Conserved non-coding elements evolve repeatedly around homeobox genes in cnidarians, molluscs, arthropods and vertebrates

8:30 AM – 9:30 AM

Rooms 303-304

Life in Trees I

Chair: TBD

8:30 am	<i>Georgia Moore, Richard Blob, Victor Munteanu</i>	How arboreal chameleons and Anolis lizards resist falling from perturbed branches
8:45 am	<i>Angela Mossor, Andrew McKamy, Melody Young, Michael Granatosky, Michael Butcher, Jesse Young</i>	Comparative three-dimensional limb kinematics during suspensory locomotion in tree sloths
9:15 am	<i>Michael Curran, Christopher Anderson</i>	Locomotor kinematics and performance among syntopic but spatially divergent chameleon congeners

10:00 AM – 12:00 PM

Rooms 402-403

Examining Mechanisms of Parental, Developmental, or Environmental Impacts

Chairs: Ondi Crino, Jenny Q. Ouyang

10:00 am	<i>Fernanda Duque, Carlos Rodriguez-Saltos, Kathleen Lynch</i>	Comparative studies using mesotocin in parental and non-parental blackbird species
10:15 am	<i>Melissa (Misty) Proffitt, Tara Empson, Rachel Evans, Kayci Messerly, Susanna Tsueda, Kimberly Rosvall, Elizabeth Derryberry</i>	Early Postnatal Heat and the Potential for Carryover Effects: an Experimental Approach in Wild Birds
10:30 am	<i>Victoria Coutts, Haruka Wada</i>	Food restriction during development and its impact on physiology in the zebra finch
10:45 am	<i>Leigh Bailey, Kimberly Rosvall, Alexandra Bentz</i>	Effects of the maternal social environment on mechanisms of embryonic programming in songbirds
11:00 am	<i>Victoria Farrar, Alison Ramirez, Jaime Morales-Gallardo, Rebecca Calisi</i>	Does gaining parental experience alter neural hormone receptors? Insights from biparental rock doves
11:15 am	<i>Jennifer Heppner, Jenny Ouyang</i>	Does the urban bird get the worm? Supplemental food effects on hormones and morphology
11:30 am	<i>Jenny Ouyang, Jennifer Heppner, Justin White</i>	Urbanization, heavy metal pollution, and fitness in house sparrows
11:45 am	<i>Ondi Crino, Dan Noble</i>	How do developmental conditions affect mitochondrial function?

Ecophysiology: Can Organisms Take the Heat?

Chair: Kelly Lin Wuthrich

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| 10:15 am | <i>Constant Perry, Eric Gangloff, Fabien Aubret, Capucine Pierrel, Emma Depreter, Alyssa Head, Ethan Livingston, Maxime Stanislawek</i> | Impact of increased daytime and nighttime temperature on the phenotype of a vertebrate ectotherm |
| 10:30 am | <i>Tyler Goerge, Donald Miles</i> | Heat hardening influences boldness behavior expression in tree lizards, <i>Urosaurus ornatus</i> |
| 10:45 am | <i>Ian Clifton, Margaret Duffy, Spencer Hudson, Christopher Robinson, Emily Virign, Susannah French, Kevin McCluney, Jeanine Refsnider</i> | Compensation for exposure to increased temperatures is costly in a montane, desert lizard |
| 11:00 am | <i>Amanda Cicchino, Brenna Forester, Jason Dunham, Cameron Ghalebabor, Erin Landguth, Alisha Shah, W. Chris Funk</i> | How a cold-water specialist frog survived a wildfire |
| 11:15 am | <i>Kelly Wuthrich, Leah Bakewell, Claire Williams, Noah Gripshover, Maria Alcivar, Karla Alujevic, Albert Chung, John David Curlis, Guillermo Garcia-Costoya, Anabarbara Gonzalez, Akhila Gopal, Samir Gulati, Renata Pirani, Noa Ratia, Daniel Romero, Adam Rosso, W. Owen McMillan, Michael Logan, Christian Cox</i> | Transient heat waves induce a rapid and reversible increase in thermal tolerance in an Anolis lizard |
| 11:30 am | <i>Monique Simon, Priscila Rother, Colin Donihue, Anthony Herrel, Jason Kolbe</i> | Can extreme climatic events induce shifts in adaptive potential? |

Foraging Behavior I: Space, Time and Coordination

Chairs: Isaac Young Ligocki, William Ryerson

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|----------|--|---|
| 10:15 am | <i>Kota Ishikawa, Heng Wu, Satoshi Mitarai, Amatzia Genin</i> | Differential responses of swimming reef fish and anchored garden eels to turbulence |
| 10:30 am | <i>William Ryerson, Cassidy Goulet, Ben Sweesy</i> | Arboreal prey-handling in boas and pythons |
| 10:45 am | <i>Natalie Imirzian, Fabian Plum, David Labonte</i> | Investigating the foraging feedback loop in leaf-cutter ant colonies |
| 11:00 am | <i>Nima Jadali, Margaret Zhang, Marieke Gartner, Josh Meyerchick, Jodi Carrigan, Joseph Mendelson, David Hu, Andrew Schulz</i> | Improving Foraging Behavior using a Low-Cost DIY ForageFeeder |
| 11:15 am | <i>Isaac Ligocki, Matthew Salena, Brett Culbert, Marian Wong, Sigal Balshine, Ian Hamilton</i> | Joint Predation Activity in Lake Tanganyikan Fishes |
| 11:45 am | <i>James Crall, August Easton-Calabria, Matthew Smith, Olivia Bernauer</i> | Toward automated monitoring of plant-pollinator interactions |

Locomotion in Complex Environments

Chair: Kelly M. Dorgan

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|----------|--|---|
| 10:15 am | <i>Daniel Soto, Eva Erickson, Kelimar Diaz, Tianyu Wang, Velin Kojouharov, Daniel Goldman</i> | Novel terradynamic interactions in myriapod locomotion in obstacle-rich environments |
| 10:30 am | <i>Heiko Kabutz, Kendall Webster, Kimberly Fung, Kaushik Jayaram</i> | Spatial gait analysis of araneae locomotion through confined terrain |
| 10:45 am | <i>Brooke Christensen, Sean Gonzales, Monica Daley</i> | Integrating substrate damping with leg-substrate interaction forces in guinea fowl |
| 11:00 am | <i>Judith Janisch, Jesse Young, Nicole Schapker, Noah Dunham, Allison McNamara, Lydia Myers, Liza Shapiro, Taylor Phelps</i> | Substrate-related variation in limb joint kinematics in wild primates |
| 11:15 am | <i>Dulce Robles-Martinez, Kelsey Woldt, Diego Sustaita</i> | Climbing kinematics of salt marsh harvest mice and co-occurring rodents in the Suisun Marsh, CA |

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11:30 am	<i>Kelly Dorgan, Sanjay Arwade, Arghavan Louhghalam, Xuejing Wang</i>	How the worm turns: impacts of geotechnical properties on burrower navigation
11:45 am	<i>Francesca Giammona, Miriam Ashley-Ross</i>	Jumping up that hill: How <i>Kryptolebias marmoratus</i> locomotes under various conditions

10:15 AM – 12:00 PM

Rooms 201-202

Sensory Biology IV

Chair: *Karthikeyan Chandrasegaran*

10:15 am	<i>Christian Perez-Martinez, Marissa LaMartina, Juan Daza, Manuel Leal</i>	Comparative anatomy of vibration-sensitive and chemoreceptive structures in <i>Amphisbaenia</i>
10:30 am	<i>Corie Charpentier, Danielle Barnes, Saige-Lyn Gidzinski, Heidi Fuchs</i>	Coastal invertebrate larvae vary in their responses to artificial light at night
10:45 am	<i>Karthikeyan Chandrasegaran</i>	Molecular mechanisms mediating larval ecology and mosquito host-seeking behavior
11:00 am	<i>Irving Upshur, Mikhyle Fehlman, Vansh Parikh, Chloe Lahondere</i>	Sugar-feeding by invasive mosquito species on ornamental plants
11:15 am	<i>Hannah Gellert, Daphné Halley, Zackary Sieb, Jody Smith, Greg Pask*</i>	Microstructures at the Distal Tip of Ant Chemosensory Sensilla
11:30 am	<i>Jeff Riffell</i>	The olfactory gating of color vision in mosquitoes
11:45 am	<i>Andrew Gordus</i>	Untangling the web of behaviors used in spider orb-weaving

10:30 AM – 11:45 AM

Rooms 408-409

Life in Trees II

Chairs: *Joshua Nicholas Pulliam, Jake Socha*

10:30 am	<i>Andrew McKamy, Melody Young, Angela Mossor, Jesse Young, Michael Granatosky, Michael Butcher*</i>	Going Out on a Limb: locomotor loading patterns in three-toed sloths (<i>Bradypus variegatus</i>)
10:45 am	<i>Morgan Furze, Dylan Wainwright, Brett Huggett, Thorsten Knipfer, Andrew McElrone, Craig Brodersen</i>	Ecologically driven selection of nonstructural carbohydrates in oak trees
11:00 am	<i>Amy Rutter, Matthew Fuxjager, Thomas Roberts</i>	Using sound to understand relative force and mechanics in woodpecker drumming
11:15 am	<i>Zoe King, Sydney Haywood, Giovanni Morris, Jeffery Anderson-Jr, Joshua Pulliam, Jerry Wong, Beckett Socha, Ulmar Grafe, Salwa Khalid, Jake Socha*</i>	Tongue-sticking in arboreal colubrids during gap crossing
11:30 am	<i>Joshua Pulliam, Giovanni Morris, Sydney Haywood, Zoe King, Jeffery Anderson-Jr, Jerry Wong, Beckett Socha, Ulmar Grafe, Salwa Khalid, Jake Socha</i>	Reach for the skies: Effects of perch diameter on vertical gap crossing of snakes

10:30 AM – 12:00 PM

Brazos

Appendage Kinematics During Aquatic Locomotion

Chair: *Samantha Trail*

10:30 am	<i>Kayla Hall, Adam Summers, Cassandra Donatelli</i>	Flappy, flouncy fins: swimming kinematics of the spotted ratfish (<i>Hydrolagus colliei</i>)
10:45 am	<i>Samantha Trail, Christopher Mayerl, John Capano, Armita Manafzadeh, Noraly van-Meer, Richard Blob, Jeanette Wyneken, Elizabeth Brainerd</i>	XROMM analysis of flipper movement during locomotion in loggerhead sea turtles
11:00 am	<i>Natalia Taft, Noah Bressman, Thaddaeus Buser, Benjamin Taft, Adam Summers</i>	Functional trade-offs in the pectoral fin rays of intertidal versus subtidal sculpins
11:15 am	<i>Arianna Ramirez, Diego Sustaita</i>	Persistent paddlers: salt marsh harvest mouse hindfoot morphology and kinematics during swimming

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11:30 am	<i>Caitlyn Swiston, Frank Fish, Megan Leftwich</i>	On the flip side: Hydrodynamic function of the hind flippers of three otariids
11:45 am	<i>Matt Wileyto, Rebecca Bottiglio-Kramer, Jeanette Wyneken, Samantha Trail, Frank Fish</i>	Turning Corners in Sea Turtle Maneuvering Performance

10:30 AM – 11:45 AM

Lonestar B

Coral Biology and Modeling

Chair: Katherine Buckley

10:30 am	<i>Dominique Gallery, John Rippe, Mikhail Matz</i>	Cryptic corals: investigating genetic divergence and environmental adaptation
10:45 am	<i>Erin Shilling, Ashley Carreiro, Ian Combs, Joshua Voss</i>	Efficacy of stony coral tissue loss disease intervention and impacts on coral microbial communities
11:00 am	<i>Emily Van-Buren, Kelsey Beavers, Laura Mydlarz, Nicholas MacKnight, Li Wang</i>	Coral Disease Fate in Caribbean Corals Influenced by Coral Lineage and Biological Choices
11:15 am	<i>Katherine Buckley</i>	The Florida false coral (<i>Ricordea florida</i>) mucus harbors an abundant bacterial assemblage
11:30 am	<i>Carly Scott, Annette Ostling, Mikhail Matz</i>	'Til death do us part? Modeling the costs of fidelity in coral-algal symbiosis

10:30 AM – 12:00 PM

Lonestar F

Feeding and Swallowing Anatomy and Mechanics II

Chairs: Peishu Li, Alexandre Palaoro

10:30 am	<i>Stephen Howe, Kendall Steer, Maxwell Johnson, Khaled Adjerid, Chloe Edmonds, Rebecca German, Christopher Mayerl</i>	Exploring the Interaction of Viscosity and Nipple Design on Feeding Performance in Infants
10:45 am	<i>Peishu Li, Nicholas Gidmark, Zhe-Xi Luo, Callum Ross</i>	XROMM reveals tongue base retraction mechanism during swallowing in <i>Didelphis virginiana</i>
11:00 am	<i>David Cuban, Steve Johnson, Alejandro Rico-Guevara</i>	Sunbird drinking: unexpected nectar feeding mechanics despite morphological convergence
11:15 am	<i>Emily McParland, Peishu Li, Courtney Orsbon, Callum Ross, Nicholas Gidmark</i>	Of mice and models: XROMM's utility in temporomandibular joint disorder model organisms
11:30 am	<i>Alexandre Palaoro, Akshata Gole, Charles Beard, Peter Adler, Kostya Kostya</i>	How to be a fast nectar drinker – a masterclass by hawkmoths
11:45 am	<i>Edward Patterson, David Grossnickle, Nashaly Cortes-Viruet, Stephanie Jimenez-Rivera, Sharlene Santana</i>	Mandible strength profiles reflect dietary adaptations in bats

10:30 AM – 11:45 AM

Lonestar A

Genomic Windows on Diversity

Chair: Joseph J. Dubie

10:30 am	<i>Kyle McElroy, Rick Masonbrink, Sivanandan Chudalayandi, Jorge Audino, Andrew Severin, Jeanne Serb</i>	Genomic insights into eye evolution in Pectinidae from the disco clam, <i>Ctenoides ales</i>
10:45 am	<i>Emilie Richards</i>	Genetic basis of natural variation in sleep and metabolism in cavefish
11:00 am	<i>Ornela De-Gasperin, Pierre Blacher, Guglielmo Grasso, Solenn Sarton-Loheac, Roxane Allemann, Michel Chapuisat</i>	Cryptic mutation load in a supergene controlling social organization in ants
11:15 am	<i>Joseph Dubie, Ki'Brianna Carthen, Justin Havird</i>	Role of homeostatic processes in balancing selective pressures on mitotypes in <i>C. elegans</i>
11:30 am	<i>Ashwini Venkatanarayana-Mohan, Anjali Goswami, Jeffrey Streicher</i>	Ultraconserved Elements as landmarks on genomes: extracting "genospaces" from mammalian genomes

11:00 AM – 12:00 PM

Rooms 203-204

Global Change Biology III: Distribution/Ecosystem Effects

Chair: Noa Ratia

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| 11:00 am | <i>Audrey Sarin, Steve Lonhart, Emily Nazario</i> | Implications of sea urchin culling in Monterey Bay National Marine Sanctuary |
| 11:15 am | <i>Allison Wilkins, Dara Orbach</i> | Population abundance of bottlenose dolphins in the Texas Coastal Bend using photo-identification |
| 11:30 am | <i>Desi Wilson, Ana Ospina-L, Nigel Anderson, Ximena Bernal</i> | Distribution Predicts Global Patterns of Extinction Risk in Toads |
| 11:45 am | <i>Noa Ratia, Eliza Grames, Matthew Forister, Michael Logan</i> | Still alive: Scientists have been shockingly bad at predicting extinctions |

10:30 AM – 12:00 PM

Lonestar G

Thermal Physiology II

Chair: Mary J. Woodruff

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|----------|---|---|
| 10:30 am | <i>Mary Woodruff, Susanna Tsueda, Kimberly Rosvall</i> | Why are some individuals better at coping with climate change? |
| 10:45 am | <i>Ioulia Beshalova, Rebecca Bachtel, Heather Axen</i> | Testing Acclimation Hypotheses in <i>Drosophila pseudoobscura</i> |
| 11:15 am | <i>J. Morgan Fleming, Katie Marshall, Timothy Meidl, Jorge Celi, Kimberly Sheldon</i> | Metabolic plasticity of tropical and temperate dung beetles to increasing temperature variation |
| 11:30 am | <i>Michael Dillon</i> | Into the cold: unearthing the physiology of dormant queen bumble bees |
| 11:45 am | <i>Jordan Glass, Jon Harrison</i> | Hot bees lift loads without warming or increasing metabolic rate |

Friday Program Afternoon Sessions

Note: Presenter is first author unless noted by an asterisk (*).

1:30 PM – 3:00 PM

Lonestar H

Biological Rhythms and Plasticity

Chair: Valentina Alaasam

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|---------|---|--|
| 1:30 pm | <i>Yash Sondhi, Jamie Theobald, Rachit Pratap Singh</i> | Exposure to high levels of artificial light at night decreases wild moth locomotion |
| 1:45 pm | <i>Lan Lou, Nicole Wynne, Shajaesza Diggs, Karthikeyan Chandrasegaran*, Chloe Lahondere, Zhijian Tu, Clément Vinauger</i> | The role of the timeless gene in regulating olfactory rhythms and sleep patterns in <i>Aedes aegypti</i> |
| 2:00 pm | <i>Alaina Friedrich, Donald Miles</i> | Illuminating the effects of artificial light at night on vocal phenology in the cavity-nesting guild |
| 2:15 pm | <i>Valentina Alaasam, Jenny Ouyang</i> | Habituation to Artificial Light at Night in Zebra Finches |
| 2:30 pm | <i>Kaylah Del-Simone, Skye Cameron, Christofer Clemente, Joshua Gaschk, Taylor Dick, Robbie Wilson</i> | Lifestyles of the small and reckless: Using accelerometers to assess behaviour of threatened animals |
| 2:45 pm | <i>Luke Gohmann, Gregory Demas, Cara Wellman, Jessica Cusick</i> | Maternal microbiome and stress remodel dendrites in prefrontal cortex in Siberian hamster offspring |

Flying & Landing III*Chairs: Nicholas Burnett, James Lynch*

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| 1:30 pm | <i>Md Zafar Anwar, Bret Tobalske, Suyash Agrawal, Haoxiang Luo, Bo Cheng</i> | Decision making and control in hummingbird's escape maneuver in response to light removal |
| 2:00 pm | <i>Sebastian Lee, Stanley Wang, Duyi Kuang, Hannah Stuart, Robert Full</i> | Jump distance effects on landing kinematics, forces, and torques in free-ranging fox squirrels |
| 2:15 pm | <i>Rémy Delplanche, Ruowen Tu, Henry Sodano, Daniel Inman, Bret Tobalske</i> | Strain and vibration of selected wing feathers during different flight modes in doves |
| 2:30 pm | <i>Nicholas Burnett, Emily Keliher, Stacey Combes</i> | Maximum force production is robust to changes in spanwise wing stiffness in mason bees |
| 2:45 pm | <i>James Lynch, Ethan Wold, Andrew Mountcastle, Simon Sponberg, Nick Gravish</i> | Wing collision mitigation through stretch-activated muscle dynamics in flying insects |
| 3:00 pm | <i>Mary Salcedo, Tyler Ellis, Geoffrey Osgood, Emma Goethe, Spencer Hobbs, Jueliet Menolascino, Spencer Collins, Derek Hertzell, Michael Boggs, Sana Doorani, Jasmine Avery, Taylor Palmrose, Dhanak Kainaat, Emily Cossey, Syeda Mehreen Tahir, Joseph Gazing-Wolf, Abigal Bahamonde, Matthew Johnson, Tristan Lober, Jake Socha, Rick Overson, Arianne Cease</i> | Wing expansion in gregarious migratory locusts |

Reproduction and Development*Chairs: Patricia Brennan, Daniel J. Stadtmayer*

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|---------|---|---|
| 1:30 pm | <i>Melanie Laird, Tim Hore</i> | Genome-wide epigenetic reprogramming of the marsupial germline |
| 1:45 pm | <i>Daniel Stadtmayer, Silvia Basanta, Jamie Maziarz, Mihaela Pavlicev, Gunter Wagner</i> | Origin of a Novel Tissue from the Ancestral Live-Bearing Mammal's Uterine Cell Type Inventory |
| 2:00 pm | <i>Daniela Garcia-Cobos, Diego Gomez, Brandon Hedrick, Rachel Keeffe, Patricia Brennan*</i> | Coevolution of male and female genitalia in <i>Helicops pastazae</i> using 3D morphometrics |
| 2:15 pm | <i>Bonnie Kircher, Megan Meany, Douglas Menke, Richard Behringer</i> | Female Reproductive Organ Anatomy and CRISPR Gene Editing of the AMH Locus in the Brown Anole |
| 2:30 pm | <i>Samantha Bock, Yeraldi Loera, Josiah Johnson, Christopher Smaga, Junsoo Bae, David Lee Haskins, Tracey Tuberville, Randeep Singh, Thomas Rainwater, Philip Wilkinson, Benjamin Parrott</i> | The adaptive significance of temperature-dependent sex determination in a long-lived reptile |
| 2:45 pm | <i>Yeipyeng Kwa, Maiko Sho, Julia Frederick, Rebecca Li, Gregory Davis</i> | Induction of reproductive fate in the pea aphid |
| 3:00 pm | <i>Richard Prum</i> | The Performative Phenotype: A Queer-Feminist Model of the Genotype-Phenotype Relationship |

Character Development and Evolution*Chairs: Ryan Felice, Mahaut Sorlin*

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|---------|--|---|
| 1:30 pm | <i>Able Chow, Bodo Wilts, Nathan Lord, Ying Xiao</i> | Beetles in Golden Skin: Structural Color in <i>Chrysochroa</i> jewel beetles (<i>Coleoptera: Buprestidae</i>) |
| 1:45 pm | <i>Sang-im Lee, Yewon Yun, Hyunsang Yu, Bohyun Kim, Heeso Noh, Piotr Jablonski</i> | Iridescence in the elytra of the flower chafers (<i>genus Protaetia</i>) |
| 2:00 pm | <i>Ryan Felice, Ryan Marek</i> | Phenotypic integration shapes the evolution of the neck and forelimb in birds |

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2:15 pm	<i>Madeline Armstrong, Andrew Mahon, Kenneth Halaynch</i>	A morphological and molecular investigation of <i>Ammothea (Pycnogonida, Chelicerata)</i> specimens from An
2:30 pm	<i>Mahaut Sorlin, Simon Lailvaux, Alexei Maklakov</i>	Age-dependent selection for elite athletic performance: have world class runners gotten younger?
2:45 pm	<i>Christopher Heesy, Leigha Lynch</i>	Relative Brain Sizes Are Related to Transitions in Body Plan in Squamates
3:15 pm	<i>Anna Wisniewski</i>	Allometry as a driver of morphological evolution in the equid skull

1:30 PM – 3:15 PM

Rooms 402-403

Energetics

Chair: *Jamie Cochran*

1:30 pm	<i>Yufeng Zhang, Amberleigh Henschen, Elina Thomas, James Adelman</i>	Effects of acute and long-term mycoplasma gallisepticum infection on mitochondrial function in house
1:45 pm	<i>Jamie Cochran, David Buchwalter</i>	Respirometry reveals major differences in aquatic species responses to salinity
2:00 pm	<i>Shayne Halter, Blair Wolf</i>	Torpor Use as a Mechanism to Spare Fat in Migrating Hummingbirds - Variation Among Species
2:15 pm	<i>KayLene Yamada, Kang Nian Yap, Natalie Harris, Shelby Zikeli, Vimala Kaza, Hippokratis Kiaris, Andreas Kavazis, Wendy Hood</i>	Comparison of metabolic performance of white-footed mice in lab, semi-natural, and wild populations
2:30 pm	<i>Molly Simonis, Megan Rúa, Lynn Harztler</i>	Torpid metabolic rates of <i>Eptesicus fuscus</i> are additive and increase following pathogen invasion
2:45 pm	<i>Rafael Bovo, Luis Senzano, Denis Andrade</i>	Estimating resistance to water loss in amphibians: Error sources and methodological recommendations
3:00 pm	<i>Keegan Stansberry, Kaitlin Couvillion, Tosha Kelly, Allison Cannon, Melanie Kimball, Christine Lattin</i>	Compensatory growth tradeoffs of experimentally induced asynchronous hatching in a songbird

1:30 PM – 3:30 PM

Rooms 408-409

Evolutionary Comparative Morphology

Chairs: *Roi Holzman, Antonio Meza*

1:30 pm	<i>David Kay, Haley O'Brien, Paul Gignac</i>	Crocodylian differential alveolar completion suggests trade-offs in socket formation and crown shape
1:45 pm	<i>Conrad Wilson, Chris Mansky, Jason Anderson</i>	A New Paleozoic Fish Provides Insight into the Evolution of Actinopterygian Feeding
2:00 pm	<i>Roi Holzman, Christopher Martin, Peter Wainwright</i>	The functional morphospace of fish skulls is constrained by evolutionarily rigid, ubiquitous bounds
2:15 pm	<i>Antonio Meza, Christopher Bell, Patrick Lewis</i>	Inter- and Intraspecific Cranial Variation in the Amphisbaenian genus <i>Zygaspis</i>
2:30 pm	<i>Daniel Rhoda, Kenneth Angielczyk</i>	Diversification of the ruminant skull along an evolutionary line of least resistance
2:45 pm	<i>Andrew Knapp, Gizeh Rangel-de-Lázaro, Anjali Goswami, Matt Friedman, Sam Giles, Kory Evans, Zerina Johanson</i>	How to tuna fish: Mosaic evolution in the skulls of pelagiarian fishes
3:00 pm	<i>Kassandra Ford, Patricia Hernandez, Pooja Singh, Mikki Law, David Haberthür, Ruslan Hlushchuk, Kory Evans, Ole Seehausen</i>	Analysis of Craniofacial Evolution in Lake Victoria Cichlids based on CT-scans
3:15 pm	<i>Leah Rubin, Elizabeth Sibert</i>	A novel morphological code to describe dermal denticles and reconstruct fossil shark communities

1:30 PM – 3:30 PM

Lonestar F

Feeding and Swallowing Anatomy and Mechanics III*Chairs: Brandon P. Hedrick, Venkata Amarnadh Surapaneni*

1:30 pm	<i>Henry Camarillo, Bhart-Anjan Bhullar, Martha Munoz</i>	Comparative anatomy of the musculoskeletal feeding system in plethodontid salamanders
1:45 pm	<i>Tairan Li, Martha Paskin, Mike Schindler, Yen Png, Dave Cade, Venkata Surapaneni*, Daniel Baum, Jeremy Goldbogen, Sean Hanna, Mason Dean</i>	Lessons from really big fish: integrating incomplete data to reconstruct 3D coherent skeletal model
2:00 pm	<i>Allyson Evans, Emily Naylor, Sandy Kawano, Nathan Lujan, Patricia Hernandez</i>	Functional Morphology and Kinematics of Jaw Protrusion in the Hingemouth, <i>Phractolaemus ansorgii</i>
2:15 pm	<i>Samantha Falcone, Jason Ramsay</i>	Functional morphology of the feeding apparatus in <i>Esox niger</i> : Adaptations for manipulation of prey
2:30 pm	<i>Brandon Hedrick, Luke Pruett, Gabriel Rivera, Kory Evans, Simon Lailvaux</i>	The Effects of Cranial Asymmetry on Bite Force in the Green Anole (<i>Anolis carolinensis</i>)
2:45 pm	<i>Christopher Zobek, Connor Verhulst, Anmol Sethi, Alec Wilken, Casey Holliday</i>	Protractor Muscle Diversity in Reptiles and Its Significance for Cranial Kinesis
3:15 pm	<i>Nikole Schneider, Christopher Anderson</i>	Kinematics of a direct prey capture feeding strategy in chameleons

1:30 PM – 3:30 PM

Lonestar B

Immunity*Chair: TBD*

1:30 pm	<i>Daniel Becker, Amanda Vicente-Santos, Guang-Sheng Lei, Michael Janech, Alison Bland, Brock Fenton, Nancy Simmons, Ryan Relich, Benjamin Neely</i>	Leveraging serum proteomics to characterize bat immune phenotypes and response to viral infection
1:45 pm	<i>Robert Srygley</i>	Mormon cricket Diet and Immunity following Fungal Attack
2:00 pm	<i>Saraswathy Vaidyanathan, Natalie Steinel</i>	Identification of a teleost lymphoid structure analogous to mammalian germinal center
2:15 pm	<i>Katherine Martin, Katherine Mansfield, Anna Savage</i>	Adaptive immune gene evolution and disease in coastal juvenile sea turtles
2:30 pm	<i>Cynthia Downs, Ryan McMinds, Rays Jiang, Swamy Adapa, Emily Cornelius-Ruhs, Rachel Munds, Lynn Martin</i>	Bacterial sepsis triggers elevated immune transcriptomic responses in larger primates
2:45 pm	<i>Amberleigh Henschen, Michal Vinkler, Marissa Langager, Allison Rowley, Rami Dalloul, Dana Hawley, James Adelman</i>	Gene expression associated with disease tolerance depends on host tissue and pathogen virulence
3:00 pm	<i>Natalie Steinel, Ahmed Attaya, Lohman Brian</i>	Threespine stickleback immune atlas: baseline immune composition and response to immunization
3:15 pm	<i>Michael Sandel, Kayla Fast, Eric Benbow, Heather Jordan, Jennifer Pechal, Alex Rakestraw, Magdalene Dogbe, Alexandra Bauer, Matthew Scott, Jean-François Guegan, Sophie Picq, Joseph Receveur</i>	Compensatory Duplication of Heterodimeric TLRs Suggests Coevolution with Mycobacterial Pathogens

1:30 PM – 3:00 PM

Rooms 303-304

Modeling & Computational Approaches I*Chair: Jinguo Huang*

1:30 pm	<i>Morgan Turner, Bridger Herman, Matthias Broske, Daniel Keefe</i>	Skeletons in Motion: Interactive visualization techniques for analyzing cyclic kinematic data
1:45 pm	<i>Deniz Kerimoglu, Nicholas Naclerio, Aradhya Rajanala, Alexa Mathis, Elliot Hawkes, Daniel Goldman</i>	Cooperative effects of model root protrusions on extrusion and anchoring forces in granular media

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2:00 pm	<i>Ryan Schwab, Joseph Reade, Mark Jankauski</i>	Reduced-Order Fluid-Structure Interaction Modeling of Chordwise Flexible Wings
2:15 pm	<i>Aradhya Rajanala, Christopher Pierce, Deniz Kerimoglu, Mingyuan Zhu, Madison Hales, Isaiah Taylor, Philip Benfey, Daniel Goldman</i>	Numerical modeling of heterogeneous cell patterns in plant root growth
2:30 pm	<i>Eugene Lin, Yishun Zhou, Luke Moon, Andrew Gordus, Chen Li</i>	Robophysical modeling of spider vibration sensing of prey on orb webs
2:45 pm	<i>Jamal Ardister, Brian Feeny</i>	Modeling of Undulatory Swimming Motion Using Velocity Constraints

1:30 PM – 3:30 PM

Brazos

Robots and Physical Models II

Chairs: Audrey Biondi Kellogg, Perrin Elizabeth Schiebel

1:30 pm	<i>Audrey Kellogg, Joseph Legris, David Beal, Christin Murphy, Brooke Flammang</i>	2D PIV of Bioinspired Oscillating Mola mola Fin Derived from Morphology and Kinematics
1:45 pm	<i>Jose Yañez-Salas, Valeria Saro-Cortes, Yuhe Cui, Brooke Flammang, Aimy Wissa</i>	A Flying Fish Robotic Model Organism: Design, Fabrication and Experimental Evaluation
2:00 pm	<i>Krishma Singal, Andrew Schulz, Michael Dimitriyev, Samuel Kirschner, David Hu, Claire Higgins, Elisabetta Matsumoto</i>	Untangling the Collagen of Elephant Skin using Knitted Mimics
2:15 pm	<i>Liyuan Zhang, Teagan Mathur, Yuhe Cui, Aimy Wissa, Marianne Alleyne</i>	Launching Engineered Prototypes to Study the Factors that Influence Click-Beetle Jump Capacity
2:30 pm	<i>Yuhe Cui, Valeria Saro-Cortes, Brooke Flammang, Aimy Wissa, Jose Yañez-Salas</i>	A Flying Fish Robotic Model Organism: Designing a biologically relevant caudal fin
2:45 pm	<i>Sunny Kumar, Victor Ortega-Jimenez, Ishant Tiwari, Saad Bhamla</i>	Physical models reveal that nematodes harness kinks in their bodies as nonlinear springs for leaping
3:00 pm	<i>Perrin Schiebel, Michelle Yuen, Robert Wood</i>	The role of limb compliance in an insect-scale robot traversing obstacle-laden terrain
3:15 pm	<i>Valeria Saro-Cortes, Jose Yañez-Salas, Yuhe Cui, Brooke Flammang, Aimy Wissa</i>	A Flying Fish Robotic Model Organism: Multibody Dynamic Modeling and Experimental Validation

1:30 PM – 3:30 PM

Rooms 203-204

Worlds Within: Microbiome Ecology and Evolution

Chair: Sarah Gardner

1:30 pm	<i>Brian Trevelline, Kevin Kohl</i>	The gut microbiome influences host diet selection behavior
1:45 pm	<i>Obed Hernandez-Gomez, Reuban Oumnov, Isabela Velasquez-Gutierrez, Vanessa Wuerthner, Jessica Hua*</i>	Host vs. environmental factors: Which more strongly associates with wood frog microbiota diversity?
2:00 pm	<i>Madison Pfau, Daniel Blumstein, Conner Philson, Gina Johnson, Sam Degregori</i>	The social microbiome: the relationship between the microbiome and sociality in a wild mammal
2:15 pm	<i>Claire Williams, Maria Alcivar, Anabarbara Gonzalez, Kelly Wuthrich, Leah Bakewell, Renata Pirani, Noa Ratia, Daniel Romero, Noah Gripshover, John David Curlis, Samir Gulati, Karla Alujevic, Guillermo Garcia-Costoya, Akhila Gopal, W. Owen McMillan, Candace Williams, Christian Cox, Michael Logan</i>	Characterizing rapid shifts in the Anolis gut microbiome after introduction to a novel environment
2:30 pm	<i>Sarah Gardner, Polly Campbell</i>	The effect of genotype on the prenatal gut microbiome in the house mouse
2:45 pm	<i>Valentina Peña, Joseph Heras</i>	Wining and Dining Gut Microbiomes: Uncovering Dietary Diversity in Elongated Fishes
3:00 pm	<i>Libby Wilson, Cassandra Delich, Lydia Zeglin, Sonny Lee, Michi Tobler</i>	Host-microbiome associations in livebearing fishes adapted to sulfidic environments

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3:15 pm *Anastasia Dulskiy, Nicola Kriefall, Sarah Davies, Koty Sharp, Karl Castillo* Drivers of microbial diversity in the temperate coral *Oculina arbuscula*

2:00 PM – 3:30 PM

Rooms 201-202

Reproductive Behavior

Chairs: Lauren Cirino, Patrick Green

2:00 pm *Patrick Green, Daniel Sankey, Thomas Collins, Faye Thompson, Michael Cant* Short-term mating resources drive contest success in banded mongoose (*Mungos mungo*) warfare

2:15 pm *Kelly Stiver, Jennifer Hellmann, Susan Marsh-Rollo, Suzanne Alonzo* Examining the stability of newly formed nesting male and satellite alliances in *Symphodus ocellatus*

2:30 pm *Lauren Cirino, Ian Gallagher, Camille Desjonquères, Rafael Rodriguez* Means and opportunity but no motive for mate choice copying

2:45 pm *Drew Little, Rafael Rodriguez* Maternal effects on mating signals and mate preferences in *Enchenopa* treehoppers (*membracidae*)

3:00 pm *Ummat Somjee* Energetics and the evolution of extreme sexually selected traits

3:15 pm *Alina Nguyen, Jhoselyn Pineda, Tyrone Hayes* Clasp Behavior in the Female African Clawed Frog (*Xenopus laevis*)

7:30 PM – 8:30 PM

Lonestar D

Carl Gans Award: Dr. Alejandro Rico-Guevara

Comparative ecophysics of avian nectarivory

Sponsored by the Journal of Experimental Biology

Friday POSTER SESSION P3

JW Grand Ballroom, 3:30-5:30 PM

Poster Set Up: 7:00-8:00 am; Poster Teardown: 5:30-6:00 pm

Even # - Authors present from 3:30-4:30 pm; Odd # - Authors present from 4:30-5:30 pm

Cell and Molecular Physiology

- P3-001** Peter Micah, Mark Gunderson
Organic UV Filter Decreases Metallothionein Content in Signal Crayfish (*Pacifastacus leniusculus*)
- P3-001A** Ahmed Nurkovic, Mark Gunderson
Effects of Oxybenzone on Glutathione Concentrations in Signal Crayfish (*Pacifastacus leniusculus*)???
- P3-002** Quentin Mata-Figueroa
Effects of Microgravity on Cell Growth and Silver Nanoparticle Synthesis on *Rhodobacter sphaeroides*
- P3-003** Rysa Thomas, Dima Salih, Emily Plant, Fareeha Ahmed, Ash Eury, M. Rockwell Parker
Stress hormone-receptor relationships and their dose-dependency in garter snakes
- P3-004** Rachele Belanger, Diana Chammout*, Hussien Hazime, Mariana Muskovac, Gregory Grabowski
Mitotic activity in the hepatopancreas of crayfish (*Faxonius virilis*) following an atrazine exposure
- P3-005** Annabelle Murray, Thomas Fogle
The effects of Ergosterol on the uptake of Lead in *Tetrahymena pyriformis*
- P3-006** Patrick Clouser, Jason Podrabsky
Molecular signatures of anoxia tolerance in embryos of the annual killifish *Austrofundulus limnaeus*
- P3-007** Gregory Grabowski, A'Tearea Boggan, Jolani Perez
Carbonate anhydrase activity localization and pH modeling in GI segments in the Roach: *Gromphadorhin*
- P3-009** Kevin Pham, Kaylene Yamada, Emma M. Rhodes, Agata Rudolf, Wendy Hood
The effects of continuous light and darkness on mitochondrial physiology and body condition
- P3-008** Adi Domer, Yariv Brotman, Ofer Ovadia
Plasma metabolome of migrating passerines: Novel insights into flight metabolism and avian insulin-resistance

Chemical Ecology and Evolution

- P3-010** Mercille Nguyen, Catherine McGrath, Caitlin McNamara, Alex Huynh
The effect of host plant species and herbivore-induced plant volatiles on recruiting avian predators
- P3-011** Joshua Rivera, Joseph Rangel, André Carvalho, Adam Leaché, Matthew Fujita
Epidermal Gland Evolution in Whiptail Lizards (*Aspidoscelis*)
- P3-012** Joseph Rangel, Joshua Rivera, Matthew Fujita, André Carvalho, Adam Leaché
Deep Homology of Follicular Glands in Divergent Lizard Clades
- P3-013** Maia Dykstra
Heavy Metal Hyperaccumulation and Physiological Stress in *Ulva fenestrata*
- P3-014** Shauntara Good, Chase Mason, Hannah Stanford
Evaluating the toxic effects of common sunflower terpenes using *Vanessa cardui*
- P3-015** Jasen Liu, Carlos Nunes, Paulo Milet-Pinheiro, Santiago Ramirez
Patterns of evolution in floral volatile composition across a specialized pollination system

Complementary to S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success

- P3-016** Molly Wingard, Lindsey Wells, Andrew Fuller, Mark Garcia
Seasonal Patterns in Reproductive Output in a Self-Fertilizing, Hermaphroditic Fish

Complementary to S8: The Role of Mechanosensation in Robust Locomotion

- P3-017** Ziheng Wang, Alison Weber, Abigail von-Hagel, Mahnoush Babaei, Bingni Brunton, Sarah Bergbreiter, Tom Daniel
Sense and extensibility: two dimensions of stimulus features for wing strain improve sparse sensing

Differentiation and Morphogenesis

- P3-018** *Jose Aguilar, Nathan Harry, Christina Zakas* Comparative Hox gene expression in the two larval types of the poecilogonous annelid *S. benedictii*
- P3-019** *Johnny Davila-Sandoval, Allan Carrillo-Baltodano, Néva Meyer* VNC tweaks: ventral nerve cord specification in the annelid *Capitella teleta*
- P3-020** *Whitney Brownlee, Jennifer Bronson, Brittany Burton, Max Ellsworth, Baudry Ilunga, Samuel Perez, Harrison Piper, Nathan Walker, Eric Domyan* Successful Derivation of Embryonic Pigeon Melanocytes
- P3-021** *Max Ellsworth, Jennifer Bronson, Whitney Brownlee, Brittany Burton, Baudry Ilunga, Samuel Perez, Harrison Piper, Nathan Walker, Eric Domyan* Investigating SOX10 function in melanin synthesis in the domestic rock pigeon
- P3-022** *Trevor Oschenhirt, Jacob DeVries, Eric Domyan* Why does the A23P "Ash-red" TYRP1 mutation cause red pigment in domestic rock pigeon?
- P3-023** *Dian-Han Kuo, Fu-Yu Tsai* The origin of peripheral sensory neurons in the leech *Helobdella*
- P3-024** *Oghenevwogaga Atake, Brian Eames* Homologizing vertebrate mineralized tissues: how do chondrichthyans make bone-like tissues?
- P3-025** *Rose Fiorenza, Jessica Goodheart, Hereroa Johnston, Antonia Bock, Park Masterson, Deirdre Lyons* Using in situ HCR and scRNAseq to Identify Juvenile Cell Types in Nudibranch *Berghia stephanieae*
- P3-026** *Ryan Null, Bria Metzger, Patricia Álvarez-Campos, Helena García-Castro, David Salamanca-Díaz, Elena Emili, Vincent Mason, Nathan Kenny, Jordi Solana, B. Duygu Özpolat* Automating design of fluorescent in situ probes for big data sets
- P3-027** *Caroline Fox* Exposure to butyl-paraben results in developmental abnormalities in zebrafish
- P3-028** *Alyssa Hamm, Ally Angst, Kashish Khanna, Joshua Gross* Cranial form and sensory-skeletal integration: Variation and constraint as a function of eye loss
- P3-029** *Miranda Contello, Braden Oddo, Brittany Dobbins, Ruben Tovar, Tom Devitt, David Hillis, Dana García* Comparative study of the development of salamanders of the genus *Eurycea*

Disease Ecology

- P3-030** *Lauren Lock, Kristin Dyer, Dmitriy Volokhov, Brock Fenton, Nancy Simmons, Daniel Becker* Longitudinal impacts of habitat fragmentation on *Bartonella* and hemoplasma dynamics in vampire bats
- P3-031** *Oscar Hernandez-Reyes, Daniel Guerra, Megan Wise-de-Valdez* Shade Coverage and Mosquito Abundance Across Neighborhoods of Different Socioeconomic Status
- P3-032** *Leah Bakewell, Kelly Wuthrich, Noah Gripshover, Anabarbara Gonzalez, Maria Alcivar, Claire Williams, John David Curlis, Stephen Greiman, Samir Gulati, Renata Pirani, Noa Ratia, Daniel Romero, W. Owen McMillan, Michael Logan, Christian Cox* Parasite diversity and abundance in an assemblage of *Anolis* lizards in Panama
- P3-033** *Madeline Sudnick, Erin Sauer, Sarah DuRant* Influence of a previous infection on *Mycoplasma gallisepticum* transmission in canaries.
- P3-034** *Matthew Scott, Kayla Fast, Alex Rakestraw, Magdalene Dogbe, Heather Jordan, Sophie Picq, Joseph Receveur, Jean-François Guegan, Jennifer Pechal, Eric Benbow, Michael Sandel, Alexandra Bauer, Christine Chevillon* Comparative microbiomics of Amazonian freshwater fishes
- P3-039** *Kristin Dyer, Lauren Lock, Brock Fenton, Nancy Simmons, Daniel Becker* Cellular immunity and hemoparasite prevalence in a fragmented Neotropical bat community
- P3-035** *Eli Haynal, Anna Caraveo, Treson Thompson, CJ Brothers* Is Seagrass Wasting Away? Measuring Disease Dynamics in the Salish Sea
- P3-036** *Alexandria Soldo, Ashley Love, Sarah Knutie* Prevalence of the invasive avian pox virus in nestling Darwin's finches in the Galapagos Islands
- P3-037** *Stephanie Davidson, Gregory Kasriel, Davida Smyth* Use of *S. aureus* to study airflow and filtration in a collegiate environment
- P3-038** *Lyndsy Stacy, Ashley Teufel, Davida Smyth* Agent-Based Modeling to Establish a Protocol for Sampling DNA from the Air

Ecology, Physiology, and Life History Evolution

- P3-040** Kimberley Glenn, Alexis Lindsey, Mike Norris, Kaitlyn Murphy, Daniel Warner
Habitat Use of Hatchling Lizards Across Different Environments
- P3-041** Yujie Liu, Toshi Tsunekage, Iris Levin
What predicts telomere dynamics in adult barn swallows (*Hirundo rustica erythrogaster*)?
- P3-042** Jesus Lopez, Ashley Teufel, Robert Page
Understanding anuran life cycle ecology and evolution through agent-based modeling.
- P3-043** Frederick Nelson, Thomas Hahn
Causes and consequences of Life History Stage overlap: Insights from migratory songbirds

Energetics

- P3-044** Paul Schaeffer
Manipulation of photoperiod induces fat storage, but not fat mobilization in a migratory songbird.
- P3-045** Kaley Hallmark, Ching-Wen Tan, Jared Ali, Rudolf Schilder*
Larval history effects on migrant Monarch butterfly flight energetics and longevity
- P3-046** Phillip Oelbaum, Renata Soljmosi, Paul Faure, Louis Lazure, Gheylen Daghfous, Kenneth Welch
Effect of dietary protein on wound healing in Jamaican fruit bats, *Artibeus jamaicensis*
- P3-047** Rebecca Clark, Cassie Smith, Savana Goslovich*
Surprising impacts of dietary fiber on leafcutter ant foraging and colony growth
- P3-048** Holland Galante, Anuj Ghimire, Britt Heidinger, Timothy Greives, Rebecca Young, Emily Elderbrock, Jeffery Kittilson, Jacob Campbell
Is mitochondrial copy number predictive of metabolic rate and growth in developing house sparrows?
- P3-049** Nicholas Strasser, Maya Makhtin, John Hatle
Dietary protein quality does not alter P:C intake target in grasshoppers
- P3-050** Isabel Cote, Anabela Maia
Planktivorous fish in Narragansett Bay exhibit suppressed metabolic rates as temperature increases
- P3-051** Abdisalan Hawadle, Andrea Delgado, Mike Nishizaki
The Effects of Temperature and Flow on Respiration in Two Marine Mussels
- P3-052** Elizabeth Rogers, Alexander Gerson
Does water stress increase protein oxidation in birds? An investigation using ¹³C breath analysis
- P3-053** Karen Mueller, Yuichiro Suzuki
The role of TGF- β /BMP signaling in development and metabolism in flour beetles
- P3-054** Claudia Silva-Rubio, Frank van-Breukelen
Tenrec ecaudatus: hypoxic and hypercapnic effects on aerobic metabolism
- P3-055** Chloe Burkholder, Goggy Davidowitz, Natasha Tigreros
Effects of Increased Flight on Allocation of Nectar-Derived Nutrients in the Cabbage White Butterfly
- P3-056** Gilbecca Rae Smith, Claudia Silva-Rubio, Frank Van-Breukelen
Controlling resting oxygen consumption using the spleen in *Tenrec ecaudatus*?
- P3-057** Alexandra Burdette-Lapuz, Ione Hunt-von-Herbing, Jack Eudy, Hollie Greer, Kaili Abram
The effects of acidification on development and metabolism of zebrafish (*Danio rerio*) embryos
- P3-058** Samantha Schofield, James Waters, Jannelle Couret
Discontinuous ventilation patterns in nymphal *Ixodes scapularis*
- P3-059** Ziad Ibbini, John Spicer, Manuela Truebano, John Bishop, Oliver Tills
HeartCV: a tool for transferrable, automated measurement of heart rate and heart rate variability in
- P3-060** Conner Mertz
The role of gut microbiota in supplying amino acids to their mammalian hosts

Environmental and Dietary Adaptation

- P3-061** Mike Norris, Kaitlyn Murphy, Alexia Alford, Ava Berger, Lincoln Butts, Matt Harrington, Sarah Knuston, John Rogers, Daniel Warner
Experimental test of the environmental matching hypothesis in island populations of the brown anole
- P3-062** Madison McIntyre, Scott Boback
Rain harvesting behavior in free-ranging Prairie rattlesnakes (*Crotalus viridis*)
- P3-063** Stephanie Rudisill, Haley Martin, Clare Scott-Chialvo
Expanding our understanding of toxin tolerance in mushroom-feeding *Drosophila*

- P3-064** *Noe Reyna, Murielle Ålund, Janette Boughman, Hans Hofmann, Mariana Rodriguez-Santiago, Becca Young*
Coming to one's senses: Stickleback molecular processing and neuroanatomy vary across environments
- P3-065** *Xavier Dawkins, Matthew Fuxjager, Doris Preninger*
Camouflage in juvenile Wallace tree frogs: the disguise of bird droppings
- P3-066** *Adriana Halvonik-Sanchez, Adriana Omaña-Angulo*
Variation in the Functional Feeding Groups of Fish in a Tropical Lowland Rainforest of Costa Rica
- P3-067** *Ethan Livingston, Alyssa Head, Eric Gangloff*
Swimming beneath the Sahara: The thermal biology of *Scincus scincus*, the sand-swimming skink
- P3-072** *Logan Oleson, Lucas Kirschman, Dustin Siegel*
The effect of latitude and climate change on reproductive strategy
- P3-068** *Mariangel Correa-Orellana, Alice Nguyen, Jess Sterling, Joseph Dubie, Justin Havird*
Macro- and micro-ecology of anchialine habitats and adaptation of volcano shrimp to high temperature
- P3-069** *Margaret Duerwachter, Jerry Husak*
Cardiovascular traits, metabolic rates, and performance of green anoles along a latitudinal gradient
- P3-070** *Ashley Darst, Lindsey Kemmerling, Emiliee Snell-Rood*
Variation across butterfly species in tolerance to heavy metal pollution
- P3-071** *Matt Rock, Diane Nacci, Bryan Clark, Jeffrey Markert*
Rapid Evolution of Pollution Resistance in Atlantic Killifish
- Evolution and Development of Behavior**
- P3-073** *Taylor Grossen, Rachel Cohen*
Circannual gene expression across seasons in the green anole lizard (*Anolis carolinensis*) brain
- P3-074** *Andrea Frías-Vellón, Whitney Leach, Jeff Lange, Matt Gibson*
Dark Necessities: Uncovering the effects of light on larval settlement in *Nematostella vectensis*
- P3-075** *Joshua Rinehart, Keegan Foster, Arun Rajamohan, Julia Bowsher*
Methylation inhibitor 5-aza-2-deoxycytidine induces diapause in *Megachile Rotundata*
- P3-076** *Gabriella Sparkes, Oakleigh Wilson, Kaylah Del-Simone, Ami Fadhillah Amir-Abdul-Nasir, Ben Barth, Sean FitzGibbon, William Ellis, Robbie Wilson*
The secret life of koalas: using accelerometry to quantify fine-scale behaviours in the wild
- P3-077** *Julia Diamandi, Troy Shirangi*
Cis-element analysis of the dissatisfaction gene identifies neurons for *Drosophila* female courtship
- P3-078** *Kelsey Allen, Rocio Gonzalez-Olvera, Jennifer Hoy*
A binocular perception deficit characterizes prey pursuit in developing mice
- P3-079** *Ian Maccourt, Suzy Renn*
Retention of Conditioned Behaviors in *A. Burtoni*
- P3-080** *Susan Marsh-Rollo, Matthew Kustra, Kelly Stiver, Jennifer Hellmann, Molly Cummings, Jurek Kolasa, Suzanne Alonzo*
Exploring cognitive flexibility in a wild living fish with alternative reproductive tactics
- P3-081** *Laura Grossner, Maya Zepeda, Kiri Stauch, laura grossner, Charles Abramson*
The Effect of Weight Changes on Cap Pushing Response in Honey Bees (*Apis mellifera*)
- P3-082** *Mac Chamberlain, Mark Hauber*
A systematic review of methodologies to studying behavioral imprinting
- P3-083** *Maya Zepeda, Laura Grossner, Riley Wincheski, Kiri Stauch, Charles Abramson*
Cap Pushing Responses of Honey Bees (*Apis mellifera*) with Associated Weight Preference
- P3-084** *Grace Ou*
Plastic behaviour in shy fish as a result of predation risk exposure
- P3-085** *Archana Prakash-Kalpana, Pete Hurd*
Stress effect on sex ratio, and transgenerational stress effects on a West African Cichlid fish
- P3-086** *Ana Lyons, Grace Chiu, Hannah Gemrich, Saul Kato*
Building a framework for transgenics & systems neuroscience in tardigrades
- P3-087** *Rosalie Maltby, Michael Markham*
A reduced cost approach to CRISPR in weakly electric fish.
- P3-088** *Ehren Bentz, Alexander Ophir*
The olfactory and vomeronasal transcriptomes of the African giant pouched rat (*Cricetomys ansorgei*)
- P3-089** *Chidambaram Ramanathan, Ali Akbar, Chidimma Okegbe, Rebecca Koch, Matthew Powers, Ethan Hare, Geoffrey Hill, Matthew Toomey, Yufeng Zhang*
Establishing in vitro systems to study vertebrate ketocarotenoid metabolism

- P3-090** *Josh Faber-Hammond, Suzy Renn* Transcriptomics of *Astatotilapia burtoni* mouthbrooding reveals extensive stock divergence
- P3-091** *Tessa Patton, Sara Lipshutz, Kimberly Rosvall* Neurogenomics of competition and parental care in a socially polyandrous shorebird
- P3-092** *Lori Campbell, Cláudia Garcia-Jou, André Fenton* A Step to Unveiling the Enigma of Memory: A Regard for Proteins through Behavioral Analysis
- P3-094** *Jacqueline Seddon, Daniel Powell, Jacob Kazmi, Alexandra Miller, Patsy Dickinson* Dietary diversity correlates with stomatogastric neuromodulatory capacity in majoid crabs
- P3-095** *Kayla Moehn, Isha Gore, Elizabeth Gould* Early Life Adversity Impacts on GABAA Delta Subunits in Ventral Hippocampus and Avoidance Behavior

Evolutionary Genetics and Genomics

- P3-096** *Daniella Ray, Elizabeth Sheldon, Lynn Martin, Aaron Schrey* Screening Histone Acetylation in House Sparrows
- P3-097** *M. Ellesse Lauer, Aaron Schrey, Lynn Martin, Elizabeth Sheldon, Daniella Ray, David Tevs, Emma Simpson, Haley Kodak* Epigenetic buffering in recently introduced house sparrows indicated by variance in DNA methylation
- P3-098** *Raquel Gonzalez, Paul Johnson, Morgan Brizendine, Nathan Whelan* Genetic diversity, gene flow, and population structure of the endangered Alabama Pearlshell mussel
- P3-100** *Emily Bode, SoYoung Park, Harold Gibbs, Kenneth Petren, Eric Gangloff, Andrew Mason* Genomic impacts of population reduction and biological invasion on the common wall lizard
- P3-101** *Silu Wang, Devin de-Zwaan, Jacqueline Mackenzie, Else Mikkelsen, Chris Wood* Pleiotropic opposing dominance within a color gene block contributes to a nascent species boundary
- P3-102** *Nat Clarke, Noah Rose, Vicki Pearse, Dimitri Deheyn* Neon anemones: a fluorescent protein gene encodes a color polymorphism in intertidal *Anthopleura* spp

Flight in Birds and Bugs

- P3-103** *Gal Ribak* Do insects fly at optimal Strouhal numbers?
- P3-104** *Scott Dixon, Simon Walker* The Neuromuscular Control of Blowfly Flight
- P3-105** *Jiaqi Xiue, Brett Klaassen-van-Oorschot, Glenna Clifton, Dixia Fan, Fei Han* Deep Reinforcement Learning Replicates Storm Petrel Jumping on the Water
- P3-106** *Rachel Tran, Simon Walker* High-precision insect wing and body kinematics acquisition using a flexible free-flight arena
- P3-107** *Colin Bamford, Jack Nix, Paul Swiney, Tyson Hedrick, Vrishank Raghav* Mitigation Response of a Red-Tailed Hawk to Vertical Gusts
- P3-108** *Leah Hyeon Ryun Lee, Robert Dudley* The Role of Elytra in Flight of Oedemeridae
- P3-109** *Natalie Doody, Scott Dixon, Graham Askew, Simon Walker* Muscle strain patterns and mechanical power output of blowfly flight muscles
- P3-110** *Jason Vance, Kayla Pehl, Catherine Waggoner, John Swallow* Morphological compensation and the development of flight performance in stalk-eyed flies
- P3-111** *Adam Fitch, Sterling Nesbitt* A new hypothesis for the flight musculature of pterosaurs, the first flying vertebrates
- P3-112** *Md Zafar Anwar, Bret Tobalske, Suyash Agrawal, Haoxiang Luo, Bo Cheng* Kinematics and dynamics analysis of hummingbirds hovering under external torque

Foraging Behavior

- P3-113** *Emma Jackson, John Carlson* Feeding Habits of *Carcharhinus plumbeus*, Off of the Southeast U.S Coast From 2006-2022
- P3-114** *Jacquelynn Formosa, John Hranitz, Victor Gonzalez, Charles Abramson, Theodora Petanidou, Thomas Tscheulin* Investigations into constraints on dim-light foraging within a Mediterranean Carpenter Bee community
- P3-115** *April Hugli* Sailfish larvae in the Gulf of Mexico: Prey Selectivity, Prey Quality, and Larval Growth

Genomics and Proteomics

- P3-116** *Joseph Mack, Alexandra Bely* Metabarcoding of gut contents clarifies the evolution of carnivory in a genus of predatory annelids
- P3-117** *Marilyn Lionts, Becca Young, Andy Zhou, Daniela Zurita-Paredes, Andres Romero-Carvajal* Functional inference from transcriptomics in non-traditional models: A case study in amphibians
- P3-118** *Jiawei Han, Hans Hofmann* Comparative Transcriptomics of the Subpallial Amygdala across 12 Species of Vertebrates
- P3-119** *Hussain Kalavadwala, Jacob Daane* Evolutionary Loss of Glomeruli Across Teleost Fish Kidneys – A Comparative Genomics Approach
- P3-120** *Reed Boohar, Lauren Vandepas, Nikki Traylor-Knowles, William Browne* CD36 ‘apex’ variation: implications for ligand sensing?
- P3-122** *Maya Cheam, Meghan Brady, Kelly Dawe* Searching for the Striated Gene
- P3-123** *Diamanda Zizis, Chris Martine*, Tanisha Williams* Heading for a breakdown: Assessing evolution through the hybridization of two sexual systems
- P3-124** *Jose Camara-Lavadores, Amie Romney, Jason Podrabsky* The microbiome of *Austrofundulus limnaeus* with respect to vertebrate Diapause

Hormones

- P3-125** *Kira Buford-Rucker, Christopher Smaga, Benjamin Parrott* Non-lethal sexing of hatchling alligators (*Alligator mississippiensis*) using plasma AMH
- P3-126** *Stephannie Seng, Edward Connor, Gabriela Ponce, Peter Andreas, Anna Kisiala, Neil Emery, Rosemarie De-Clerck-Floate, Don Miller, Ming-Shun Chen, Peter Price, John Tooker* Abscisic Acid: A Secreted Effector from Phytophagous Insects
- P3-127** *Susan Reed, Alex Jahn, David Sinkiewicz, Ellen Ketterson* Migration Distance and Reproductive Readiness in a Common Songbird

In a Relationship

- P3-128** *Hails Tanaka, Robert Podolsky** Can parasites guard their investment by protecting host structures on which they depend?
- P3-129** *Demi Carballosa, Katie Dobkowski* The Urch- to Eat: Effect of encrusting bryozoans on the growth and feeding behavior of green urchins
- P3-130** *Hannah Daly, Jacob Lasala, Kristen Mazzarella, Theodora Pinou* Spatial diversity of barnacles on nesting turtles on the Gulf of Mexico
- P3-131** *Calvin Schaefer, Connor Downs, Guinevere Wogan* Ecological and Evolutionary Correlates of Venom Complexity and Venom System Morphology in Snakes
- P3-132** *Tommaso Chiodo, Benjamin Titus, Estefanía Rodríguez* Phylogenomic reconstruction of clownfish-hosting sea anemone clades Stichodactylina and Heteractina.
- P3-133** *Judith Janisch, Leonida Fusani, Cliodhna Quigley, Elisa Perinot* Variability in courtship movements influences mating success in golden-collared manakins

Living in the Anthropocene

- P3-134** *Benjamin Jorgensen, Kit Yu Karen Chan* Diet modulates upper thermal limit of larval sand dollars
- P3-135** *Jazczenya Gonzalez, Terence Leach, Gretchen Hofmann, Kit Yu Karen Chan* Marine heatwaves reduce gamete quality of the sea urchin, *Strongylocentrotus purpuratus*
- P3-136** *Josiah Utsch, Sophie George* *Pisaster ochraceus* [Asteroidea] larvae are resilient to high temperatures but not to food shortage
- P3-137** *Bridget Hollowell, Elizabeth Borda, Jose Valdez* Aquatic Macroinvertebrates in relation to Climate Change in the San Antonio River
- P3-138** *Sammy Kutsch, Megan Maloney, Marie Strader* Elevated temperatures reduce larval survival but enhance settlement in *Cassiopea*
- P3-139** *Eve Dean, Mia Poulsen, Elijah Wostl, Darren Proppe, Matt Steffenson* Comparing arthropod communities across seasonal temperature variation
- P3-140** *Stephanie Peak, Tingting Xiang, Karl Castillo, Christopher Willett* The Role of Histone Acetylation in Thermal Tolerance of *Exaiptasia diaphana*, a Coral Model Organism

- P3-141** Michael Henshaw, Abbey Kern, Ethan Book, Chloe Smith, Madison Skinner, Emily Kowal, Natalie Longo, Alex Kayfish, Sophia Hamilton Cold-Tolerance & Supercooling in Northern vs. Southern Phidippus audax Jumping Spiders (*Salticidae*).
- P3-142** Rocky Johnston, Timothy Judd Effect of photoperiodic temperature changes on the initiation of diapause in bivoltine trap-nesting
- P3-143** Julia York Texas leafcutter ant antennal transcriptomes and patterns of expression along a thermal transect
- P3-144** Mike Misamore, Julianna Martinez, Sophia Pracilio Factors effecting the survival and reproduction of the invasive zebra mussels in Texas waters.
- P3-145** Breh Ruger, Nate Haan Distance from prairie strips and cropping system management as effects on natural pest suppression
- P3-146** Megan Powers, Billie Swalla Assessing Ascidian Invasion in the Salish Sea
- P3-147** Layne Leggett, Robert Podolsky Microplastics Act as a Vehicle for Ingestion of Adsorbed Toxins by Aquatic Organisms
- P3-148** Jacob Lasala, Beth Brady Spatial diversity of seagrass habitats on the Gulf of Mexico

Mammals in Motion

- P3-149** Duyi Kuang, Stanley Wang, Sebastian Lee, Lawrence Wang, Robert Full Kinematic paw adjustments of fox squirrels landing on curved surfaces
- P3-150** Margaret Zhang, Andrew Schulz, Cassie Shriver, Joseph Mendelson, David Hu, Young-Hui Chang In-vivo work loop analysis of the African Elephant Trunk
- P3-151** Katrina Moore, Anahita Sadrossadat, Zhuoyang Zhang, Craig McGowan, Monica Daley Bold and fast? Does kangaroo rat (*Dipodomys deserti*) behavior correlate with locomotor performance?
- P3-152** Neysa Grider-Potter, Ryosuke Goto, Tetsuya Shitara, Yoshihiko Nakano Neck muscle activity during multiple forms of locomotion in primates
- P3-153** Jim Usherwood, Alexandra Bailey Legs, linkages and lollipop sticks: physical demonstrators for (almost) all ages
- P3-154** Alexa Cesari, Jesse Placone, Nicole Ramo, Kavish Saini, Michael Rosario, Danielle Adams, Frank Fish Biological and Biomechanical Properties of Tendons in the Peduncle of Harbor Porpoise

Morphological Evolution

- P3-155** Erik Johnson Asymmetrical Genitalia in Livebearing Fishes
- P3-156** Sean Burke, Nicolas Walker, Isaac Ligocki The morphological impacts of competition and perceived predation risk in two teleost fish
- P3-157** Lauren Johnson, Donald Miles Revisiting the Ecological Consequences of Foraging Mode: A Cerebral Perspective
- P3-158** Natalie Schroth, Jessica Arbour Quantifying Evolutionary Trends of Color Pattern in Darter Fishes (*Etheostomatinae*)
- P3-159** William Reyes Endocranial variation of the Aetosauria (*Pseudosuchia*) from the Late Triassic Dockum Group

Morphology and Mechanics

- P3-160** Andy Danison, Oliver Demuth, Heinrich Mallison, Eric Snively Atlas of Skeletal Muscle Morphology and Force-Generating Capabilities in *Tyrannosaurus rex*
- P3-161** Adam Puchalski, Alexandre Palaoro, Kostya Kostya Insect antennae: coupling morphology with mechanics
- P3-162** Sam Glenn, Mitchell Ford, Arvind Santhanakrishnan Morphological characterization of wing shapes of tiny insects
- P3-163** Kari Taylor-Burt, Joseph Thompson, William Kier A superelongating obliquely striated muscle in the bloodworm, *Glycera*
- P3-164** Melanie Fischer, Gareth Fraser, Karly Cohen By the skin of their teeth: morphology and replacement of *Squalus suckleyi*
- P3-165** Tristan Reinecke Trabecular Bone In Mammalia and Reptilia and its Potential as a Proxy for Posture and Locomotion
- P3-166** Randi Depp, Rachel Oslon Sex Differences in Cross-sectional Geometry of Adult Human Ribs

- P3-167** Victor Munteanu, Richard Blob, Georgia Moore
Keep Holding On: Effect of Perturbation Intensity in Veiled Chameleons (*Chamaeleo calytratus*)
- P3-168** Michael Chiappone, Carlos Rodriguez-Saltos, Lucas Legendre, Zhiheng Li, Julia Clarke
Ostrich syrinx morphology and vocal repertoire: variation across postnatal ontogeny and sex
- P3-169** Luca Fuller, Evan Marcet, Laura Agarkov, Prisha Singh, Seth Donahue
Morphology and material properties of the bighorn sheep horn-horncore interface
- P3-170** Juri Miyamae, Talia Moore
Entails a Closer Look: Comparative muscular morphology and function of the mammalian tail

Reproduction

- P3-171** Abby Weber, Philip Anderson
Intriguing Ichneumonids: The Influence of Scale and Substrate on Parasitoid Wasp Ovipositor Morphology
- P3-172** Madison Gott, Madeline Armstrong, Jessica Zehnpfennig, Andrew Mahon
A temporal investigation of sea spider (*Pycnogonida*) reproduction in the Southern Ocean (*Antarctica*)
- P3-173** Raquel Mejia-Trujillo, Brendan Pinto, Justin Havird, Sophie Breton, Chase Smith
Genomic signatures of mitonuclear sex determination in a bivalve with doubly uniparental inheritance
- P3-174** Audrey Anderson, Emily Wilkins, Marie Strader, Katherine Buckley
Parental identity influences developmental plasticity of the purple sea urchin innate immune system
- P3-175** Katherine Evans, Steven Juliano
Better Late than Never? Evaluating when the Sterile Insect Technique will work against *Aedes*
- P3-176** Valeria Serna-Solis, J Garcia-Israel, C Paredes-Amaya, Brandon Hedrick, Rachel Keeffe, Patricia Brennan
Modularity and integration of copulatory structures in male Ratfish, *Hydrolagus collicii*

Reproductive, Parental and Hormonal Behavior

- P3-177** Omar Morosse, Iris Levin
Assortative mating in the North American Barn Swallow (*Hirundo rustica erythrogaster*)
- P3-178** Sage DeLong, Lauren Cirino, Rafael Rodriguez
Vibrational signals in mating and fighting behaviors in the red milkweed beetle
- P3-179** Jasmine Kirchner, Jacob Lasala
Ambient lighting effects on sea turtle nesting behavior in Sarasota County, Florida
- P3-180** James Boothroyd, Christine Miller
Ejaculate Size Variation Under Weapon Loss
- P3-181** Mia Kholy, Grace Anderson, Taylor Black, Jeremy Blackburn, Akshaya Ranjit, Michele Johnson
The Role of the Third Eye in Lizard Reproductive Physiology and Behavior
- P3-182** Chloe Keck, Carol Boggs, Daniel Speiser
Investigating color preference in male butterflies during mating
- P3-183** Nicole Barbera, Joseph Leese
Does the relative size of potential mates affect the mate search process in female convict cichlids?
- P3-184** Regan Honeycutt, Allison Welch
The effects of elevated salinity on oviposition site choice and mate choice in squirrel treefrogs
- P3-185** Bean Fischer, Josh Faber-Hammond, Suzy Renn
So hungry they could eat a fry: Neural expression of mouthbrooding female African cichlid
- P3-186** Ross DeAngelis, Hans Hofmann
Probing the motivational state of parents by integrating snRNA-seq and spatial transcriptomics
- P3-187** Kaoru Esther Okamoto, Jennifer Kovacs, Erica Harris
The Role of Diet and Density on Adult-Egg Cannibalism in Red Flour Beetles
- P3-188** Natalie van-Breukelen, Nicholas Santangelo, Morgan Lane
Natural pair distribution predicts convict cichlid parental defense towards other parental pairs
- P3-189** William Kirkpatrick, Sarah DuRant
Thermal Variation and Averages Oppositely Affect Breeding Behavior of Two Cavity Nesting Birds
- P3-190** Jean Ross, Vikram Iyengar
Intruder Alert!: Intruder sex and size affect maternal nest guarding behavior in the maritime earwig
- P3-191** Kiley Penwell, Cheyenne Coppinger, Jennifer Grindstaff
Maternal compensation after paternal removal and consequences for offspring growth
- P3-192** Emily Terrill, Eva Fischer, Jesse Delia
Disentangling the cue for parental water provisioning in glassfrogs (*H. fleischmanni*)

- P3-193** *Claire Molina*
The Anthropogenic Effect on Pigeon Guillemot Nesting Behaviors with a Focus on Provisioning
- P3-194** *Joshua Stueckle, Asher Marvy, Suzy Renn*
Social dynamics of infanticide in a mouthbrooding cichlid fish
- P3-195** *Amanda Price, Jonathan Perez*
The behavioral response of Eastern Bluebirds (*Sialia sialis*) to simulated nest predation
- P3-196** *Katie Brust, Andrea Liebl, Andrew Russell*
Measuring sex biases: the effect of variable sex ratio on provisioning rate in *Pomatostomus Ruficeps*
- P3-197** *Raedan Stephens, Keegan Stansberry, Christine Lattin*
Bird DIY: Building an RFID system to study behavior in free-living starlings
- P3-198** *Maya Tipton, Sarah Heissenberger, Luis Luis, Daniela Rivera, Carolyn Bauer*
Effects of water restriction on maternal care in *Octodon degus*
- P3-199** *Nina Hernandez, Doris Preninger, Lisa Mangiamele, Diana Flores-Zamudio*
Investigating the Effect of Arginine Vasotocin on Multimodal Communication in Foot-flagging Frogs
- P3-200** *Esmirna Cantu, MD Rahman*
Pesticide Cocktail Affects Free-swimming Behavior in Relation to Distance and Movement in Goldfish
- P3-201** *Saeid Panahi-Hassan-Barough, Caitlin Gabor, José Jaime Zúñiga-Vega, M Suarez Rodriguez*
Consequences of maternal stress on offspring: cognitive, behavioral, and physiological traits in live-bearing fish
- P3-202** *Nya Love, Matthew Fuxjager, Doris Preininger*
Testosterone levels in foot-flagging frogs at the breeding site
- P3-203** *Ashlyn Thomas, Dante Nesta, Sarah Lagon, Cristina Ledón-Rettig*
The effects of early-life diet and social environment on testosterone and immune function

Skull Evolution

- P3-204** *Catie Fenstermaker, Zachary Morris*
Unraveling the embryonic origins of squamate palate diversity
- P3-205** *Kelsie Pos, Patricia Hernandez*
Characterization of the muscle architecture of the zebrafish palatal organ and pharyngeal jaw
- P3-206** *Kaitlyn Kern, Misty Paig-Tran*
What's That on Your Head: A Morphological Investigation of the Cephalic Tenaculum in Chimaera
- P3-207** *Molly Ma, EJ Huang, Gabriel Bever, Amy Balanoff*
Comparative Shape Analysis of the Hyoid in Vocal Learning vs. Non-vocal Learning Birds
- P3-208** *Lianna Marilao, Paula Tran, Daniel Barta*
The variable occurrence of Wormian (intrasutural) bones across Mammalia
- P3-209** *Alexis Slack, Christopher Anderson*
A 3D puzzle of a human skull from CT scans as a physical model for pre-medical pedagogy
- P3-210** *Patrick Cunningham, Mahita Shankar, Sarah Kienle*
Variation in North American Canis skull and musculoskeletal morphology
- P3-211** *Danielle Adams, Brad Boyce, Daniel Hooks, Benjamin Klitsner, Samantha Price, Richard Blob*
Material properties of Cetartiodactyla skull and jaw bones
- P3-212** *Amira Siddique, L Odette Herrand, Alyssa Stringer, Emily McParland, Courtney Orsbon, Peishu Li, Nicholas Gidmark*
On the clinical relevance of comparative jaw joint biomechanics across mammals

Speciation and Diversity

- P3-214** *Pushpalata Kayastha, Magdalena Gawlak, Monika Mioduchowska, Łukasz Sługocki, Daniel Stec, Łukasz Kaczmarek*
Integrative description of *Paramacrobiotus gadabouti* sp. nov.—a next widely distributed Pam.
- P3-215** *Zaphillia Yost, Paul Larson, Jason Macrander*
Population genetics of the Florida fighting conch (*Strombus alatus*)
- P3-216** *Olayinka Ashiru, Oluwafemi Amusa, Sifau Mutiu, Adebayo Ogunkanmi, Bola Oboh*
Genetic Diversity and Population Structure of *Treculia africana* (*Decn*) from Southern Nigeria
- P3-217** *Soren Johnson, Kyle Piller*
Clarifying the taxonomy of the Blacktail Shiner (*Leuciscidae: Cyprinella venusta*) using genomic data
- P3-218** *Paul Proctor, Nerida Wilson, Andrew Hosie, Ana Hara, Greg Rouse*
Phylogenetics of Swimming Acrocirridae (*Cirratuliformia, Annelida*)
- P3-219** *Kiirah Green, Greg Rouse*
Six new Lacydonia (*Lacydoniidae, Annelida*) species from the Pacific Ocean and Caribbean Sea

P3-220	<i>David Ledesma, Melissa Kemp</i>	Of molecules and morphology: Identification of Quaternary fossil salamanders from Central Texas
P3-221	<i>Sonja Huč, Avery Hiley, Marina McCowin, Greg Rouse</i>	The First Mitochondrial Genome Phylogeny of Pilargidae (<i>Phyllodocida, Annelida</i>)
P3-222	<i>Annika Baldwin, Paul Johnson, Jeffrey Garner, Ellen Strong, Nathan Whelan</i>	Molecular ecology, conservation, and taxonomy of the freshwater snail <i>Elimia melanoides</i>
P3-223	<i>David Pounders, Kayla Fast, Michael Sandel</i>	Population genomic structure of the Everglades Pygmy Sunfish yields evidence of vicariant speciation
P3-224	<i>Brian Lomeli-Garcia, Abigail Cahill</i>	Genetic Diversity of the introduced aphid <i>Aphis nerii</i> - are they superclones?
P3-225	<i>Berit Kramer, Jessica Whelpley, Gustav Paulay, Abigail Uehling</i>	Trans-basin Connection: A pair of Atlantic and Indo-Pacific Sea Cucumbers are Conspecific
P3-226	<i>Emily McLaughlin, Rowan Batts, Joshua Goble, Christiane Todt, Maria Cobo, Kevin Kocot</i>	A Global DNA Barcode Library for Solenogastres (<i>Mollusca, Aplacophora</i>)
P3-227	<i>Olivier Larouche, Ricardo Betancur-R, Jacob Daane</i>	Do morphological differences between benthic and pelagic snappers correlate to genomic variation?
P3-228	<i>Eesha Rangani, Greg Rouse</i>	Systematics of deep-sea Nereididae (<i>Annelida</i>) from vents, seeps and whalefalls
P3-229	<i>Chandler Olson, Emily McLaughlin, Maria Cobo, Kevin Kocot</i>	Diversity of Solenogastres (<i>Mollusca, Aplacophora</i>) in Icelandic waters
P3-230	<i>Calvin So</i>	The fossil origins of modern amphibian miniaturization: a statistical approach

Springing Into Action: Muscle and Tendon Dynamics

P3-231	<i>Rajal Vyas, Michael Rosario</i>	The Effect of Activation Dynamics on the Muscle-Tendon Unit's Ability to Decelerate Mass
P3-232	<i>Apolo Ibanez-Rincon, Alberto Castro, Faroz Mirza, Theodore Garland, Natalie Holt</i>	Muscle-tendon unit morphology in HR mice selected for high levels of voluntary wheel running
P3-233	<i>Anthony Cobos, Natalie Holt</i>	Evidence of elastic energy storage in the Western Fence Lizard (<i>Sceloporus occidentalis</i>)
P3-235	<i>Mary Pena, Quinny Cao, Omid Shayegh, Adrien Arias, Manny Azizi</i>	Proximo-distal gradient in limb muscle architecture and in vivo mechanical function in alligators
P3-236	<i>Rachel Fleming, Thomas Roberts</i>	Evidence for a spring-powered mechanism in woodpecker drumming
P3-237	<i>Ross Hibbett, Lucien Tsai, Vanessa Bartling, Paco Navarro, Mark Ilton</i>	Biological springs are most efficient when subjected to equal loading and unloading rates

Swimming

P3-238	<i>Caroline Potter, Shannon Gerry, Will Robinson</i>	Relating variation in morphology and maneuverability of juvenile bluegills
P3-239	<i>Savanna Watts, Nathanael Campbell, Jennifer Dearolf, Shawn Noren</i>	Locomotor Muscle Morphology of the Pelagic Delphinid, <i>Stenella longirostris</i>
P3-241	<i>Jacquelyn Galvez, Z. Jack Tseng</i>	Damming evidence for morphological consequences of artificial barriers in riverine steelhead trout
P3-242	<i>Patrick Lewis, Michael Minicozzi</i>	Are there functional tradeoffs between swimming performance and tail-flip jumping ability in fishes?
P3-240	<i>Cooper Elliott, Jennifer Dearolf, Shawn Noren</i>	Fiber-type Profile Composition of Adult Beluga Whale (<i>Delphinapterus leucas</i>) Locomotor Muscle

Saturday Schedule of Events

Events take place in the JW Marriott Austin, unless otherwise noted

EVENT

Speaker Ready Room
Registration
Coffee Break AM

TIME

7:00 AM – 10:00 AM
7:30AM – 2:00PM
9:30 AM – 10:30 AM

LOCATION

Room 405
JW Grand Ballroom Foyer
JW Grand Ballroom

SPECIAL LECTURE

Past-President Address: Dr. Beth Brainerd
XROMM yields new insights into musculoskeletal structure, function, and evolution

John A. Moore Lectureship: Dr. Kimberly Tanner
Talk matters: Investigating the nature of non-content classroom language – instructor talk – that may mediate student inclusion, engagement, and learning

11:00 AM - 12:00 PM
Lonestar Ballroom

4:30 PM - 5:30 PM
Lonestar D

CONTRIBUTED PAPER ORAL PRESENTATIONS

MORNING

My Microbial Friends	7:45 AM – 9:15 AM	Lonestar F
Pathogen Dynamics	7:45 AM – 9:00 AM	Lonestar C
New Approaches in Comparative Genomics and Proteomics	7:45 AM – 9:30 AM	Lonestar B
Complementary to S4: Daily Torpor Across Birds and Mammals: Recent Progress and How do we Advance the Field?	8:15 AM – 8:45 AM	Rooms 301-302
Complementary to S2: Neuroethology in the Age of Gene Editing: New Tools and Novel Insights into the Molecular and Neural Basis of Behavior	8:00 AM – 8:45 AM	Rooms 203-204
Complementary to S8: The Role of Mechanosensation in Robust Locomotion	8:00 AM – 9:00 AM	Rooms 303-304
Communication III: Signal Production and Detection	8:00 AM – 9:15 AM	Lonestar G
Epigenetics	8:00 AM – 9:15 AM	Rooms 201-202
Neuroanatomy and Physiology	8:00 AM – 9:15 AM	Lonestar A
Evolution Across Deep Time	8:00 AM – 9:15 AM	Lonestar E
Fluids	8:00 AM – 9:30 AM	Lonestar H
Ecology and Evolution of Body Morphology	8:00 AM – 10:45 AM	Lonestar D
Complementary to S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes	8:45 AM – 10:30 AM	Rooms 301-302
Complementary to S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function	9:00 AM – 10:30 AM	Rooms 203-204
Metabolism	9:00 AM – 10:45 AM	Rooms 303-304
Neuroanatomy and Neuroethology	9:15 AM – 10:30 AM	Lonestar A
Foraging Behavior II: Bees, Bats and Rewards	9:15 AM – 10:45 AM	Lonestar C
Neuroethology I	9:15 AM – 10:30 AM	Rooms 201-202
Parental Behavior	9:30 AM – 10:45 AM	Lonestar G
Sensory Ecology, Communication, and Cognition	9:15 AM – 10:30 AM	Lonestar F
A Transcriptomic Lens on Ecology and Evolution	9:30 AM – 10:45 AM	Lonestar E
Life in Urban or Near-Urban Environments	9:30 AM – 11:00 AM	Lonestar B

AFTERNOON

Complementary to S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success	1:30 PM – 3:15 PM	Rooms 203-204
Development of Behavior	1:30 PM – 3:00 PM	Lonestar F
Evolutionary Morphology	1:30 PM – 3:00 PM	Lonestar H
Phylogenetics and Macroevolution	1:30 PM – 3:00 PM	Lonestar D
Reproduction: Evolutionary Morphology & Genetic Control	1:30 PM – 2:30 PM	Lonestar G
Body Kinematics During Aquatic Locomotion	1:30 PM – 3:15 PM	Lonestar B
Neuroethology II	1:30 PM – 3:15 PM	Rooms 201-202
Biomaterials, Structure & Mechanics II	1:30 PM – 3:30 PM	Lonestar C
From Populations to the Evolution of New Species	2:00 PM – 3:15 PM	Rooms 303-304
Modeling & Computational Approaches II	1:30 PM – 3:15 PM	Rooms 301-302
Stress Impacts	1:30 PM – 3:30 PM	Lonestar A
The Ecology and Evolution of Coloration	1:30 PM – 3:30 PM	Lonestar E

COMMITTEE AND BOARD MEETINGS

Executive Committee Meeting	7:00 AM – 8:00 AM	Brazos
Broadening Participation Committee Meeting	7:30 AM – 8:30 AM	Rooms 402-403
Public Affairs Committee	7:30 AM – 8:30 AM	Room 201
Student Postdoc Affairs Committee	8:00 AM – 9:00 AM	Boardroom

SOCIAL EVENTS

Morning 5K Run	6:00 AM – 7:00 AM	JW Marriott Lobby
End of Meeting Celebration	6:00 PM – 8:00 PM	Terrace Deck

Saturday Program Morning Sessions

Note: Presenter is first author unless noted by an asterisk (*).

7:45 AM – 9:15 AM

Lonestar F

My Microbial Friends

Chair: Aki Ohdera

- | | | |
|---------|---|---|
| 7:45 am | <i>Michele Nishiguchi, Brian Pipes*</i> | Your genes or mine? Regulation of competence and transformation in the Squid-Vibrio symbiosis |
| 8:00 am | <i>Perla Gonzalez-Moreno, Quan Tran, Michele Nishiguchi</i> | How to get rid of your neighbor: Type VI secretion system (T6SS) between conspecific <i>V. fischeri</i> |
| 8:15 am | <i>Pedro Antonio Perez, Michele Nishiguchi</i> | Crossing communication barriers: Autoinducer production between symbiotic <i>Vibrio</i> from <i>Sepiola</i> |
| 8:30 am | <i>Aki Ohdera, Maille Mansbridge, Matthew Wang, Changhua Yu, Goentoro Lea</i> | Modulating the microbiome enhances limb regeneration |
| 8:45 am | <i>Jake Pawley, Scott Nichols</i> | Investigating antibacterial immune responses in a sponge |
| 9:00 am | <i>Daravuth Cheam, Justin Yeakel, Michele Nishiguchi</i> | Model behavior: Predicting how bacterial biofilms respond to predatory protozoans |

7:45 AM – 9:00 AM

Lonestar C

Pathogen Dynamics

Chair: Michael Ellison

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| 7:45 am | <i>Bryon Tuthill, Isabela Velasquez-Gutierrez, Mary Campbell, Leilani SantoDomingo, Michael Stastny, Jessica Hua</i> | Predation, Pesticide and Pathogens: Stressor effects on population, organismal, and genome metrics |
| 8:00 am | <i>Ashley Aguilar, Oscar Hernandez-Reyes, Megan Wise-de-Valdez</i> | Mosquito species diversity at the San Antonio Zoo |
| 8:15 am | <i>Kayla Fast, Matthew Scott, Alex Rakestraw, Magdalene Dogbe, Heather Jordan, Sophie Picq, Joseph Receveur, Alexandra Bauer, Christine Chevillon, Jean-François Guegan, Jennifer Pechal, Eric Benbow, Michael Sandel</i> | Assessing the effects of nonindigenous aquatic species on freshwater microbial communities |
| 8:30 am | <i>Yash Raka, Trevor Fox, Jon Harrison</i> | Mesocosm approach towards understanding Poleward Expansion of the Zika-carrying <i>Aedes aegypti</i> |
| 8:45 am | <i>Isabela Velasquez-Gutierrez, Jessica Hua, Obed Hernandez-Gomez, Bryon Tuthill, Mary Campbell, Karin Sauer, Eve Milusich</i> | Evolutionary responses of bacteria to antibiotics affect their ability to inhibit a fungal pathogen |

7:45 AM – 9:30 AM

Lonestar B

New Approaches in Comparative Genomics and Proteomics

Chair: Samantha A. Price

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|---------|---|--|
| 7:45 am | <i>Jacob Daane, H. William Detrich, Matthew Harris, Andres Aguilar, Michael Sandel</i> | Using 'replicate' radiations of perciform fishes to understand the genetic basis of trait evolution |
| 8:00 am | <i>Samantha Price</i> | Are evolutionary regression slopes shallower at lower taxonomic levels? A study using teleost fishes |
| 8:15 am | <i>Jorge Pérez-Moreno, Mihika Kozma, Danielle DeLeo, Heather Bracken-Grissom, David Durica, Donald Mykles</i> | CrusTome: A transcriptome database resource for large-scale analyses across Crustacea |
| 8:30 am | <i>Holly Gothard, Carla Hurt</i> | Genomic Resources for Conservation of the Imperiled Hardin Crayfish (<i>Faxonius wrighti</i>) |
| 8:45 am | <i>Ryan Weaver, Justin Havird</i> | How to test temporal predictions of the nuclear compensation mechanism of mitonuclear coevolution |

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9:00 am	<i>Jeffrey Streicher, Anjali Goswami, Ashwini Venkatanarayana-Mohan</i>	How does chromosome evolution influence landmark-based estimates of genomic disparity?
9:15 am	<i>Noor White, Zachary Batz, Edward Braun, Michael Braun, Karen Carleton, Rebecca Kimball, Anand Swaroop</i>	A novel exome probe set captures phototransduction genes across birds (<i>Aves</i>)

8:15 AM – 8:45 AM

Rooms 301-302

Complementary to S4: Daily Torpor Across Birds and Mammals: Recent Progress and How do we Advance the Field?

Chairs: Anusha Shankar, Kenneth Welch

8:15 am	<i>Cole Wolf, Zachary Cheviron</i>	Variation in phenotypic flexibility of metabolic traits along an elevational gradient
8:30 am	<i>Blair Wolf, Shayne Halter</i>	Energy Allocation Strategies Of Migrating Hummingbirds

8:00 AM – 8:45 AM

Rooms 203-204

Complementary to S2: Neuroethology in the Age of Gene Editing: New Tools and Novel Insights into the Molecular and Neural Basis of Behavior

Chairs: Beau Alward, Scott Juntti

8:00 am	<i>Benjamin Matthews</i>	Molecular genetics of egg-laying behaviour in mosquitoes
8:15 am	<i>Richard Meisel, Alexander Mai, Pablo Delclos</i>	Identifying the regulatory architecture underlying mating behavior using CRISPRa
8:30 am	<i>Yiting Ter, Erica Westerman</i>	Dynamic gene expression during a social learning event in a butterfly

8:00 AM – 9:00 AM

Rooms 303-304

Complementary to S8: The Role of Mechanosensation in Robust Locomotion

Chairs: Hilary Rose Katz, Kathryn E. Stanchak

8:00 am	<i>Sweta Agrawal, Chris Dallmann, Su-Yee Lee, John Tuthill</i>	Neural architecture of leg mechanosensory circuits in <i>Drosophila</i>
8:15 am	<i>Jasmin Wong, Shane Windsor</i>	Flight feathers as structural filters for aerodynamic sensory signals
8:30 am	<i>Eric Tytell, Lauren Cooper, Luna Lin, Pedro Reis</i>	Regulation of the swimming kinematics of lampreys <i>Petromyzon marinus</i> when viscosity increases
8:45 am	<i>Brooke Quinn, Kenneth Breuer, Alberto Bortoni, Sharon Swartz</i>	Sensing on the fly: sensory hairs help bats battle turbulence

8:00 AM – 9:15 AM

Lonestar G

Communication III: Signal Production and Detection

Chairs: Kelsi Marie Rutledge, Lindsay Waldrop

8:00 am	<i>Samantha Smith, Steven Phelps</i>	The Cricothyroid Muscle's Role in Frequency Modulation of Whistle-based Sounds in a Singing Mouse.
8:15 am	<i>Todd Green, Tamar Goldblatt, Jeffrey Ng, Saqib Chariwala, Paul Gignac, Akinobu Watanabe</i>	Do the cranial casques of cassowaries function as vocal resonators?
8:30 am	<i>Loranzie Rogers, Nicholas Lozier, Yulia Sapozhnikova, Kelly Diamond, Joseph Sisneros</i>	Functional plasticity of the swim bladder in a vocal fish
8:45 am	<i>Lindsay Waldrop, Shilpa Khatri, Yanyan He</i>	Flash or Sniff: Testing the evolutionary divergence of firefly antennae due to selection
9:00 am	<i>Kelsi Rutledge, Malcolm Gordon, John Dabiri</i>	Fluid dynamics of chemical scent detection in stingrays

8:00 AM – 9:15 AM

Rooms 201-202

Epigenetics

Chair: Benjamin Parrott

- 8:00 am Benjamin Parrott, Ethan Shealy, Emily Bertucci Age-dependent disorder of DNA methylation in epigenetic aging, development, and rejuvenation
- 8:15 am Charles Voirin, Toshi Tsunekage, Yujie Liu, Kate Alexy, Iris Levin Brood size and growth rate affect telomere length and dynamics in nestling barn swallows
- 8:30 am Ryan Hardin, Tonia Schwartz Telomere dynamics across early life stages in brown anole lizards
- 8:45 am Christopher Peterson, Mikhail Matz Inheritance of DNA methylation in hybridized Acropora corals
- 9:00 am Evelyn Abbott, Mikhail Matz Gene body methylation and gene expression plasticity do not correlate in a reef-building coral

8:00 AM – 9:15 AM

Lonestar A

Neuroanatomy and Physiology

Chair: Lauren Eve Simonitis

- 8:00 am Lauren Simonitis, Adam Summers, Amani Webber-Schultz, Aubrey Clark Nosy About Noses: using biovisualization techniques to study Chondrichthyan nasal morphology
- 8:15 am Desmond Ramirez, Thi Bui, Paul Katz Neuronal mapping in the head ganglia of a gastropod mollusc using single cell transcriptomics
- 8:30 am Kelsey Stilson, Zhe-Xi Luo, Callum Ross Hemimandibular Mastication in *Didelphis virginiana*: bilateral control through periodontal feedback
- 8:45 am Lainy Day, Derrick Thornton Relative Sexual Size Dimorphism, Endocranial Volume, and Display in Manakins (*Aves, Pipridae*).
- 9:00 am Agnish Prusty, Payel Chatterjee, Sanjay Sane The sensorimotor apparatus for head stabilization in the Oleander hawkmoth *Daphnis nerii*

8:00 AM – 9:15 AM

Lonestar E

Evolution Across Deep Time

Chair: Sara J. ElShafie

- 8:00 am Elizabeth Sibert, Monica Marion, Jacob Licht, Immanuel Bissell, Carly Cohen Tiny Tooth Tales: A record of fish evolution from microfossil teeth preserved in deep sea sediments
- 8:15 am Phillip Sternes, Lars Schmitz, Timothy Higham Cretaceous origin of pelagic sharks coincides with major shifts in pectoral fin morphology
- 8:30 am J. Andres Marquez, Kyra Anderson, Murray Duncan, Erik Sperling, Richard Stockey, Thomas Boag Comparing the Hypoxia Tolerance and Temperature Sensitivities of Paleozoic and Modern Marine Fauna
- 8:45 am Sara ElShafie Body size tracks precipitation in crocodyliforms and local temperature in lizards over deep time
- 9:00 am Nicole Barber, Christophe Soligo, Anjali Goswami Morphological disparity and rates of evolution in the primate astragalus and calcaneus

8:00 AM – 9:30 AM

Lonestar H

Fluids

Chair: Elio Challita

- 8:00 am Michael Calicchia, Rui Ni, Rajat Mittal, Jung-Hee Seo Reconstructing the pressure field around an undulating body using a physics-informed neural network
- 8:15 am Sara Oliveira-Pedro-dos-Santos, Monica Wilhelmus Leakiness at intermediate Reynolds number in metachronal drag-based swimming
- 8:30 am Yunxing Su, Rose Weinbaum, Eckart Meiburg, Darcy Taniguchi, Dustin Carroll, Tihomir Kostadinov, Monica Wilhelmus Quantifying large-scale transport by diel vertical migrations of mesozooplankton

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8:45 am	<i>Elio Challita, Prateek Sehgal, Pankaj Rohilla, Saad Bhamla</i>	Viscoelastic spitting of conehead termites
9:00 am	<i>Siavash Ahrar</i>	SPIM-Flow: Integrated light-sheet and microfluidics to study hydrodynamics of Hydra
9:15 am	<i>Dwight Whitaker, Guido Dominguez, Andrew Estrada, Amiri Rivers-David, Larry Liu, Aiden Karpf</i>	A numerical analysis of peat moss vortex rings

8:00 AM – 10:45 AM

Lonestar D

Ecology and Evolution of Body Morphology

Chairs: Phillip J. Bergmann, Josef Stiegler

8:00 am	<i>Alexa Wimberly</i>	Predicting body mass in ruminant artiodactyls using multiple regression
8:15 am	<i>Dale Stevens, Anna Gilmartin, Sydney Macedo, Isabella Reichel, Matthew Wund, Kaitlyn Mathis</i>	Testing for evolved morphological plasticity in stickleback fish following northern pike invasion
8:30 am	<i>Ellianna Zack, Stephanie Smith, Kenneth Angielczyk</i>	From Fairies to Giants: impacts of body size and ecology on trabecular bone of Xenarthran vertebrae
8:45 am	<i>Philip Bergmann, Maxwell Olson</i>	Diversification of salamander body form, as mediated by the evolution of the number of vertebrae
9:00 am	<i>Matthew Kolmann, Richard Harrington, Matt Friedman</i>	In a rush to catch their breath? Body shape diversification in the labyrinth fishes and their allies
9:15 am	<i>Stephanie Smith, Kenneth Angielczyk, Lawrence Heaney</i>	Multi-scale morphological effects of body size in an arboreal rodent clade (<i>Muridae: Phloeomyini</i>)
9:30 am	<i>Alec Wilken, Julia Schultz, Callum Ross, Zhe-Xi Luo</i>	The effect of trabecular bone on force transfer in the jaws of mammals
9:45 am	<i>Jennifer McCann, Travis Hagey</i>	Early Burst of Parallel Evolution in Gecko Toe Pad Morphology
10:00 am	<i>Josef Stiegler, Andrew Moore, Shuo Wang, Elena Cuesta, John Scannella, Xing Xu, James Clark</i>	Exceptional fossils and juvenile birds resolve dinosaurian digit dilemma
10:15 am	<i>Christopher Griffin, Neil Pezzoni, Romain Pintore, Randall Irmis, Nathan Smith, Alan Turner, Adam Marsh, Sterling Nesbitt</i>	Early theropod hindlimb morphology evolved via shifts in ontogenetic timing
10:30 am	<i>Ellen Coombs, Matthew McCurry, Travis Park, Agnese Lanzetti, Andrew Knapp, Rebecca Bennion, Michael McGowen</i>	Functional tradeoffs: Quantifying mandible shape in echolocating whales

8:45 AM – 10:30 AM

Rooms 301-302

Complementary to S6: Large-Scale Biological Phenomena Arising From Small-Scale Biophysical Processes

Chairs: Kit Yu Karen Chan, SJeanette D. Wheeler

8:45 am	<i>Melissa Ruszczyk, Donald Webster, Jeannette Yen</i>	A freshwater copepod's response to dissipation-scale turbulent flow structure
9:00 am	<i>Piotr Jablonski, Jinseok Park, Jong-Yeol Moon, Hongsup Shin, Changku Kang, Jeongeol Park, Gylhyun Cho, Minyoung Son, Nicholas Strausfeld, Ronald Mumme, Hyungpil Moon, Sang-im Lee, Yuong-Nam Lee</i>	Simple neural circuits in prey and large scale phenomena in predators: flush-pursue foraging
9:15 am	<i>Emily Kaufman, Harry Tuazon, Darshan Chudasama, Saad Bhamla</i>	Thigmotactic Clumping of Substrate by Aquatic Worms
9:30 am	<i>Dakota Piorkowski, Andrew Lowe, Doug Fudge*</i>	Micro-scale mechanics of hagfish defensive slime deployment
9:45 am	<i>Laura Miller</i>	Multiscale flow between the branches and polyps of gorgonians
10:00 am	<i>Lance Davidson</i>	Invasive or adaptive? Robust development in the face of extreme temperatures.
10:15 am	<i>Christopher Strickland, Laura Miller, Nick Battista</i>	Planktos: An agent-based framework for small organisms in fluid and around structures at the m scale

9:00 AM – 10:30 AM

Rooms 203-204

Complementary to S5: Pathways to Adulthood: Environmental, Developmental, and Evolutionary Influences on the Ontogeny of Form and Function

Chairs: Terry Dial, Ashley M. Heers, Mark C. Mainwaring

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| 9:00 am | <i>Richard Hoover, Olivia Hawkins, Jack Rosen, Conrad Wilson, Callie Crawford, Meghan Holst, Jonathan Huie, Adam Summers, Cassandra Donatelli, Karly Cohen</i> | The hydrodynamic cost of armor and its tradeoff with adhesion across ontogeny in <i>E. orbis</i> |
| 9:30 am | <i>John Majoris, Fritz Francisco, Corinne Burns, Simon Brandl, Karen Warkentin, Peter Buston</i> | Paternal care regulates hatching time and hatchling morphology in a coral reef fish |
| 9:45 am | <i>Jack Litle, Emily Carrington</i> | An Integrative Assessment of Life-Stage Specific Thermotolerance in a Variable Environment |
| 10:00 am | <i>Ione Hunt-von-Herbing, Francis Pan</i> | Multiple Stressors, Allostasis and Metabolic Scaling in Developing Zebrafish. |
| 10:15 am | <i>Ella Nicklin, Gareth Fraser</i> | A deep dive into elasmobranch denticle diversity and development |

9:00 AM – 10:45 AM

Rooms 303-304

Metabolism

Chair: Sara Wilmsen

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| 9:00 am | <i>Jerrica Jamison, Kenneth Welch</i> | Sugar Transporter Evolution in Bats Specializing in High Sugar Diets |
| 9:15 am | <i>Noah DeFino, Goggy Davidowitz</i> | Crop-emptying rate and nectar resource allocation of a nectivorous pollinator |
| 9:30 am | <i>Alana Robinson, Emma Elliott-Smith, Alexi Besser, Martin Tinker, Seth Newsome</i> | Amino acid metabolism in southern sea otters |
| 9:45 am | <i>Craig Perl, James Haas, Jon Harrison</i> | Causal mechanisms for variation in resting metabolic rates |
| 10:15 am | <i>Sara Wilmsen, Edward Dzialowski</i> | Phenotypic plasticity of the respiratory physiology of <i>Manduca sexta</i> in response to altered oxygen |
| 10:30 am | <i>Catherine Ivy, Christopher Guglielmo</i> | Seasonal flexibility in the oxygen cascade of migratory songbirds |

9:15 AM – 10:30 AM

Lonestar A

Neuroanatomy and Neuroethology

Chair: Julia C. Notar

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|----------|--|---|
| 9:15 am | <i>Julia Notar, Madeline Go, Sönke Johnsen</i> | No Brain? No Problem! Brittle Stars Are Capable of Associative Learning |
| 9:30 am | <i>Kate Otter, Paul Katz</i> | Dopaminergic and octopaminergic neurons in the nudibranch, <i>Berghia stephanieae</i> |
| 9:45 am | <i>Meagan Simons, Delbert Green</i> | Seasonal plasticity and population specific adult brain development in monarchs |
| 10:00 am | <i>Chinmayee Mukunda, Sanjay Sane</i> | Position and velocity encoding by Johnston's organs in the hawkmoth, <i>Daphnis nerii</i> |
| 10:15 am | <i>Christopher Seng, Robyn Crook</i> | Descending inhibitory modulation of nociception in the cephalopod nervous system |

9:15 AM – 10:45 AM

Lonestar C

Foraging Behavior II: Bees, Bats and Rewards

Chair: Avery Russell

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| 9:15 am | <i>Smruti Pimplikar, Felicity Muth, Jessica Buelow</i> | A comparative test of reversal learning in queen and worker bumblebees |
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9:30 am	<i>Avery Russell, Tia-Lynn Ashman, Parker Campbell</i>	Microbes on the mind: effects on learning in a generalist bumble bee
9:45 am	<i>Felicity Muth, Claire Hemingway</i>	Reward perception and decision making in bumblebees
10:15 am	<i>Kord Dicke, Dhruva Naug</i>	Slow-fast differences in physiology, behavior, and life history in honeybees
10:30 am	<i>Brandi Christiano, Michael Ryan</i>	Hungry for pests? The diet diversity of the Brazilian free-tailed bat in Austin, Texas.

9:15 AM – 10:30 AM

Rooms 201-202

Neuroethology I

Chair: *Daniel I. Speiser*

9:15 am	<i>Cheng-Yu Li, Jessica Bowers, Theresa Alexander, Scott Juntti</i>	Identification of an olfactory receptor for the reproductive pheromone in an African cichlid fish
9:30 am	<i>Hazel Havens, Julia Notar, Brian Taylor, Kenneth Lohmann</i>	A role for the central complex in magnetoreception
9:45 am	<i>Daniel Chappell, Daniel Speiser</i>	Contending With Too Much Information: The Visual Neuroethology of Scallops
10:00 am	<i>Daniel Speiser, Alexandra Kingston, Daniel Chappell</i>	Few Eyes, More Eyes, Fast Eyes, Slow Eyes: Metabolic Constraints on Distributed Visual Systems
10:15 am	<i>Daniel Shaykevich, Daniela Pareja-Mejia, Lauren O'Connell</i>	Spatial cognition in the cane toad (<i>Rhinella marina</i>)

9:30 AM – 10:45 AM

Lonestar G

Parental Behavior

Chairs: *Ryleigh Dennis, Jennifer Hellmann*

9:30 am	<i>Ryleigh Dennis, Andrew Anderson, Suzy Renn</i>	Sex Role Plasticity and Aggression in the Cichlid Fish <i>Julidochromis marlieri</i>
9:45 am	<i>Lindsey Chiesl, Heather Mathewson, Gabrielle Names, Britt Heiding</i>	House Sparrow Parental Provisioning Across Varying Temperature Gradients
10:00 am	<i>Sarah Foltz, Nolen Miller</i>	Fighter-pilot parents: relationships between offspring age, quality, and parental nest defense
10:15 am	<i>Marcelle Gray, Sarah Foltz</i>	Interactions Between Land Use Type, Nest Predators, and Parental Behavior in Cavity Nesting Birds
10:30 am	<i>Christopher Marshall, Timothy Dellapenna, Justin Wilson, Eliza Perez, Kari Howard, Theresa Morris, Donna Shaver</i>	Assessment of Optimal Sea Turtle Nesting Habitat On the Upper Texas Coast

9:15 AM – 10:30 AM

Lonestar F

Sensory Ecology, Communication, and Cognition

Chair: *Sierra Dee Rodriguez*

9:15 am	<i>Sarah McKay Strobel, Molly Womack</i>	Evolution of signaller and receiver: assessing matched filters in anuran acoustic communication
9:30 am	<i>Daniel Hanley, Casey Greenberg</i>	Green light enhances egg recognition in the gray catbird <i>Dumetella carolinensis</i>
9:45 am	<i>Sierra Rodriguez, Jennifer Phillips</i>	The Effects of Sensory Pollution on Insect Diversity and Pollinator Behavior
10:00 am	<i>Samuel Stratton, Delbert Green</i>	Decoupling the induction mechanisms of migratory orientation and reproductive diapause in monarchs
10:15 am	<i>Carlos Ruiz, Jamie Theobald</i>	Habitat structure and natural history shape stabilizing responses in three species of fruit flies

9:30 AM – 10:45 AM

Lonestar E

A Transcriptomic Lens on Ecology and Evolution

Chair: Joseph Heras

- 9:30 am *Joseph Heras, Michelle Herrera, Sara Kelley, Alicia Huang, Donovan German* Comparative Transcriptomics of Marine Intertidal (*Family Stichaeidae*) Prickleback Fishes
- 9:45 am *Tyler Boggs, Joshua Gross* Adaptation to subterranean hypoxia: Insights from the blood transcriptomes of blind Mexican cavefish
- 10:00 am *Daniel Nondorf, Matthew Hale, Christopher Robinson, Henry John-Alder, Christian Cox, Robert Cox** Evolutionary implications of sex, age, and tissue differences in fence lizard transcriptomes
- 10:15 am *Miles Whedbee, Eva Fischer, Laura Stein, Tai Montgomery, Kim Hoke* The evolution of miRNA expression in the Trinidadian guppy
- 10:30 am *Danielle Bragg, Elizabeth Borda* Transcriptomes and Aquifers: How do anchialine cave shrimp respond to salinity change?

9:30 AM – 11:00 AM

Lonestar B

Life in Urban or Near-Urban Environments

Chair: Kristin Winchell

- 9:30 am *Jennifer Phillips, Todd Jones, Clinton Francis* Nesting near noise and light-filled nights: The fitness consequences of combined sensory pollutants
- 9:45 am *Alfredo Llamas, Todd Jones, Jennifer Phillips* How does sensory pollution and urban vegetation affect avian diversity and nesting success?
- 10:00 am *Isaac VanDiest, Samuel Lane, Korin Jones, Taylor Fossett, Kendra Sewall* How Similar are Urban and Rural Arthropod Communities?
- 10:15 am *Andrew Cronin, Judith Smit, Wouter Halfwerk, Jacintha Ellers* Effects of urbanization on early life stages and potential for local adaptation
- 10:30 am *Samantha Wolfe, Alan Kneidel, Paula Cimprich, Shiloh Schulte, Stephen Brown, Rob Clay* Defining Whimbrel migration staging sites on the US Gulf Coast
- 10:45 am *Kristin Winchell, Shane Campbell-Staton, Jonathan Losos, Liam Revell, Brian Verrelli, Anthony Geneva* Genome-wide parallelism underlies urban morphological adaptation

11:00 AM – 12:00 PM

Lonestar Ballroom

Past-President Address: Dr. Beth Brainerd

XROMM yields new insights into musculoskeletal structure, function, and evolution

Saturday Program Afternoon Sessions

Note: Presenter is first author unless noted by an asterisk (*).

1:30 PM – 3:15 PM

Rooms 203-204

Complementary to S7: Biology at Birth: The Role of Infancy in Providing the Foundation for Lifetime Success

Chairs: Rebecca Z. German, Christopher J. Mayerl

- 1:30 pm *Taylor McKibben, Tonia Schwartz, Kaitlyn Murphy* Does Maternal Transfer or Early Life Diet Affect the Gut Microbiome in Brown Anole Lizards
- 1:45 pm *Chloe Edmonds, Kaitlyn Robbins, Stephen Howe, Kree Kerkvliet, Rebecca German, Christopher Mayerl* Rhythmic oral stimulation alters rates of feeding behaviors in infant pigs
- 2:00 pm *Courtney Miller, Ashley Steele, Rex Mitchell, Jason Organ, Rachel Menegaz* Craniomandibular morphological variance decreases with age in mice with a COL1A2 mutation
- 2:15 pm *Chase Kinsey, Richard Blob, Danielle Adams, Caleb Ratz* Bone density and mechanical properties across development in generalist and aquatic frogs

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2:30 pm	<i>Masaya Iijima, Jim Darlington, Kent Vliet, Richard Blob</i>	Terrestrial locomotion of American alligators across body size ranging three orders of magnitude
2:45 pm	<i>Mateusz Wosik, Megan Whitney, Jessie Atterholt, Ashley Poust, David Evans</i>	Point Zero: Osteohistological Indicators for Body Size at Birth/Hatching
3:00 pm	<i>Sam Patterson</i>	Early life adversity increases mortality risk across the lifespan in free-ranging rhesus macaques

1:30 PM – 3:00 PM

Lonestar F

Development of Behavior

Chair: *Mathieu Videlier*

1:30 pm	<i>Laura Stein, Faith Leri</i>	Disentangling mechanisms of predator-induced parental effects in <i>Poecilia reticulata</i>
1:45 pm	<i>Madison Rittinger, Rafael Rodriguez</i>	How <i>Pholcus phalangioides</i> Cellar Spiders (<i>Araneae: Pholcidae</i>) Solve Prey Capture Problems
2:00 pm	<i>Rindy Anderson, Charlie Daria, Morgan Slevin</i>	Effects of anthropogenic noise on cognition and growth in the zebra finch (<i>Taeniopygia guttata</i>)
2:15 pm	<i>Kathryn Chenard, Goran Dzudza, Emely Inzunza, Ryan Paitz, Renee Duckworth</i>	Maternal stress influences brain structural development and personality in a passerine bird
2:30 pm	<i>Kyndal Irwin, Caitlin Gabor</i>	Role of diversity and environmental complexity on cognitive performance and behavior in mosquitofish
2:45 pm	<i>Mathieu Videlier, Pierre-Olivier Montiglio, Francois Dumont</i>	Sex-and period-specific genetic (co)variance matrix of behaviour and body mass in <i>Lygus lineolaris</i>

1:30 PM – 3:00 PM

Lonestar H

Evolutionary Morphology

Chair: *Leigha M. Lynch*

1:30 pm	<i>Nick Peoples, Peter Wainwright</i>	Patterns of tooth diversity in the cichlid fishes of Lake Tanganyika
1:45 pm	<i>Miriam Zelditch, Donald Swiderski</i>	Modularity of mandible shape, part I: Methodological considerations
2:00 pm	<i>Donald Swiderski, Miriam Zelditch</i>	Modularity of mandible shape, part II: Empirical analyses of squirrels
2:15 pm	<i>Keiffer Williams, Samantha Price</i>	Resolving a dental dilemma: quantifying tooth variation along the jaws in polyphyodont vertebrates
2:30 pm	<i>Jennifer Hodge, Danielle Adams, Laura Alencar, Benjamin Camper, Olivier Larouche, Mason Thurman, Keiffer Williams, Katerina Zapfe, Samantha Price</i>	Effects of history on ecomorphological convergence across marine acanthomorph fishes
2:45 pm	<i>Dave Angelini, Devin O'Brien, Ye Jin Lee, Qifan Wen</i>	Testing the canalization of scaling in bumblebee mouthparts

1:30 PM – 3:00 PM

Lonestar D

Phylogenetics and Macroevolution

Chair: *Ke Cao*

1:30 pm	<i>Avery Hiley, Greg Rouse</i>	Phylogenetics of Lepidonotopodinae and mitochondrial gene order rearrangement in deep-sea scaleworms
1:45 pm	<i>Ke Cao, Marguerite Butler, Ethan Hill, Allison Fisher</i>	Phylogenetic Analysis of genus <i>Aphantophryne</i>
2:00 pm	<i>Siddharth Kulkarni, Carlos Santibañez-Lopez, Prashant Sharma</i>	Nailing the horseshoe: Reconciliation of Xiphosura gene tree-species tree reveals ancient hybridization
2:15 pm	<i>Anjali Goswami, Eve Noirault, Ellen Coombs, Julien Clavel, Anne-Claire Fabre, Thomas Halliday, Morgan Churchill, Abigail Curtis, Akinobu Watanabe, Nancy Simmons, Brian Beatty, Jonathan Geisler, David Fox, Ryan Felice</i>	Attenuated evolution of mammals through the Cenozoic

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- 2:30 pm *Allison Fisher, Ke Cao, Ethan Hill, Allen Allison, Marguerite Butler* Taxonomic resolution of the paraphyletic Oreophryne
- 2:45 pm *Sarah Friedman, Martha Munoz* A latitudinal gradient of deep-sea invasions for marine fishes

1:30 PM – 2:30 PM

Lonestar G

Reproduction: Evolutionary Morphology & Genetic Control

Chairs: John Jacisin, Tal Perevolotsky

- 1:30 pm *John Jacisin, Antonio Meza, Tianyi Xu, Melissa Kemp* Interspecific and ecomorphological variation in the mandibular elements of Greater Antillean anoles.
- 1:45 pm *Rachel Keeffe, Dylan Maag, Brandon Hedrick, Rulon Clark, Patricia Brennan* Shape differences in the hemipenes of rattlesnakes in a hybrid zone
- 2:00 pm *Matthew Hale, Daniel Nondorf, Christopher Robinson, Henry John-Alder, Christian Cox, Robert Cox* Widespread Dosage Imbalances Reveal Facets of Sex Chromosome Evolution in Phrynosomatid Lizards
- 2:15 pm *Matthew Hale, Daniel Nondorf, Christopher Robinson, Henry John-Alder, Christian Cox, Robert Cox* Evolutionary reversals in sex-biased expression of gene networks underlying growth in spiny lizards

1:30 PM – 3:15 PM

Lonestar B

Body Kinematics During Aquatic Locomotion

Chairs: Kaelyn Mykel Gamel, Diego Sustaita

- 1:30 pm *Kaelyn Gamel, Henry Astley* Using Inverse Dynamics to Quantify Joint Mechanics of Underwater Walking in Axolotls
- 1:45 pm *Bradford Gemmell, Sean Colin, John Costello* Hydromechanical Properties of Metachronal Swimming in Polychaetes
- 2:00 pm *Gabriel Antoniak, Enric Xargay, Joaquin Gabaldon, Kira Barton, Bogdan-Ioan Popa, Alex Shorter* Estimating Whole-Body Kinematics and Kinetics of Swimming Bottlenose Dolphins
- 2:15 pm *Kelimar Diaz, Steven Tarr, Baxi Zhong, Daniel Goldman* Water surface swimming via continuous contact in a centipede
- 2:30 pm *Diego Sustaita, Arianna Ramirez* The mouse's tale: the role of the tail during swimming in the salt marsh harvest mouse
- 2:45 pm *Amandine Gillet, Katrina Jones, Eric Parmentier, Stephanie Pierce* Detecting backbone regionalization patterns in extant cetaceans
- 3:00 pm *Keegan Lutek, Emily Standen* Locomotor transitions in *Polypterus senegalus*

1:30 PM – 3:15 PM

Rooms 201-202

Neuroethology II

Chair: Tracy A. Larson

- 1:30 pm *Jeremy Didion, Jessica Fox* Central complex neuron responses to haltere input from multiple behaviors in *Sarcophaga bullata*
- 1:45 pm *Nicole Wynne, Gabriella Wolff, Clément Vinauger* Identification of a Giant Fiber Neuron system mediating mosquitoes' responses to visual
- 2:00 pm *Ibrahima Seck, Jessica Fox* Mechanosensory haltere input structures non-flight wing movements in the black scavenger fly, *Sepsis*
- 2:15 pm *Tracy Larson, Will Tucker, Susanna Shepard, John Boyd* Astrocyte plasticity in a sensorimotor nucleus controlling singing: a role in future plasticity
- 2:30 pm *Maitri Manjunath, Sanjay Sane* Mechanosensory feedback from cephalic hair coordinates flight initiation reflexes in hawkmoths
- 2:45 pm *Seth Shirazi, Timothy Higham* Why do fish miss? Attack strategies of threespine stickleback capturing non-evasive prey
- 3:00 pm *Benjamin Cellini, Jean-Michel Mongeau* Hierarchical integration of visual and mechanosensory feedback during control of gaze in *Drosophila*

Biomaterials, Structure & Mechanics II

Chairs: Cailin Casey, Mark Jankauski

1:30 pm	<i>Luca Fuller, Kouros Karimy, Paige Ruschke, Meredith Taghon, Alfred Crosby, Seth Donahue</i>	Structure-property relationships of the energy absorbing horncore velar bone of bighorn sheep rams
2:00 pm	<i>Avraham Beer</i>	Biophysical aspects underlying the swarm to biofilm transition
2:15 pm	<i>David Sleboda, Anja Geitmann, Reza Sharif-Naeini</i>	Multiscale functional morphology of a plant motor organ
2:30 pm	<i>Cailin Casey, Chelsea Heveran, Mark Jankauski</i>	Flying insects with asynchronous muscles have stiffer thoraxes than insects with synchronous muscles
3:00 pm	<i>Mark Jankauski, Avery Russell, Stephen Buchmann</i>	Buzzing Bees and Bending Flowers: Investigating the Mechanics of Buzz Pollination
3:15 pm	<i>Hannah Farrell, Callum Ross, Zeresenay Alemseged</i>	Cortical bone distribution in the hominoid clavicle through ontogeny

From Populations to the Evolution of New Species

Chair: Justin Havird

2:00 pm	<i>Justin Havird, Chase Smith, Jess Sterling</i>	Mitonuclear discordance, population genomics, and thermal adaptation in the Hawaiian volcano shrimp
2:15 pm	<i>James Fifer, Sarah Davies, Kelly Speare, Megan Maloney, Marie Strader</i>	Impacts of an extreme coral bleaching event on population connectivity and genetic variation
2:30 pm	<i>Nathan Whelan, Austin Hannah, Kentaro Inoue, David Berg</i>	Molecular ecology of the federally endangered freshwater mussel <i>Cumberlandia monodonta</i>
2:45 pm	<i>Sheila Kitchen, Robert Hall, Julian Wagner, Thomas Naragon, David Miller, Caltech Bil60 Class, Joseph Parker</i>	Is Genetic Differentiation of Symbiotic Beetles Tied to Their Host Ant?
3:00 pm	<i>Gabrielle Vaughn, Lauren Ballou, Thomas Illiffe, Elizabeth Borda</i>	Population Genetics and Distribution of <i>Typhlatya</i> Species of the Yucatán Peninsula

Modeling & Computational Approaches II

Chairs: Shirel R. Kahane-Rapport, Ashley Nichole Peterson

1:30 pm	<i>Ashley Peterson, Matt McHenry</i>	Vigilance is more important than speed for the survival of prey fish
1:45 pm	<i>Emily Bogner, Z. Jack Tseng</i>	Is More Data Worth It?: Creating lifelike finite element models for paleobiological studies
2:00 pm	<i>Morgan Chase, Jessica Maisano, Edward Stanley, Amanda Krause, Paul Gignac*</i>	Introducing the Non-Clinical Tomography Users Research Network (NoCTURN)
2:30 pm	<i>Jordan Cannon, Craig McGowan</i>	Individual muscle contributions to jumping by kangaroo rats using forward dynamics simulation
2:45 pm	<i>Shirel Kahane-Rapport, Julia Teeple, James Strother, Misty Paig-Tran</i>	Using biologically accurate models of manta ray filters to determine flow patterns
3:00 pm	<i>Austin Lawrence, Kevin Middleton, Jamie Hall, Jacob Thomas, Trent Guess, Carol Ward</i>	A novel workflow for quantifying 3D skeletal anatomy of living humans for morpho-functional analysis

Stress Impacts

Chairs: Z Morgan Benowitz-Fredericks, Jennifer Jean Uehling

1:30 pm	<i>Sierra Pete, Alexander Kitaysky, Scott Hatch, Z Morgan Benowitz-Fredericks*</i>	Baseline corticosterone levels neither reflect nor predict behavior, stress-induced levels do
1:45 pm	<i>Paul Jerem, Michaela Hau, L. Michael Romero</i>	Body surface temperature as a biomarker of sympathetic nervous system activation during acute stress
2:00 pm	<i>Sarah Westrick, Ryan Paitz, Eva Fischer</i>	¿Por qué no los dos? Measuring both cortisol and corticosterone in poison frogs
2:15 pm	<i>Sarah Wolf, Elizabeth George, Jess Dong, Kimberly Rosvall</i>	How social competition changes ageing-related gene expression in the ovary
2:30 pm	<i>Jennifer Uehling, Jennifer Houtz, Allison Injaian, Conor Taff, David Winkler, Maren Vitousek</i>	Do glucocorticoids predict movement? Observational and experimental studies in a free-living bird
3:00 pm	<i>Michael Deutsch, David Adams, Lorin Neuman-Lee, Matthew Gifford</i>	Abiotic and biotic stressors influence physiological and life history traits in a lizard
3:15 pm	<i>Jennifer Houtz, Maren Vitousek, Monique Pipkin, David Chang-van-Oordt, Kelly Hallinger, Jennifer Uehling, Cédric Zimmer, Conor Taff</i>	Experimental cold exposure increases glucocorticoid sensitivity to future stressors in a wild bird

The Ecology and Evolution of Coloration

Chair: Alex Mauro

1:30 pm	<i>Silu Wang, Qin Li, Dahong Chen</i>	Tinamou egg color displacement at ecoregion co-partitioning
1:45 pm	<i>Geoffrey Hill, Matthew Powers, Ryan Weaver</i>	Color displays produced by metabolized red carotenoids are inherently honest signals
2:00 pm	<i>Rebecca Koch, Geoffrey Hill, Yufeng Zhang, Matthew Toomey</i>	House finches use an alternate pathway for red carotenoid pigmentation
2:15 pm	<i>Lynette Strickland</i>	The genomic basis of color variation in a polymorphic Neotropical tortoise beetle
2:30 pm	<i>Megan Maloney, Katherine Buckley, Marie Strader</i>	Temperature acclimation and color influence <i>Cassiopea xamachana</i> thermal tolerance
2:45 pm	<i>Sarah Britton, Goggy Davidowitz</i>	Context Dependent Benefits of Melanism Explain Pigmentation Plasticity
3:00 pm	<i>Bethany Williams, Lauren Pintor, Matthew Toomey, Suzanne Gray</i>	Male Nuptial Coloration is Influenced by Plastic and Population Effects in an African Cichlid
3:15 pm	<i>Alex Mauro, Erica Rosenblum</i>	Color, Aggression, and Correlations in Colonizing Fence Lizards

John A. Moore Lectureship: Dr. Kimberly Tanner

Talk matters: Investigating the nature of non-content classroom language – instructor talk – that may mediate student inclusion, engagement, and learning

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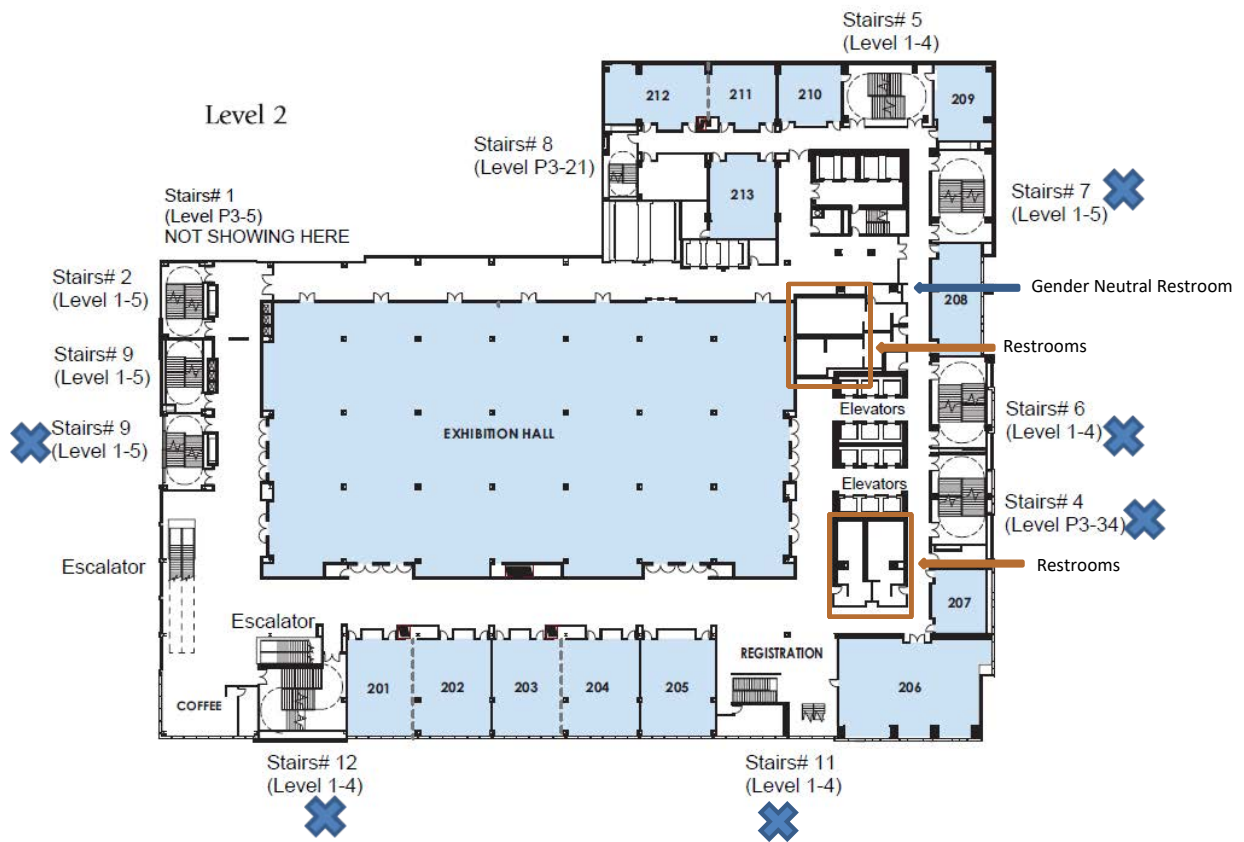


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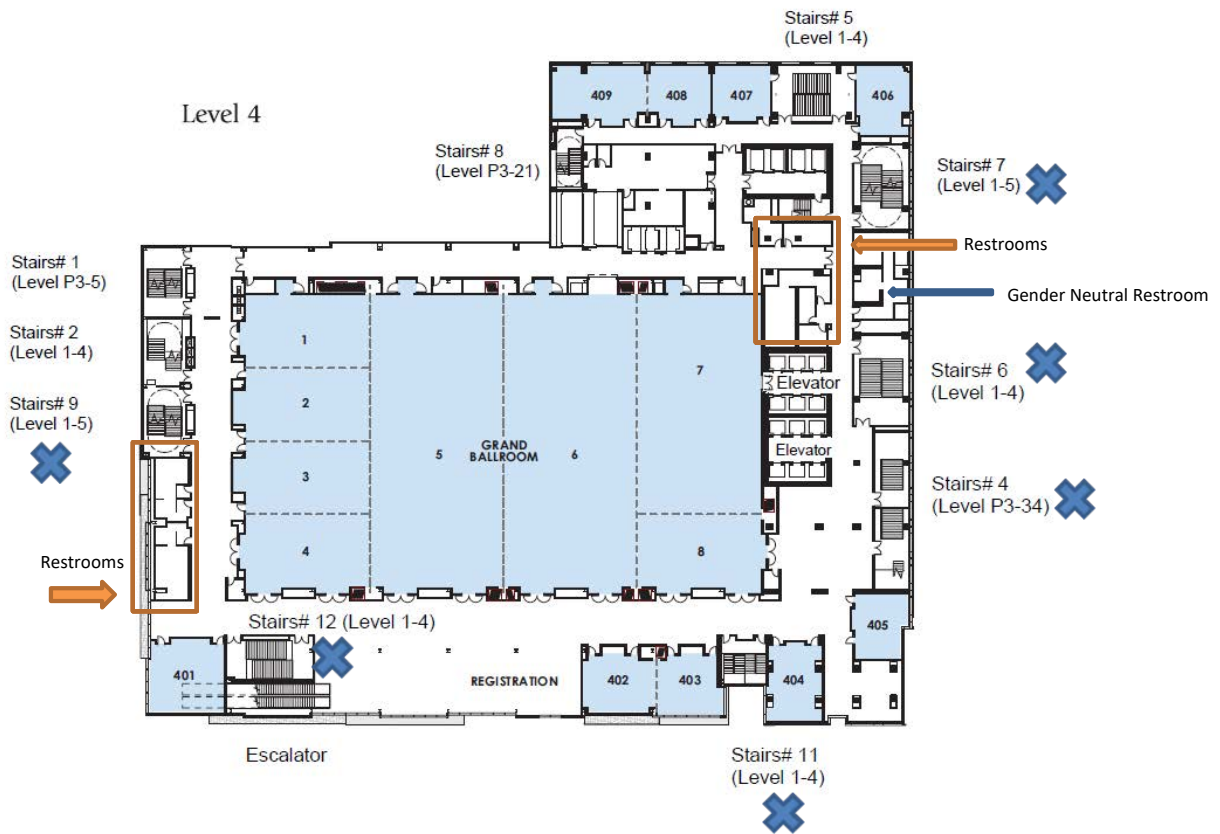
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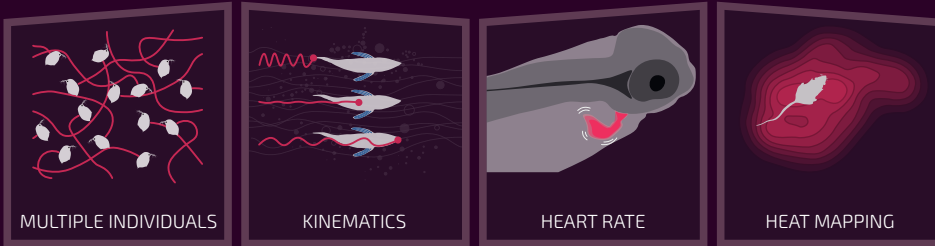
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