



JMIH 2024

JOINT MEETING OF ICHTHYOLOGISTS AND HERPETOLOGISTS

10-14 July 2024 • Pittsburgh, PA

CONFERENCE PROGRAM



AES



ASIH



HL

Thank you to the following JMIH 2024 Sponsors

Organizing Societies



American Elasmobranch Society (AES)



American Society of Ichthyologists and
Herpetologists (ASIH)



Herpetologists' League (HL)



JMIH Meeting Management and Planning Committee

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Committee Chair and Representative
American Society of Ichthyologists and Herpetologists
(ASIH)
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Rebecca Johansen

Representative
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(ASIH)
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(ASIH)
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**David L. Lawrence
Convention Center**
1000 Fort Duquesne Blvd
Pittsburgh, PA 15222
412-565-6000
www.pittsburghcc.com

Future Meeting Dates

9-13 July 2025

St. Paul RiverCentre
Convention Center
St. Paul, MN

Joint Meeting of Ichthyologists and Herpetologists

950 Herndon Parkway
Suite 450
Herndon, Virginia 20170
Phone: 703-790-1745 • 800-955-1236
FAX: 703-790-2672
Email: JMIH@BurkInc.com

**Meetings Management
by Burk & Associates Meetings**

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School of Science
and Engineering

General Meeting Information

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Final Program

JMIH 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 Upload Room

All presenters must visit the Upload Room, **311**, at least one half day prior to their session time. It is highly recommended that you preview your presentation 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:

Wednesday 10 July	12:00 PM – 6:00 PM
Thursday 11 July	7:00 AM – 5:00 PM
Friday 12 July	7:00 AM – 5:00 PM
Saturday 13 July	7:00 AM – 5:00 PM
Sunday 14 July	7:00 AM – 11:00 AM

Speaker Practice Room

If you would like to practice your talk you can use room **313** and **314**. There is a sign up sheet via SignUpGenius on the Whova app.

Registration Desk

The JMIH Registration/Information area is located in the **East Atrium** and will be open the following hours:

Wednesday 10 July	2:00 PM – 6:00 PM
Thursday 11 July	7:00 AM – 4:00 PM
Friday 12 July	7:30 AM – 4:00 PM
Saturday 13 July	7:30 AM – 3:00 PM
Sunday 14 July	8:00 AM – 12:00 PM

AES Store

The AES Store is located in room **310** and will be open the following hours:

Thursday 11 July	8:00 AM – 5:00 PM
Friday 12 July	8:00 AM – 6:30 PM
Saturday 13 July	8:00 AM – 6:30 PM
Sunday 14 July	8:00 AM – 4:00 PM

Message and Job Announcements

A message and employment opportunity bulletin board will be located in the JMIH Registration/Information area. If you have a message for a colleague, please post it to the message board. The Employment Opportunity board is where attendees can 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 breaks will be located in the Exhibit and Poster Area, **Ballroom A**, Thursday – Saturday, and in the **Ballroom Gallery** on Sunday. Coffee break service is available each day of the meeting, during the following hours:

Thursday 11 July	10:00 AM – 11:00 AM 3:00 PM – 4:00 PM
Friday 12 July	10:00 AM – 11:00 AM
Saturday 13 July	10:00 AM – 11:00 AM
Sunday 14 July	10:00 AM – 11:00 AM

Lightning Talks

Lightning talks (five minutes in length, 10 slides maximum) provide a good forum for presenting preliminary research or for putting out a call for data, feedback, or collaboration.

Lactation & Family Room

JMIH recognizes that balancing a family and meeting attendance creates unique challenges for parents. There are nursing pods in **312**.

Quiet Room

Need to take a break? You can go to Room **322**.



Join us on our official event app!

We're using *Whova* as our official event app. Join our event app to access:

- Event announcements
- Personalized agenda, session details
- Speaker & attendee profiles
- Networking, meet-ups, messages
- Event documents
- Faster check-in

How to join:

1. Scan the QR code and download Whova from the App Store or Google Play.
2. Sign in or create an account with the email you registered with.

Having trouble joining? Search for our event and enter the invitation code: JMIHPitt24



Meeting Highlights

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Wednesday 10 July

Know Better, Do Better: A workshop for those striving towards allyship

11:00 AM – 2:00 PM, 410

This workshop is for conference attendees that want to learn how to become better allies in their personal and professional lives. We will cover topics pertaining to understanding and interrupting bias, being an active bystander, promoting inclusivity, and being culturally responsive. This workshop will provide a strong background and terminology for folks unfamiliar with these topics while also diving into some tangible tools and resources you can use in your every day life. The workshop will be highly interactive and include a lot of discussions and case studies.

LGBTQIA+ Mixer & Social

7:30 PM – 10:00 PM, Offsite

Thursday 11 July

Plenary Session I & ASIH Awards

8:30 AM – 10:00 AM, Ballroom B

Keynote Address: A [not so] Silent Spring: examining the resilience of amphibians in Pennsylvania and beyond. Speaker: Corinne Richards-Zawacki, University of Pittsburgh and Pymatuning Lab of Ecology

Plenary Session II & HL Awards

4:00 PM – 6:00 PM, Ballroom B

Hellbenders: An unexpected journey. Speaker: Alicia Mathis, Missouri State University

Phylogenetics from Anolis to Zimiamviasaurus, plus Species Concepts, Clade Names, Corroboration, and the Darwinian Revolution in Systematic Biology. Speaker: Kevin de Queiroz, National Museum of Natural History, Smithsonian Institution

ASIH Cashner Student & Mentor Social

5:00 PM – 6:00 PM, 410

Opening Reception

7:00 PM – 9:00 PM, Rooftop Terrace

JMIH welcomes you to Pittsburgh with a reception to say hi to old friends or make new ones. See you there!

Friday 12 July

Plenary Session III

8:30 AM – 10:00 AM, Ballroom B

Chondroxicology: Musings from 25 years of research on pollutant exposure and effects on sharks and their relatives. Speaker: James Gelsleichter, University of North Florida

Fish is Fish: A 400-Million-Year-Old Case of Convergent Evolution. Speaker: Prosanta Chakrabarty, LSU Museum of Natural Science

Poster Session #1

4:00 PM – 6:00 PM, Ballroom A

HL Student Meet-'n'-Greet

6:00 PM – 7:00 PM, 407

AES Student Social

7:00 PM – 10:00 PM, Offsite

Neotropical Ichthyological Association

7:00 PM – 8:00 PM, 406

Saturday 13 July

AES Student Workshop

Unveiling Aquatic Frontiers: A Multidisciplinary Panel of Aquarium Researchers

12:00 PM – 1:30 PM, 406

Panelists include a variety of affiliations with aquaria to be maximize inclusivity- this includes the categories of field research, international research, husbandry/curatorial work, working externally but closely with aquaria, captive research, and veterinary research.

This workshop also includes a FREE student lunch!

Poster Session #2

4:00 PM – 6:00 PM, Ballroom A

ASIH Grad Student Social

6:30 PM – 8:30 PM, 410

Sunday 14 July

ASIH Student Workshop

12:00 PM – 1:00 PM, 407

AES Banquet

6:00 PM – 11:00 PM, Offsite – African American Cultural Center

2024 Exhibit Hall Floor Plan

Ballroom A



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

Scan the QR Code or visit jmih2024.expofp.com.

Exhibit Hall Hours

Thursday, July 11

9:00 AM – 4:00 PM

Friday, July 12

9:00 AM – 6:00 PM

Saturday, July 13

9:00 AM – 6:00 PM

Coffee Breaks

Ballroom A

Thursday 11 July

10:00 AM – 11:00 AM

3:00 PM – 4:00 PM

Friday 12 July

10:00 AM – 11:00 AM

Saturday 13 July

10:00 AM – 11:00 AM

Ballroom Gallery

Sunday 14 July

10:00 AM – 11:00 AM

Exhibitor Listing

3D Anatomy Studios

Booth: 3

224 Lowden Street, Suite 1
Pawtucket, RI 02860
3danatomystudios.com
401-354-2943

3D Anatomy Studios is a scientist-run business building digital and physical tools to help learners of all ages discover organ-ismal form and function. We make active learning resources for biology courses and partner with researchers to develop websites, digital models, and other open-source tools for research, education, and outreach.

Blue Beehive Studio

Booth: 14

www.etsy.com/shop/oneinchsquidstudios
www.etsy.com/shop/bluebeehivestudio

Blue Beehive Studio and One Inch Squid Studios offer a variety of science-themed art. Enameled jewelry featuring phylogenetic trees and scientific illustrations, biology-themed tote bags, embroidered plankton, stickers, and watercolor prints and cards are all created with love (and an occasional slight amount of frustration) by these sisters-in-law.

Center for Environmental Research and Education

Booth: 8

600 Forbes Avenue
Pittsburgh, PA 15282
www.duq.edu
412-396-4367

The Center for Environmental Research and Education at Duquesne University is home to the new Department of Environmental and Energy Engineering. Offered programs include the B.S. in environmental science, B.A. in environmental studies, Masters in Environmental Science and Management, and professional certificate programs, with research and internship opportunities.

Cornell University Press

Booth: 5

512 East State Street
Ithaca, NY 14850
www.cornellpress.cornell.edu
607-253-2338

Cornell University Press fosters a culture of broad and sustained inquiry through the publication of scholarship that is engaged, influential, and of lasting significance. Our Comstock Publishing Associates imprint publishes scholarly and general-interest books in life sciences; natural history; and environmental studies; as well as nature writing and field guides.

Duquesne University, Department of Biological Sciences

Booth: 9

600 Forbes Avenue
Pittsburgh, PA 15282
www.duq.edu/academics/colleges-and-schools/science-and-engineering/academics/departments-and-programs/biological-sciences/index.php
412-396-6320

Duquesne University is a vibrant private university in Pittsburgh, PA. Enrollment is about 8,000 students. The 14 tenured/tenure-track faculty in the Department of Biological Sciences maintain active research programs, typically with 2-3 PhD students. Faculty receive funding from NIH, NSF, other federal entities, and private foundations.

HOLOHIL

Booth: 18

112 John Cavanaugh Drive - Unit 12
Carp, Ontario K0A1L0 Canada
www.holohil.com
613-839-0676

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Juniata College

Booth: 11

1700 Morre Street
Huntingdon, PA 16652
juniata.edu

Kodex, Inc.

Booth: 1

160 Park Avenue
Nutley, New Jersey 07110
www.kodexray.com
973-235-0606

Kodex manufactures ultra-high resolution digital x-ray imaging systems for Ichthyology, biology, ornithology and related research studies. Our systems are designed for the laboratory or portable field applications. Samples are welcome to demonstrate our capabilities.

Lotek

Booth: 16

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Newmarket, ON L3Y 7B5 Canada
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Booth: 12

St. Alban-Anlage 66
Basel, 4052 Switzerland
www.mdpi.com

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Schreiner University Field Station

Booth: 2

2100 Memorial Blvd.
Kerrville, TX 78028
www.instagram.com/sufieldstation
830-792-7470

The Schreiner University Field Station invites you to collect data, teach classes, or explore the Texas Hill Country at our one-of-a-kind facility!

SeqCenter

Booth: 13

91 43rd St, Suite 250
Pittsburgh, PA 15201
www.seqcenter.com
878-227-4915

SeqCenter is a sequencing laboratory located in Pittsburgh, Pennsylvania. We partner with academic and industry professionals to facilitate and expedite their research. We offer sequencing services on Illumina, PacBio, and Oxford Nanopore platforms. All results are returned in 2 weeks or less, guaranteed.

University of Pittsburgh Department of Biological Sciences and Pymatuning Lab of Ecology

Booth: 10

Fifth and Ruskin Aves.
Pittsburgh, Pennsylvania 15213
www.biology.pitt.edu
814-273-0416

The University of Pittsburgh's Department of Biological Sciences offers graduate programs in Molecular, Cellular & Developmental Biology (MCDB) and Ecology & Evolution (EE) that span the breadth of biological inquiry. It's modern field station facilities, the Pymatuning Lab of Ecology located on Lake Pymatuning in NW Pennsylvania, offer opportunities and support for field related studies of fishes, amphibians, and reptiles.

Voda IQ

Booth: 4

9143 W Osprey St
Hammett, Idaho 83627
vodaiq.com
208-366-9663

Wildlife Acoustics

Booth: 15

3 Mill and Main Place, Suite 110
Maynard, MA 01754
www.wildlifeacoustics.com
978-369-5225

Wildlife Acoustics is the leading provider of bioacoustics monitoring technology for biologists, researchers, and government agencies worldwide. Our customers study vocal wildlife and the soundscapes they create. Our acoustic and ultrasonic recorders and sound analysis software help scientists make impactful discoveries that expand our understanding of the planet. Visit wildlifeacoustics.com.

Women of the Cloud Forest

Booth: 7

201 North Braddock Ave. Suite 103
Pittsburgh, PA 15208
www.womenofthecloudforest.com
412-225-7120

Women of the Cloud Forest is a fair-trade project working directly with artisans in Nicaragua and Nepal. We offer unique embroidered field guide bags and balsa ornaments in over 200 species, nature inspired jewelry and other beautiful products for biologist nature lovers.

Schedule-at-a-Glance

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Wednesday 10 July

SPECIAL EVENTS

	TIME	LOCATION
AES Executive Committee Meeting	9:00 AM – 12:00 PM	308
HL Board of Trustees Meeting	2:00 PM – 6:00 PM	309
AES Board of Directors Meeting	2:00 PM – 5:00 PM	308
Student Volunteer Orientation Meeting	4:30 PM – 5:00 PM	406
ASIH Board of Governors (BOG)	5:00 PM – 7:00 PM	406
LGBTQIA+ Mixer & Social	7:30 PM – 10:00 PM	Offsite

WORKSHOP

Workshop I Know Better, Do Better: A workshop for those striving towards allyship	11:00 AM – 2:00 PM	410
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Thursday 11 July

SPECIAL EVENTS

HL Judges Meeting	3:00 PM – 4:00 PM	308
ASIH Cashner Student and Mentor Social	5:00 PM – 6:00 PM	410
Opening Reception	7:00 PM – 9:00 PM	Rooftop Terrace

PLENARY SESSIONS

Plenary Session I	8:30 AM – 10:00 AM	Ballroom B
Plenary Session II	4:00 PM – 6:00 PM	Ballroom B

ORAL PRESENTATIONS

Session 1: AES Gruber Award I	10:30 AM – 12:00 PM	406
Session 2: ASIH Stoye Award: General Ichthyology	10:30 AM – 12:00 PM	407
Session 3: ASIH Stoye Award: Ecology and Ethology	10:30 AM – 11:30 AM	408/409
Session 4: HL Graduate Research Award / Herp Ecology	10:30 AM – 12:00 PM	411/412
Session 5: AES Gruber Award II	1:30 PM – 3:30 PM	406
Session 6: ASIH Stoye Award: General Ichthyology	1:30 PM – 3:30 PM	407
Session 7: ASIH Stoye Awards: Ecology and Ethology	1:30 PM – 3:00 PM	408/409
Session 8: Physiology and Physiological Ecology / Systematics	1:30 PM – 3:45 PM	411/412

Schedule-at-a-Glance

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Friday 12 July

SPECIAL EVENTS

	TIME	LOCATION
ASIH Student Business Meeting	12:00 PM – 1:00 PM	410
HL Student Meet-'n'-Greet	6:00 PM – 7:00 PM	407
AES Student Social	7:00 PM – 10:00 PM	Offsite
HL Business Meeting	7:00 PM – 8:00 PM	407
Neotropical Ichthyological Association I How Do We Know Where Our Fishes Like to Live	7:00 PM – 8:00 PM	406

PLENARY SESSION

Plenary Session III	8:30 AM – 10:00 AM	Ballroom B
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LIGHTNING TALKS

Session 11: Lightning Talks	10:30 AM – 11:50 AM	408/409
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ORAL PRESENTATIONS

Session 9: AES Conservation and Management I	10:30 AM – 12:00 PM	406
Session 10: ASIH Stoye Award: Genetics, Development & Morphology	10:30 AM – 12:00 PM	407
Session 12: ASIH Stoye Award: General Herpetology	10:30 AM – 12:00 PM	411/412
Session 13: AES Conservation and Management II; DEI	1:30 PM – 4:00 PM	406
Session 14: ASIH Stoye Awards: General Ichthyology; Conservation	1:30 PM – 4:15 PM	407
Session 15: AES Behavior / Morphology	1:30 PM – 4:15 PM	408/409
Session 16: ASIH Stoye Awards: General Herpetology; Genetics Development & Morphology	1:30 PM – 4:15 PM	411/412

POSTER PRESENTATIONS

Poster Session I	4:00 PM – 6:00 PM	Ballroom A
Symposium poster: Contributions of Aquariums to Elasmobranch Research	4:00 PM – 6:00 PM	Ballroom A
AES Contributed Posters	4:00 PM – 6:00 PM	Ballroom A
AES Carrier Award	4:00 PM – 6:00 PM	Ballroom A
ASIH Storer Award: Ichthyology	4:00 PM – 6:00 PM	Ballroom A
Posters (miscellaneous)	4:00 PM – 6:00 PM	Ballroom A
ASIH Storer Award: Herpetology	4:00 PM – 6:00 PM	Ballroom A

Schedule-at-a-Glance

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Saturday 13 July

SPECIAL EVENTS

	TIME	LOCATION
ASIH Names of Fishes Committee	10:00 AM – 1:00 PM	308
AES Business Meeting	4:30 PM – 6:30 PM	406
ASIH Business and Awards Meeting	5:30 PM – 7:30 PM	408/409
ASIH Grad Student Social	6:30 PM – 8:30 PM	410

WORKSHOP

AES Student Workshop Unveiling Aquatic Frontiers: A Multidisciplinary Panel of Aquarium Researchers	12:00 PM – 1:30 PM	406
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SYMPOSIA

Session 17: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research I	8:30 AM – 10:00 AM	406
Session 19: HL Symposium: Data Integration for Herpetology: Making the Best Use of All Data I	8:30 AM – 10:00 AM	408/409
Session 21: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research II	10:30 AM – 12:00 PM	406
Session 25: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research III	1:30 PM – 4:00 PM	406

ORAL PRESENTATIONS

Session 18: Genetics and Genomics / Behavior and Ethology	8:30 AM – 9:45 AM	407
Session 20: Evolution, Biogeography & Phylogeography I	8:30 AM – 10:00 AM	411/412
Session 22: Systematics II	10:30 AM – 11:45 AM	407
Session 23: HL Symposium: Data Integration for Herpetology: Making the Best Use of All Data II	10:30 AM – 12:00 PM	408/409
Session 24: Evolution, Biogeography & Phylogeography II	10:30 AM – 12:00 PM	411/412
Session 26: Reproduction / Morphology	1:30 PM – 4:00 PM	407
Session 27: Conservation & Management I	1:30 PM – 3:30 PM	408/409
Session 28: Systematics III	1:30 PM – 3:45 PM	411/412

POSTER PRESENTATIONS

Poster Session II	4:00 PM – 6:00 PM	Ballroom A
Contributed Posters: Ichthyology	4:00 PM – 6:00 PM	Ballroom A
Contributed Posters: Herpetology	4:00 PM – 6:00 PM	Ballroom A
Contributed Posters: DEI	4:00 PM – 6:00 PM	Ballroom A

Schedule-at-a-Glance

All events take place in the David L. Lawrence Convention Center, unless otherwise noted.

Sunday 14 July

SPECIAL EVENT

AES Banquet

TIME

6:00 PM – 11:00 PM

LOCATION

Offsite – African
American Cultural Center

WORKSHOP

ASIH Student Workshop

12:00 PM – 1:00 PM

407

SYMPOSIUM

Session 29: AES Symposium:

Overview of Aquarium Contributions to Elasmobranch Research IV

8:30 AM – 10:00 AM

406

ORAL PRESENTATIONS

Session 30: Ecology

8:30 AM – 10:00 AM

407

Session 31: Conservation & Management II

8:30 AM – 11:00 AM

408/409

Session 32: AES Ecology, Habitat Use, Movements I

10:30 AM – 11:45 AM

406

Session 33: Systematics IV

10:30 AM – 12:00 PM

407

Session 34: General Herpetology

10:30 AM – 12:00 PM

408/409

Session 35: AES Ecology, Habitat Use, Movements II

1:30 PM – 3:45 PM

406

Session 36: AES Age, Growth, Reproduction & Physiology

1:30 PM – 4:00 PM

407

Thursday 11 July 2024

Thursday 11 July • Plenary Sessions

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

8:30 AM – 10:00 AM

Ballroom B

Plenary Session I

Moderator: Sarah Woodley

8:30 am	Sarah Woodley	Welcome
8:40 am	Robert Espinoza	ASIH Awards
9:00 am	Corinne Richards-Zawacki	A [not so] Silent Spring: examining the resilience of amphibians in Pennsylvania and beyond

4:00 PM – 6:00 PM

Ballroom B

Plenary Session II

Moderator: Stephen Mullin

4:00 pm	Steve Mullin	HL Awards
4:10 pm	Alicia Mathis	Hellbenders: An unexpected journey
4:40 pm	Kevin de Queiroz	Phylogenetics from Anolis to Zimiamviasaurus, plus Species Concepts, Clade Names, Corroboration, and the Darwinian Revolution in Systematic Biology

Thursday 11 July • Oral Presentations

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

10:30 AM – 12:00 PM

406

Session 1: AES Gruber Award I

Moderator: Mikki McComb-Kobza

10:30 am	Caroline Hornfeck, Oliver Shipley, Austin Gallagher, Alexis Janosik	1.1 Exploring the genetic analysis of telomere lengths in <i>Carcharhinus perezi</i> and <i>Ginglymostoma cirratum</i> in The Bahamas and Turks and Caicos
10:45 am	Ashley Dawdy, Gregg Poulakis, Dean Grubbs	1.2 Patterns in Movement Behavior of the Smalltooth Sawfish (<i>Pristis pectinata</i>) in the Southeastern United States
11:00 am	Annais Muschett-Bonilla, Dean Grubbs	1.3 Quantifying Maternal Investment and Life History Correlates in Matrotrophic Elasmobranchs
11:15 am	Vital Heim, Dean Grubbs, John Carlson, Bryan Frazier, Matthew Smukall, Philip Matich, Annie Guttridge, Tristan Guttridge	1.4 Horizontal movements of great and scalloped hammerheads in relation to commercial longline fisheries in the western North Atlantic
11:30 am	Brian Moe, Charles Cotton, Joseph Travis	1.5 Sexual segregation and spatial ecology of the little gulper shark in the Gulf of Mexico: evidence for essential deep-sea habitat?
11:45 am	Emily Cormier, Matthew Smukall, Felicie Dhellemmes, Derek Tittensor, Heike Lotze	1.6 Coastal development in a shark nursery: impacts of long-term habitat change on juvenile lemon shark survival in Bimini, the Bahamas

Session 2: ASIH Stoye Award: General Ichthyology

Moderator: *Thomas Near*

- | | | |
|----------|--|--|
| 10:30 am | <i>Julia Wood, Thomas Near</i> | 2.1 Temporal diversification of Percidae |
| 10:45 am | <i>Hannah Alloway, Benjamin Keck, Thomas Near, Rebecca Blanton</i> | 2.2 Documenting Darter Diversity: Systematic Evaluation of <i>Etheostoma duryi</i> , Blackside Snubnose Darter, and <i>Etheostoma flavum</i> , Saffron Darter (Percidae) |
| 11:00 am | <i>Victor de Brito, Lily Hughes, Devin Bloom</i> | 2.3 Release from Competition Drove Accelerated Morphological Diversification in Freshwater Habitats |
| 11:15 am | <i>Alex Maile, W Smith, Matthew Davis</i> | 2.4 A combined morphological and molecular approach to understanding the evolution and habitat transitions of the anglerfishes and allies. |
| 11:30 am | <i>Leo MacLeod, Katherine Bemis, Stacy Farina</i> | 2.5 Morphological Diversity of the Oral Lures of Stargazers (Uranoscopidae) |
| 11:45 am | <i>Roxanne Cabebe, Kentaro Mochizuki, Hiroyuki Motomura</i> | 2.6 Morpho-molecular Distinction of the Indo-Pacific Scorpionfish Genus <i>Parascorpaena</i> Bleeker 1876 (Scorpaenidae: Scorpaenini) |

Session 3: ASIH Stoye Award: Ecology and Ethology

Moderator: *Bruce Stallsmith*

- | | | |
|----------|--|--|
| 10:30 am | <i>Adam Quade, Guillaume Rieucou</i> | 3.1 Navigating Changing Environmental Contexts: Flood-pulse Inundation Mediates Collective Behaviors of Schooling Fishes |
| 10:45 am | <i>Ryan Miller, Maisie MacKnight, Jennifer Deitloff, Jillian Fleming</i> | 3.2 Assessment of Density, Spatial Distribution and Movement Patterns of <i>Plethodon cinereus</i> (Eastern Red-backed Salamander) Using Spatial Capture-Recapture |
| 11:00 am | <i>Noah Motz, Brendan Campbell, Rileigh Hudock, Edward Hale, Aaron Carlisle</i> | 3.3 Characterizing the Trophodynamics of the Ecological Community of Oyster Aquaculture Reefs |
| 11:15 am | <i>Clarissa Tuten, Scott Parker, Randeep Singh, Philip Wilkinson, Joachim Treptow, Mark McAlister, Morgan Hart, Andrew Grosse, Ashleigh Nelson, Lindsey Bell, Thomas Rainwater</i> | 3.4 The Influence of Researcher Disturbance on Frequency of Raccoon (<i>Procyon lotor</i>) Predation of American Alligator (<i>Alligator mississippiensis</i>) Nests |

Session 4: HL Graduate Research Award / Herp Ecology

Moderator: *Christopher Beachy*

- | | | |
|----------|---|---|
| 10:30 am | <i>Andreanna Schultz, Matthew Lattanzio</i> | 4.1 Beyond Thermoregulation: UV & Temperature Regulation by Tree Lizards along an Ecological Gradient |
| 10:45 am | <i>Julia Joos, Donald Miles</i> | 4.2 Thermal Ecology, Activity Patterns, and Ecological Niche Modeling of <i>Gopherus</i> Tortoises |
| 11:00 am | <i>Brady Parlato, Michael Benard</i> | 4.3 Activity, Foraging, and Growth of Amphibians in a Warming World |
| 11:15 am | <i>Alan Jones, Andrew Grosse, Scott Parker*</i> | 4.4 Spatial ecology of Pine Snakes (<i>Pituophis melanoleucus</i>) in coastal South Carolina |
| 11:30 am | <i>Jacob Adam, Eneilis Oliveras, Gualberto Rodriguez, Alberto Puente-Rolon, Timothy Colston</i> | 4.5 Fungal Microbiome Associated with the Puerto Rican Boa (<i>Chilabothrus inornatus</i> ; Reinhardt, 1843) |
| 11:45 am | <i>Shivam Shukla, Jeremiah Doody, Zachary Gray, Michael Shablott</i> | 4.6 Comparative Analysis of Ophidiomycosis Prevalence and Severity in Urban & Natural Habitats in the Southeast, USA, with Implications for Imperiled Species |

Session 5: AES Gruber Award II

Moderator: Carl Luer

1:30 pm	<i>Zachariah Merson, Matthew Barnes, Christopher Lowe</i>	5.1 Top-Down Effects of Juvenile White Shark (<i>Carcharodon carcharias</i>) Aggregations on Prey Communities
1:45 pm	<i>Bethany Brodbeck, Nick Beltramini, Tobey Curtis, Yonat Swimmer, Edward Hale, Aaron Carlisle</i>	5.2 Synthesizing Rates of Elasmobranch At-Vessel and Post-Release Mortality Across Gear Types and Taxonomy
2:00 pm	<i>Eloise Cave, Anna Weber, Michael Criscitiello, Jeannine Ott, Toby Daly-Engel</i>	5.3 Predictive Modeling of Adaptive Variation in Tiger Sharks (<i>Galeocerdo cuvier</i>) Across the Western North Atlantic
2:15 pm	<i>Isaac Tuszynski, Stephen Kajiura, Mary Bowers, Ryan Stolee</i>	5.4 Dynamics of Shark-Infested Waters: How Environmental Factors Shape Blacktip Shark Migrations
2:30 pm	<i>Cecilia Hampton, Breanna DeGroot, Benjamin Metzger, Kim Bassos-Hull, Lauran Brewster, Matthew Ajemian</i>	5.5 Sticking with it: a multi-sensor tag to reveal the foraging ecology and fine-scale behavior of elusive durophagous stingrays
2:45 pm	<i>Jasmine Nyce, Matthew Smukall, Curry Cunningham, R. Grubbs, Debra Abercrombie, Maurits van Zinnicq Bergmann, Tristan Guttridge, Andrew Seitz</i>	5.6 Network Analysis of Decadal Acoustic Detections Reveals Partial Migration in a Large Marine Predator (<i>Carcharhinus leucas</i>)
3:00 pm	<i>Ingrid Hyrycena, Rodrigo Sant'ana, Luis Gustavo Cardoso, Giovanni Arlan Torres, Rodrigo Silvestre Martins, Luciano Gomes Fischer, Bruno Mourato</i>	5.7 Stock Assessment of the Angular Angelshark and Brazilian Guitarfish: What Have We Learned After a 20-Year Fishing Moratorium in Brazil?
3:15 pm	<i>Andrew Wooley, Gregg Poulakis, Dylan Yakich, Lukas Heath, Zach Siders, Andrew Carlson</i>	5.8 Ontogenetic shifts in habitat use and home range of juvenile Smalltooth Sawfish in a southwest Florida nursery

Session 6: ASIH Stoye Award: General Ichthyology

Moderator: Hannah Owens

1:30 pm	<i>Sheila Rodríguez M, Diego Elías, Prosanta Chakrabarty</i>	6.1 Genome-Wide Insights into the Evolutionary History of <i>Girardinus</i> (Cyprinodontiformes: Poeciliidae)
1:45 pm	<i>Patricia Torres-Pineda, Hernán López-Fernández</i>	CANCELLED 6.2 Diversification of a Putative Evolutionary Radiation of fishes from Hispaniola
2:00 pm	<i>Angela Haggard, Alanna Fulkerson, Jack Curry, Madison Nguyen, Marianna Mateos</i>	6.3 Delineation of Species within <i>Poeciliopsis occidentalis</i> sensu lato
2:15 pm	<i>César Fuentes-Montejo, Wilfredo Matamoros, Miquel Gonzalez-Meler, Caleb McMahan</i>	6.4 Ecological implications of evolutionary divergence in the genus <i>Parachromis</i>
2:30 pm	<i>Camden Oathout, Kyle Piller</i>	6.5 Exploring Variation in Species Richness using Active and Passive eDNA Sampling Approaches
2:45 pm	<i>Gabriel Afonso, G. Johnson, Richard Collins, Murilo Pastana</i>	6.6 Finding Nemo in the Pelagic Realm: A Novel Fish-Anemone Association Lost in Open Waters
3:00 pm	<i>Loren Tardif, Michelle Kraczkowski, Jacqueline Benway</i>	6.7 Assessing the Gut Content of Connecticut's Endangered Sturgeons
3:15 pm	<i>Olivia Guerra, Linnea Lungstrom, Mark Westneat</i>	6.8 Structure and function of the backbone: morphology and modeling of neural and haemal spines in burrowing and non-burrowing labrid fishes

Session 7: ASIH Stoye Awards: Ecology and Ethology

Moderator: Scott Parker

1:30 pm	<i>John Moore, Thomas Anderson</i>	7.1 The Effects of Food Web Manipulations on an Amphibian Intraguild Predation Module
1:45 pm	<i>Salomé Laboury, Eric Parmentier, Phillip Lobel</i>	7.2 Intraspecific Communication in <i>Dascyllus albisella</i> (Pomacentridae)
2:00 pm	<i>E. Nicholson, Lee Fitzgerald</i>	7.3 Heterospecific Oophagy of Anuran Eggs by American Bullfrog (<i>Rana catesbeiana</i>) Tadpoles
2:15 pm	<i>Troy Neptune, Diana Koester, Michael Benard</i>	7.4 Tradeoffs Between Growth and Overwintering Preparation in Response to Photoperiod in Gray Treefrogs: A Potential Ecological Trap
2:30 pm	<i>Julia Thulander, Jason Bracken, Joshua Hall</i>	7.5 Vulnerable Populations of the Endangered Streamside Salamander (<i>Ambystoma barbouri</i>) are Sensitive to Rising Temperatures at the Embryonic Stage
2:45 pm	<i>Amber Singh, Tanushri Rana, Rochelle Sanidad, Emma Wen, David Ensminger</i>	7.6 Effects of Trans-Generational Glucocorticoid Exposure on Latency to Emerge in the Western Fence Lizard (<i>S. occidentalis</i>)

Session 8: Physiology and Physiological Ecology / Systematics

Moderator: Maxwell Carnes-Mason

1:30 pm	<i>Matthew Gacheny, Shane Welch, John Holloway, Jayme Waldron</i>	8.1 Thermal and Habitat Effects on Rattlesnake Reproductive Ecology in the Southeastern U.S.
1:45 pm	<i>Maxwell Carnes-Mason, Jason Ortega, Steven Beaupre</i>	8.2 The Metabolic and Temporal Effort of Ecdysis in Timber Rattlesnakes (<i>Crotalus horridus</i>)
2:00 pm	<i>Martin Arostegui, Michelle Shero, Lawrence Frank, Rachel Berquist, Camrin Braun</i>	8.3 An Enigmatic Pelagic Fish with Internalized Red Muscle: A Future Regional Endotherm or Forever an Ectotherm?
2:15 pm	<i>Felipe Floreste, Tsering Chan, Gregory Brown, Fernando Gomes, Vania Assis, Lee Rollins</i>	8.4 Evolutionary March: Spatial Variability in Immunity along the Cane Toad Invasive Range in Australia
2:45 pm	<i>Mariana Marques, Diogo Parrinha, Manuel Lopes-Lima, Arthur Tiutenko, Aaron Bauer, Luis Ceriaco</i>	8.5 An Island in a Sea of Sand: the endemic amphibians and reptiles from Angola's Serra da Neve inselberg
3:00 pm	<i>Aaron Bauer, Jackie Childers, Marius Burger</i>	8.6 A new Nucras (Squamata: Lacertidae) from Zambia
3:15 pm	<i>Luis Pires Ceriaco, Ishan Agarwal, Diogo Parrinha, Mariana Marques, Miguel Rodrigues, Aaron Bauer</i>	8.7 Just another boring house gecko? Integrative taxonomy of the <i>Hemidactylus mabouia</i> complex
3:30 pm	<i>Lily Hughes, Devin Bloom, Kyle Piller, Nicholas Lang, Richard Mayden</i>	8.8 Phylogenomic Resolution of Lampreys Reveals the Recent Evolution of an Ancient Vertebrate Lineage

Friday 12 July 2024

Friday 12 July • Plenary Sessions

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

8:30 AM – 10:00 AM

Ballroom B

Plenary Session III

Moderator: Sarah Woodley

8:30 am *Jim Gelsleichter*

Chondroxcology: Musings from 25 years of research on pollutant exposure and effects on sharks and their relatives.

9:15 am *Prosanta Chakrabarty*

Fish is Fish: A 400-Million-Year-Old Case of Convergent Evolution

Friday 12 July • Lightning Talks

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

10:30 AM – 11:50 AM

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Session 11: Lightning Talks

Moderator: David Green

10:30 am *Jin-Koo Kim, Yu-Jin Lee, Chenhong Li*

11.1 | Genome-Wide SNP Discovery and Phylogeography of the Small Yellow Croaker *Larimichthys polyactis* from the Yellow and East China Seas

10:35 am *Reilly Boyt, Alexandra McInturf, Taal Levi, Lauren Meyer, Aaron Carlisle, Maddie English, Lisa Hillier, David Lowry, Taylor Chapple*

11.2 | Examining the diet and habitat use of Salmon sharks (*Lamna ditropis*) through eDNA and fatty acid analysis

10:40 am *Dylan Yakich, Andrew Wooley, Lukas Heath, Gregg Poulakis*

11.3 | Sawfish Rescue Mission: a Case Study Highlighting the Importance of the U.S. Sawfish Recovery Hotline

10:45 am *Thomas Anderson, Kasey Nowell*

11.4 | Assessment of predator-prey interactions using technology: a case study on calling anurans and raccoons

10:50 am *Shawn Kuchta, Elizabeth Kramer, Kimber Boyles*

11.5 | Population Structure and Species Delimitation in the Wehrle's Salamander complex

10:55 am *Ryan Freedman, Ryan Logan, Varenka Lorenzi, Chris Caldwell, Vanessa Van Deusen, Chris Lowe, Kady Lyons*

11.6 | Satellite and Acoustic Telemetry Reveals Deep Dives and Long Range Movements of the Bat Ray (*Myliobatis californica*)

11:00 am *Erianna Hammond, Steve Durkee, Larry Redd Jr., Karyl Brewster-Geisz, Tobey Curtis*

11.7 | Using Spatial Modeling to Manage Atlantic Highly Migratory Species (HMS)

11:05 am *Liam Ward, Garrett Johnson, Wesley Bouska, Benjamin Marcek*

11.8 | Bias in hydroacoustic data processing can lead to different fish population estimates

11:10 am *Alena Anderson, John Carlson, Ashley Dawdy, Danielle McAree, J Drymon*

11.9 | Preliminary Analysis of Blacknose Shark (*Carcharhinus acronotus*) Age, Growth, and Maturity in the Northern Gulf of Mexico

11:15 am *Oksana Nekrasova, Oleksii Marushchak, Mihails Pupins, Andris Čeirāns, Arturs Škute, Kathrin Theissingner, Jean-Yves Georges*

11.10 | Assessment and Prospects for the Impact of Invasive Fish on Native European Amphibians

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11:20 am	<i>Christopher Malinowski, Jennifer Rehage, Nick Castillo, Shakira Trabelsi, Tomas Brodin, Justin Perrault, Nicole Stacy, Carolyn Cray, Jeny Soto Cordova, Lisa Reidy, Kristin Kahl, Sebastian Gomez, Lauren Tracy, Ethan Dewald, Camille Demairé, Jake Beretta, Mikki McComb-Kobza</i>	CANCELLED 11.11 Pharmaceutical Presence and Potential Health Effects in Nurse Sharks <i>Ginglymostoma cirratum</i> in Florida, USA
11:25 am	<i>Christopher Schalk, Reuber Antoniazzi, Josh Pierce, D. Craig Rudolph</i>	11.12 Snake Captures Decline as a Function of Trap Age
11:30 am	<i>Laurel Nave-Powers, Luke Tornabene, Alison Deary, Matthew Baker</i>	11.13 Spawning Phenology of Pacific Sand Lance (<i>Ammodytes personatus</i>) and Arctic Sand Lance (<i>A. hexapterus</i>)
11:35 am	<i>Danielle McAree, Michelle Passerotti, John Carlson, Jill Hendon, Jeremy Higgs, Alena Anderson, J Dryman</i>	11.14 Preliminary Analysis of Tiger Shark (<i>Galeocerdo cuvier</i>) Age, Growth, and Maturity in the Western North Atlantic Ocean
11:40 am	<i>Mary O'Donnell, Christian Brown, Stephen Deban</i>	11.15 Sound Production in <i>Ensatina eschscholtzii</i>
11:45 am	<i>Kuei-Chiu Chen</i>	11.16 Study of Local Herpetofauna as an Undergraduate Research Project

Friday 12 July • Oral Presentations

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

10:30 AM – 12:00 PM

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Session 9: AES Conservation and Management I

Moderator: *Lucy Howey*

10:30 am	<i>Sonja Fordham</i>	9.1 Bridging the gaps that hinder shark conservation: An analysis of international elasmobranch policy implementation by Atlantic fishing nations.
10:45 am	<i>Karyl Brewster-Geisz</i>	9.2 U.S. Atlantic Shark Fishery Management Update
11:00 am	<i>Guy DuBeck, Karyl Brewster-Geisz, Ann Williamson, Becky Curtis</i>	9.3 Look to the Future: Potential Revision of Atlantic Shark Management in the United States
11:15 am	<i>Christopher Mull, Elizabeth Babcock, Ana Martins, Luke Warwick, Demian Chapman, Aaron MacNeil</i>	9.4 Estimating the Species Composition of US Shark and Ray Fisheries
11:30 am	<i>David Shiffman</i>	9.5 What Happened to the World's First Ecolabel Certified Sustainable Shark Fishery?
11:45 am	<i>Catherine Macdonald, Lindsay Humbles, Julia Wester</i>	9.6 Dive Tourist Attitudes Towards and Perceptions of Shark Conservation

10:30 AM – 12:00 PM

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Session 10: ASIH Stoye Award: Genetics, Development & Morphology

Moderator: *L. Patricia Hernandez*

10:30 am	<i>Tanner Bahm, Kyle Piller</i>	10.1 Spirited Discoveries: Raising a Jar to Understanding Larval Fish Diversity using the Ethanol Storage Fluid
10:45 am	<i>Alanna Fulkerson, Alejandro Varela-Romero, Alexandre Gutierrez-Barragán, Doug Duncan, Mariana Mateos</i>	10.2 Environmental DNA analysis for detection of <i>Poeciliopsis</i> in northern Sonora, Mexico.
11:00 am	<i>Meghan Larson, Matthew Davis, W Smith, Ed Wiley</i>	10.3 Illuminating the Genes Responsible for Bioluminescence in Fishes using Comparative Genomics
11:15 am	<i>Esme Macpherson, Frances Hauser, Alexander Van Nynatten, Belinda Chang, Nathan Lovejoy</i>	10.4 Evolution of Rhodopsin in Flatfishes (<i>Pleuronectiformes</i>) is Associated with Depth and Migratory Behaviour

11:30 am	<i>Amanda Salmoiraghi, Robert Latour, Jan McDowell</i>	10.5 Determining Genetic Composition of Atlantic Striped Bass within Four Rivers of Chesapeake Bay
11:45 am	<i>Abby Klahs, Christopher Beachy</i>	10.6 Comparison of Gill Morphology of <i>Eurycea cirrigera</i> Across Larval Development

10:30 AM – 12:00 PM

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Session 12: ASIH Stoye Award: General Herpetology

Moderator: Brenna Levine

10:30 am	<i>Waseem Ahmed, Muhammad Rais, Ayesha Akram, Muhammad Saeed</i>	12.1 Movement of Amphibians in a Habitat Mosaic of Agriculture Landscape
10:45 am	<i>Sydney Stahl, Jennifer Deitloff</i>	12.2 Foot morphology comparison between two species of Plethodontid salamanders, <i>Plethodon ventralis</i> and <i>Plethodon websteri</i> .
11:00 am	<i>Hannah DeGraw, Nathan Swinburne, Jenna Palmisano, Jessica Yates*</i>	12.3 Shifting scales: Diversity of central Florida herpetofauna after 60 years of urbanization and establishment of non-native species
11:15 am	<i>Sara Spaid, Donald Brown, Joel Mota, Andrew Badje, Petra Wood</i>	12.4 Projected Contemporary Habitat Distribution and Quality for Wood Turtles (<i>Glyptemys insculpta</i>) across the Midwest
11:30 am	<i>Bruna Santos, Mariana Marques, Luis Ceriáco</i>	12.5 Lost specimens and old documents: how a forgotten herpetological collection can contribute to modern herpetology
11:45 am	<i>Samuel Wilson, Desi Joseph, Samuel Miess, Guinevere Wogan</i>	12.6 Artificial Light Preference in a Wide-spread Invasive Species (<i>Hemidactylus turcicus</i>)

1:30 PM – 4:00 PM

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Session 13: AES Conservation and Management II; DEI

Moderator: Charles Bangley

1:30 pm	<i>Keith Fuller, Cindy Tribuzio</i>	13.1 Development of AI Tool Suite for Electronic Monitoring of Pacific Sleeper Sharks in Alaska
1:45 pm	<i>Bryan Huerta-Beltrán, J. Drymon, Peter Kyne, Adriana Cevallos-Garcias, Sarita Campos-León, Kady Lyons, Jason Seitz, Fabiola Zavalaga, Christian Jones, Keny Kanagusuku, Mary Gibson, Nicole Phillips</i>	13.2 The devil is in the details – molecular identification of guitarfishes sold as 'pez diablo'
2:00 pm	<i>Marcus Drymon, Amanda Jargowsky, Evan Prasky, Ed Camp, Ashley Oliphant, Sean Powers, Steven Scyphers</i>	13.3 Depredation: an old conflict with the sea
2:15 pm	<i>Michael McCallister, Lauran Brewster, Thomas Ostendof, Stephen Kajjura, John Carlson, Matthew Ajemian</i>	13.4 Mitigating Shark Depredation in Snapper-Grouper Fisheries Via Novel Deterrent Devices
2:15 pm	<i>John Morris, Valerie Hagan, Demian Chapman</i>	13.5 The effectiveness of an electronic pulse device to deter shark depredation
2:45 pm	<i>Gregg Poulakis, Andrew Wooley, Lukas Heath, Dylan Yakich, Jose Castro, Jennifer Wyffels</i>	13.6 2024 Unusual Sawfish Mortality Event in the Florida Keys: What Have We Learned?
3:00 pm	<i>Taylor Gamble</i>	13.7 This is Why I'm Hot: How the Social Construction of Space Influences Conservation Behaviors.
3:15 pm	<i>Julia Wester, Catherine Macdonald, David Shiffman, Divya Karnad, Paula Dominguez</i>	13.8 Interdisciplinary and human-dimensions research in shark science: Experiences, challenges, and priorities
3:30 pm	<i>Reilly Boyt</i>	13.9 Breaking Barriers Below the Surface: Navigating Challenges and Solutions for Accessible Marine Fieldwork
3:45 pm	<i>Jasmin Graham, Lisa Whitenack, Lara Ferry, Wendy Barnard, Mikki McComb-Kobza</i>	13.10 Creating Cultural Change in Small to Medium-Sized Professional Societies: A Training Network Approach

Session 14: ASIH Stoye Awards: General Ichthyology; ConservationModerator: *Matthew Craig*

1:30 pm	<i>Roberto Cucalón, Joel Corush, Mark Davis, Milton Tan</i>	14.1 Distribution and Genomic Diversity of Mimic and Channel Shiners in the Upper Mississippi River
1:45 pm	<i>Hayden Roberts, Preston Bean, Kevin Conway, Gary Voelker, Henry Bart, Joshua Perkin</i>	14.2 Edwards Plateau Anomaly: Morphology and Genetics of a Potentially Undescribed Catostomid, the Llano River Carpsucker (<i>Carpionodes</i> sp.) of Central Texas
2:00 pm	<i>Paulo Presti, G. David Johnson, Alessio Datovo</i>	14.3 The Impressive Mouth Opening Morphology of the Pelican Flounders (Pleuronectiformes: Bothidae: <i>Chascanopsetta</i>)
2:15 pm	<i>Yu-Jin Lee, Jin-Koo Kim</i>	14.4 Application of Morpho-Molecular Approach to Taxonomy of <i>Limnichthys fasciatus</i> (Pisces: Creediidae)
2:30 pm	<i>Yuna Dewa, Nozomu Muto, Hiroyuki Motomura</i>	14.5 Specimens Previously Identified as <i>Helcogramma fuscipectoris</i> (Tripterygiidae) Include Two Distinct Species, Based on Morphological and Molecular Analyses
2:45 pm	<i>Max Zavell, Jenna O'del, Matthew Moulard, Jacqueline Webb, Hannes Baumann</i>	14.6 Ontogeny of Larval Schooling and Effects of Ocean Acidification in Atlantic Silversides (<i>Menidia menidia</i>)
3:00 pm	<i>Jacquelyn Galvez, Christian Lizaso, Jack Tseng</i>	14.7 Damming consequences: morphological impacts of artificial barriers in riverine steelhead trout (<i>Oncorhynchus mykiss</i>)
3:15 pm	<i>Tyler Muller, Andrew Simons</i>	14.8 A Taxonomic Revision of Pirate Perches (Percopsiformes: Aphrederoidei) Reveals Five Species and Widespread Sympatry
3:30 pm	<i>Chi-Ngai Tang, Wei-Jen Chen</i>	14.9 Exploring the Species Diversity of <i>Selenanthias</i> (Perciformes: Anthiidae) Using an Integrated Taxonomic Approach, With the Discovery of a New Species
3:45 pm	<i>Sam Fisher, Isaac Trindade-Santos, Diala Edde, Lauren Sallan</i>	14.10 Are Elasmobranch Traits a Predictor of Extinction Risk
4:00 pm	<i>Morgan Page, Anna Humphrey, Jayme Waldron</i>	14.11 Examining Factors Contributing to the Decline of Peripheral <i>Ambystoma</i> Populations Along the Ohio River

Session 15: AES Behavior / MorphologyModerator: *Kat Mowle*

1:30 pm	<i>Lukas Heath, R. Dean Grubbs, Andrew Wooley, Dylan Yakich, Sarah Webb, Michael McCallister, Gregg Poulakis</i>	15.1 The Boys are Back in Town: Insights into Smalltooth Sawfish Mating Based on Periodicity of Adult Male Movements
1:45 pm	<i>Lisa Crawford, Charles Edelson, Robert Hueter, Jayne Gardiner</i>	15.2 Behavioral electrosensitivity increases with size in the sandbar shark, <i>Carcharhinus plumbeus</i>
2:00 pm	<i>Kyle Newton, Natalie Donato, Taylor Chapple, Sarah Henkel</i>	15.3 The Effects of Anthropogenic Electromagnetic Fields and Geomagnetic Displacement on the Behavior of Big and Longnose Skates
2:15 pm	<i>James Kilfoil, Gabrielle Krohn, Eric Clua, Serge Plane, Kirk Gastrich, Michael Heithaus, Aaron Wirsing</i>	15.4 Potential differences in learned responses to consistent olfactory stimuli in two reef shark species
2:30 pm	<i>Caroline Sullivan, Edmund Gerstein, Stephen Kajiura</i>	15.5 Orientation of Blacktip Sharks (<i>Carcharhinus limbatus</i>) to Underwater Sound
2:45 pm	<i>Andrew Nosal, Kayleigh Bajarin, Josh Gailey, A-bel Gong, Caroline Saple, Tristan Walter, Iain Couzin</i>	15.6 Applications of Automated Visual Tracking for the Kinematic Analysis of Aggregation Behavior in Leopard Sharks (<i>Triakis semifasciata</i>)
3:00 pm	<i>Marianne Porter, Ivan Heerdegen</i>	15.7 Not So Straight Forward: Swimming, Turning, and Feeding of the Scalloped Hammerhead (<i>Sphyrna lewini</i>)
3:15 pm	<i>Aubrey Clark, Lauren Simonitis, Marianne Porter, Tricia Meredith</i>	15.8 Comparative three-dimensional olfactory morphology of three elasmobranch species

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3:30 pm	<i>Amani Webber-Schultz, Kayla Hall, Brooke Flammang, Lauren Simonitis</i>	15.9 Picking the Nose: investigating dermal denticle orientation at the nares of sharks
3:45 pm	<i>Arthur de Lima, Thiago Loboda, Aline Poscai, João Paulo da Silva, Mario de Pinna</i>	15.10 Morphology and ontogenetic drift of dermal and oral denticles of the Daggernose shark <i>Carcharhinus oxyrhynchus</i> (Müller & Henle, 1839) (Carcharhiniformes, Carcharhinidae)
4:00 pm	<i>Anna Quintrell, Heather Fullerton, Bryan Frazier</i>	15.11 Microbiome Analysis of Three Migratory Shark Species off the Southeastern US

1:30 PM – 4:15 PM

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Session 16: ASIH Stoye Awards: General Herpetology; Genetics Development & Morphology

Moderator: *Tom Anderson*

1:30 pm	<i>Stephen Locketto</i>	16.1 Enchis, Zeros and Harlequins, oh my: What can reptile morphs tell us about humans?
1:45 pm	<i>Desi Joseph, Samuel Wilson, Guinevere Wogan</i>	16.2 Morphological Release: How Urban Environments Shape Morphology of an Introduced House Gecko
2:00 pm	<i>Garrett Guzoski, Loretta Battaglia</i>	16.3 Movement Ecology of the Texas Diamondback Terrapin (<i>Malaclemys terrapin littoralis</i>)
2:15 pm	<i>Makenna Beehler, Ivy Baremore, Dylan Gore, Toby Daly-Engel</i>	16.4 Phylogeography of Deep-Water Snappers in Honduras and Belize
2:30 pm	<i>José Haroldo de Lima Jr., Flávio Bockmann</i>	16.5 Taxonomy and Phylogenetic Relationships of a New Heptapterin Genus with Oval Spots on the Sides of the Trunk (Siluriformes: Heptapteridae)
2:45 pm	<i>Maxwell Hampton, Jacqueline Webb</i>	16.6 Superficial Neuromast Proliferations in Tetras (Family Characidae: Subfamily Stethaprioninae)
3:00 pm	<i>Marine Banse, David Lecchini, Terry Donaldson, Maarten Van Steenberge, Gontran Sonet, Eric Parmentier</i>	16.7 Exploring the evolution of acoustic communication in holocentrid fishes: a multidisciplinary approach
3:15 pm	<i>Ratna Karatgi, Becky Fuller</i>	16.8 The Genetic And Environmental Mechanisms Underlying Color Polymorphism And Visual System Plasticity In Bluefin Killifish
3:30 pm	<i>Romane Frey, Philippe Compère, Eric Parmentier</i>	16.9 Fish Sound Production : the Swim Bladder is not a Resonant Structure
3:45 pm	<i>Daniel Geldof</i>	16.10 Biovisualizations of the cranial pit in the Rockhead Poacher, <i>Bothragonus swanii</i>

Friday 12 July • Poster Presentations

4:00 PM – 6:00 PM • Ballroom A

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

Symposium poster: Contributions of Aquariums to Elasmobranch Research

Kat Mowle, Linda Penfold

P1.1 | Harnessing Aquaria Collections of Elasmobranchs to Study Reproductive Biology

AES Contributed Posters

Steven Jasinski, Sidney Hostetter

P1.2 | Investigating the potential behavior and natural history of megatooth sharks using damaged fossilized teeth

Grace Hicks, Phillip Lobel

P1.3 | The Effects of Penetrative Tagging on Elasmobranchs

Hunter Milles, Eric Hoffmayer, Martin Arostegui, Simon Thorrold, Camrin Braun

P1.4 | Characterizing seasonal whale shark habitat and distribution in the western North Atlantic Ocean using species distribution modeling

Katie King, Gabriela Ochoa, María Brevé, Alberto Mejía-Paniagua, Adriana Sierra, Grace Horberry

P1.5 | Understanding Spotted Eagle Ray (*Aetobatus narinari*) Population and Distribution in Roatán and Utila, Honduras

Laura Jones, Stephen Kajjura

P1.6 | Efficacy of "Zeppelin" magnetic deterrents with sharks in the wild

Dylan Gore, Matthew Bernanke, James Gelsleichter

P1.7 | Condition of Young-of-Year Scalloped Hammerheads during Nursery Use in the Tolomato River, FL

Tess Avery, Noah Motz, Benjamin Marsaly, Devon Scott, Aaron Carlisle

P1.8 | Using Stable Isotope Simulations to Understand the Trophic Ecology of Elasmobranchs in Delaware Bay

Joseph Barney, Lillian Georgio, Angela Salado, Aidan Keenan, Gerald Crow, Christopher Lowe, Bradley Wetherbee

P1.9 | Geographic variations of Sandbar Shark (*Carcharhinus plumbeus*) life history traits

Madeline English, Alexandra McInturf, Bonnie Hamilton, Olivia Boisen, Reilly Boyt, Matthew Savoca, Susanne Brander, Taylor Chapple

P1.10 | Big Fish, Little Plastics: Investigating Microplastic Accumulation and Trophic Transfer in Salmon Sharks

Emily Hoeflich, Bryan Franks, Jeremy Stalker, Eric Reyier

P1.11 | Multi-Tissue Stable Isotope Analysis of the Finetooth Shark (*Carcharhinus isodon*) in Northeastern Florida and Southern Georgia

Sarah Worthington, Jim Gelsleichter

P1.12 | Using Baited Remote Underwater Video to Characterize Shark Nursery Habitat Use in a Low-Visibility Estuarine System

Samantha Dzierba, Alyssa Klim, Ashley Liao, Angelique Rea, Jonathon Kuntz, Meghan Balk, Sora Kim, Lisa Whitenack

P1.13 | Trends in chondrichthyan diet & feeding research from 2003-2023

Nicholas Starosta, Nathan Miller, R.J. Wells, Sharon Herzka, Oscar Sosa-Nishizaki, Juan Carlos Perez-Jimenez, John Mohan

P1.14 | Chemical Tags in Calcified Vertebral Cartilage Reveal Movement Dynamics of a Migratory Shark

Morgan Lattomus, James Gelsleichter

P1.15 | A Preliminary Analysis of Mercury in Sharks of the Guana Tolomato Matanzas Estuary

Simon Dedman, Maurits van Zinnicq Bergmann

P1.16 | Movegroup: an R package to calculate and visualise space use and home range for groups of animals

Naomi Scott, Harold Pratt, Edward Hesit, Nick Whitney, Toby Daly-Engel

P1.17 | Examining the nurse shark's (*Ginglymostoma cirratum*) mating system, dispersal, and response to climate change using next generation sequencing and immunogenetics.

Lila Xenakis, Karissa Lear, David Morgan, Toby Daly-Engel

P1.18 | Assessing Kinship and Recruitment in the Freshwater Sawfish (*Pristis pristis*) in Northern Australia

Chestina Craig, Kady Lyons, Bryan Frazier, Johanne Lewis, Lisa Brown

P1.19 | Blood Culture Survey in Free-Ranging Sand Tiger Sharks (*Carcharias taurus*)

Gabriella Castillo, Lauren Simonitis, Aubrey Clark, Marianne Porter, Tricia Meredith

P1.20 | Taking a Closer Sniff at Shark Noses: Analyzing Elasmobranch Olfactory Morphology through Scanning Electron Microscopy Imaging

Aubrey Clark, Madisan Biordi, Aisha Mirza, Marianne Porter

P1.21 | How tough are ya? Comparative mechanical properties of shark vertebral columns

Friday 12 July 2024

Maya King, Lisa Whitenack

P1.22 | The impacts of wear on morphology and draw force of shark teeth

Dakota Jacks, Michelle Passerotti, James Gelsleichter

P1.23 | Mercury Concentrations in Sandbar Sharks (*Carcharhinus plumbeus*) from the U.S. Atlantic Coast Over Four Decades

Devya Hemraj-Naraine, Joao Pedro Fontenelle, Astrid Acosta, Fernando Marques, Nathan Lovejoy, Matthew Kolmann

P1.24 | A new species of freshwater stingray (Potamotrygoninae) from the Demerara River, Guyana.

AES Carrier Award

Riley Wallace, Eloise Cave, Dylan Gore, Erin Brasher, John Philip Ostapovich, Manav Agarwal, Dean Grubbs, Toby Daly-Engel

P1.25 | Tracing the Inheritance of Immune Genes to Estimate Multiple Paternity in Sandbar Sharks (*Carcharhinus plumbeus*)

Caroline Wiernicki, Matthew Oliver, Michael Fedak, Aaron Carlisle

P1.26 | Testing and first deployment of a new CTD-tag on pelagic sharks in the Mid-Atlantic Bight

Ingrid Hrycena, Jhonata Pereira Bicalho, Kaliandra Klafke, Paulo Santos dos Santos

P1.27 | What Can the Beach Tell Us? Assessment of Endangered Sharks and Rays Caught by Beach Seine Fisheries in Southeast Brazil

Jordan Waldron, Stephen Kajiura

P1.28 | Spatial Distribution of Whitespotted Eagle Rays from Aerial Surveys in the Florida Keys

Julia Crews, Erin Burge, Craig O'Connell, Shae Shandroff, Steven Sitzer, Timothy Lis

P1.30 | Migratory patterns of neonate and juvenile shortfin makos (*Isurus oxyrinchus*) and a possible nursery in the western North Atlantic

Maria Manz, Oliver Shipley, Robert Cerrato, Robert Hueter, Alisa Newton, John Tyminski, Bryan Franks, Tobey Curtis, Christopher Fischer, Keith Dunton, Jeff Kneebone, Bradley Peterson, Brittney Scannell, Jon Dodd, Michael Frisk

P1.31 | Migratory Patterns of Highly Migratory Shark Species Under a Changing Climate

Sabrina Wilner, James Kilfoil, Bryan Frazier, Bryan Keller

P1.32 | Assessing the effect of abiotic variation on bonnethead (*Sphyrna tiburo*) estuarine habitat use

Emma Jackson, Ralph Grubbs, Charles F. Cotton

P1.33 | New Insights Into the Deep Sea Community Structure of Elasmobranchs and Teleosts in the Northern Gulf of Mexico

Elizabeth Johnson, Tamara Frank

P1.34 | A Comparative Analysis of Extant Oceanic Shark Species Using Trait-Based Analysis

Kaitlyn Cisz, Lindsey Nelson, Christian Jones, Eric Hilton, Jan McDowell

P1.35 | Morphological and Genetic Analysis of *Rostroraja* in the Gulf of Mexico

Scott Goldberg, Jonathan Cohen, Aaron Carlisle

P1.36 | How Background Color and Circadian Rhythm Impacts Dorsal Coloration in Clearnose Skates

Qingsong (Seisho) Song, Matthew Kolmann, Andrew Wooley, Lukas Heath, Dylan Yakich, Gregg Poulakis

P1.37 | Anterior Myology of the Smalltooth Sawfish, *Pristis pectinata*: Implications for Assessing Effects of Marine Debris

Sabrina Haney, Michale Phelps

P1.38 | Chromosomal Rearrangements as Drivers for the Diverse Nutrient Delivery Systems in Elasmobranch Reproduction

Abigail Cavaris, George Boneillo, Daniel Abel

P1.39 | Quantifying the Maternal Transfer of Microplastics in Spiny Dogfish (*Squalus acanthias*)

Rachel Sechrist, Tobey Curtis, Kevin Friedland, Paul Bologna

P1.40 | Quantifying the Vulnerability of Winter Skate and Smooth Dogfish to Offshore Wind Electromagnetic Fields

ASIH Storer Award: Ichthyology

Taylor Jagolinzer, Isabella Horstmann, Hilary Close

P1.41 | Investigating Trophic Position Estimates of Shark Plasma and Muscle Tissue Using Compound Specific and Bulk Stable Isotope Analysis

Igor Souto-Santos, Dahiana Arcila, Emma Lehmborg, Eugenia Zandonà, Paulo Buckup

P1.42 | Crossing Borders: Comparative Phylogeography of South American Livebearers

Roberto Cucalón, Joel Corush, Matthew Niemiller, Brian Metzke, Mark Davis, Milton Tan

P1.43 | Species Distributions and Population Structure of Illinois' Spring Cavefish (*Forbesichthys* spp.) using Genomics

Julia Wood, Adam Taylor, Daemin Kim, Maya Stokes, Thomas Near

P1.45 | Pleistocene speciation in a temperate biodiversity hotspot

Kaleigh Arnold, Kory Evans

P1.46 | Tracking Ontogenetic Allometry of the skull during Metamorphosis in *Amphiprion bicinctus* (Pomacentridae)

Friday 12 July 2024

<i>Jonatas Lima-Pereira, Mário de Pinna</i>	P1.47 Ontogeny of the skeletal system of <i>Schizolecis guntheri</i> (Siluriformes: Loricariidae) (Miranda-Ribeiro 1918): homologies and phylogenetic implications
<i>Max Zavell, Hannes Baumann</i>	P1.48 Resiliency of Early Life History Stages of Black Sea Bass, <i>Centropristis striata</i> , to Future Ocean Acidification
<i>Claude Lee, Emily Durkin</i>	P1.49 The Effect of Water Quality Parameters on Trematode Prevalence and Intensity on Fish in the Plant Park Stream
<i>Anthony Rajkumar, Clare Gillis, Belinda Chang, Nathan Lovejoy</i>	P1.51 The Molecular Evolution of Vision across the Marine to Freshwater Transition in Potamotrygonidae
<i>Emily Bierer, Katelyn Boone, Dr. Brady Porter</i>	P1.52 Evolution of blue and green chromoprotein pigments in darters
<i>Leo MacLeod, Matthew Girard, Katherine Bemis</i>	P1.53 The Deep-Water Freckled Stargazer, <i>Xenoccephalus egregius</i> (Uranoscopidae): New records, photographs, and mitochondrial genome
<i>Allison Peck, Leo Smith, Matthew Davis</i>	P1.54 Biogeography of Dragonfishes and their Allies (Stomiiformes)
<i>Ned Rose, Matthew Girard, Katherine Bemis</i>	P1.55 A New Species of Flathead (Platycephalidae: Elates) from the Philippines, with Notes on the Biology of the Genus
<i>Natalie Swearingen, W. Smith, Matthew Davis</i>	P1.56 Evolution of Feeding Strategies Across Marine Habitats in Lizardfishes (Aulopiformes)
<i>Loren Tardif, Michelle Kraczkowski, Jacqueline Benway</i>	P1.57 Big Fish, Tiny Appetite: Assessing the Gut Content of Sturgeon
<i>Collin Atwood, Joe Sweeney, Nick Sard, Preston Fuebacher, Morgan Bulger, Kayelah Brown, Jim McKenna</i>	P1.58 Identifying historically collected larval coregonines to species using a redesigned genetic assay
<i>Emily Vanaselja, Kyle Piller</i>	P1.60 Fins and Fragments: Navigating Fish Assemblages through Environmental DNA
<i>Nellie Covert, William Ota, Kurt Anderson, George Jackson</i>	P1.61 Mercury Levels of Freshwater Fish in the Santa Ana River, Southern California
<i>Anu Desai, Eric Hilton</i>	P1.62 Comparative ontogeny of the Siberian Sturgeon, <i>Acipenser baerii</i> (Acipenseriformes: Acipenseridae: Acipenseridae), the Sterlet, <i>Acipenser ruthenus</i> , and their hybrids
<i>Khalil Russell, Peter Wainwright</i>	P1.63 Measuring Performance to Investigate Suction-Biting Tradeoff in Cichlidae
<i>Jason Doll, Ian Fischer, Aaron Selby, Stephen Jacquemin, Solomon David, Daniel Sinopoli*</i>	P1.64 Ecomorphology of Longnose Gar <i>Lepisosteus osseus</i> : on the influence of size, sex, and river location.
<i>Malu Almeida, Flávio Bockmann, Mark Sabaj</i>	P1.65 The Lateral-Line Canals of the Big Africa Catfish Clade: Amphiliidae, Auchenoglanididae, Claroteidae, Lacantuniidae, Malapteruridae, Mochokidae and Schilbeidae (Ostariophysi: Siluriformes)
<i>Matthew Burnett, José Alves-Gomes, Guillermo Orti</i>	P1.66 New Insights into the Diversity of Microsternarchini (Hypopomidae: Gymnotiformes) using Nuclear Genes
<i>Chi-Ngai Tang</i>	P1.67 The Infraorbital Morphology of <i>Plectranthias</i> and <i>Selenanthias</i> Species (Perciformes: Anthiidae)
Posters (miscellaneous)	
<i>Rovindra Lakenarine, Netra Chhetri, Neha Chhetri, Jesse Senko</i>	P1.68 Characterization of small-scale net fisheries off the coast of Guyana
<i>Miguel Montalvo, Eric Hilton</i>	P1.70 Review and update of the fossil history of billfishes (Istiophoriformes, Xiphiidae)
<i>Kiedon Bryant, Edmund Rodgers</i>	P1.71 Cortisol synchrony influences pair-bond stability in the serially monogamous Convict Cichlid (<i>Amatitlania nigrofasciata</i>)
<i>Emily Bierer, Dr. Phillip Palmer</i>	P1.72 Representation matters: engaging minority students in STEM Education
<i>Waseem Ahmed, Muhammad Rais</i>	P1.73 Speculate Land Use and Land Cover Changes for Eco Mozaic Region of Pakistan Using QGIS MOLUSCE Plugin.

ASIH Storer Award: Herpetology

<i>Claire Crookston, Stephen Deban</i>	P1.74 The Scaling of Aquatic Suction Feeding Performance in Salamanders: Using New Data to Define Feeding Success
<i>E. Nicholson, Ian Meloni, Steven Lovelace, Lee Fitzgerald</i>	P1.75 Facultative Arboreality in Garter Snakes of the genus <i>Thamnophis</i> : A New Record and Review of the Behavior
<i>Emma Pollackov, Sara McClelland</i>	P1.76 Analyzing Anti-Predator Responses of Tadpoles after Chronic Exposure to Microplastics
<i>Sarah Anacleto, Dennis Quinn, Michelle Kraczkowski*</i>	P1.77 Populations Genetics of Connecticut's Mudpuppy, <i>Necturus maculosus</i>
<i>Lee Burrows, Brian Todd, Thomas Jensen</i>	P1.78 Effective Eradication of an Introduced Population of Common Watersnakes, <i>Nerodia sipedon</i> , in California
<i>Gretchen Hilt, Christopher Beachy, Kyle Piller, Matthew Niemiller</i>	P1.79 Diving for DNA: Using environmental DNA (eDNA) as a tool to detect <i>Eurycea wallacei</i> (Plethodontidae), in understudied karst environments
<i>Mackenzie Fisher, Thomas Anderson</i>	P1.81 Calling phenology of an anuran assemblage in a periurban Illinois landscape
<i>Maggie Keller, Christopher Beachy</i>	P1.82 The Relationships Between Terrestrial Salamanders and Leaf Litter Invertebrates: An Investigation of Food Web Dynamics in a Bottomland Hardwood Forest
<i>Amanda Montgomery, Thomas Anderson</i>	P1.83 Synergistic Effects of Road Salt and Invasive Leaf Litter on Amphibian Community Dynamics
<i>Ellie Armstrong</i>	P1.84 Changes in Amphibian Biomass Production Associated with Pesticide Exposure and Community Structure
<i>Michael Grapin, Thomas Firreno</i>	P1.85 Differential Expression of Potential Cardiac Glycoside Genes in the American Toad (<i>Anaxyrus americanus</i>)
<i>Aleida Iriarte, Adrian Macedo, Mary Kinsel, Jason Brown, Robin Warne</i>	P1.86 Cottonmouth, Cold, and Metals: Using ICP-MS to Quantify Metal Concentrations in Northern Cottonmouth Blood Before and After Brumation
<i>Marcus Williams, Matthew Lattanzio</i>	P1.87 Factors Influencing Geographic Variation in Color and Relative Size of Scute Color Patches of Eastern Box Turtles (<i>Terrapene carolina carolina</i>)
<i>Peyton Kinavey, Scott Parker, Michelle Barthet</i>	P1.88 Digging up dirt on Pine Snakes (<i>Pituophis melanoleucus</i>): using environmental DNA to detect presence of an elusive and enigmatic species
<i>Marion Mundy, China Hale, Amy Lowe, Michael Pena, Madicella Stockton, Chris Distel</i>	P1.89 Effects of Chinaberry on Foraging in Gulf Coast Toads (<i>Incilius nebulifer</i>)
<i>Rosemary Westcott, Elizabeth Rudzki, Kyle Emerson, Sarah Woodley, Kevin Kohl</i>	P1.90 Tadpole Gut Microbiota Acquired from Natural Environmental Sources Are Responsive to Dietary Tannins
<i>Eva Serrano, Amanda Maldonado, Starling Brown, Julia Martinez, Adolfo Rodríguez-Velázquez</i>	P1.91 Urban Forests: Unsafe Refuge for Puerto Rican Herpetofauna
<i>Amber Singh, David Ensminger</i>	P1.92 Heat vs. Humidity: Novel Methods for Studying Microhabitat Use of Small Lizards in the Lab
<i>Claudia Goss, Neil Balchan, Owen Edwards, Kaleb Banks, Guinevere Wogan</i>	P1.93 Variation of cranial morphology within the <i>Anaxyrus americanus</i> complex
<i>Santoshi Mutyala, Delanie Crabtree, Sara McClelland</i>	P1.94 Neurodevelopmental Impacts of Organophosphates on Late-stage Amphibian Larvae
<i>Leana Cuzzocrea, Jennifer Deitloff</i>	P1.95 Effects of Temperature and Moisture on Color and Microbial Growth of <i>Plethodon cinereus</i> (Eastern Red-backed Salamander)
<i>Michael Kardos, Isabella Klenk, Matthew Price, Sarah Woodley</i>	P1.96 Morphological Characterization of Biofluorescent Skin Glands in Lungless Salamanders (Genus <i>Plethodon</i>)
<i>Brandon King, Christopher Howey, Vincent Farallo</i>	P1.97 Metabolic Rates of Red-backed Salamanders Inhabiting Burned and Unburned Landscapes
<i>Cindy Scruggs, Aileen Granados, Julia Thulander, Joshua HalCindy Scruggs, Aileen Granados, Julia Thulander, Joshua Hall</i>	P1.98 The Long-Term Effects of Thermal Developmental Plasticity on the Endangered Streamside Salamander (<i>Ambystoma barbouri</i>)
<i>Ana Carolina Sousa, Bruna Santos, Mariana Marques, Paulo Passos, Luis Ceriáco</i>	P1.99 Diversity and Distribution of the Herpetofauna of São Tomé e Príncipe, West Africa

Saturday 13 July • Symposia

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

8:30 AM – 10:00 AM

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Session 17: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research I

Moderator: Jennifer Wyffels

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| 8:30 am | <i>Hap Fatzinger, Alexa McDermott-Delaune, Hans Walters, Beth Firchau, Steve Kessel, Jill Arnold</i> | 17.1 Supply and Demand: Leveraging Expertise and Knowledge to Supply Tools to Meet the Demands of Conservation |
| 9:00 am | <i>Bradley Wetherbee, Emily Kelly</i> | 17.2 A tribute to Alan Henningsen and his contributions towards shark and ray research, conservation and husbandry |
| 9:30 am | <i>Nick Whitney, Jeff Kneebone, Ryan Knotek, Caroline Collatos, John Mandelman</i> | 17.3 In It for the Long Term: The Role of Aquariums in Supporting Shark Research in a Changing Climate |
| 9:45 am | <i>Federico Argemi</i> | 17.4 The Latin-American Aquariums' Perspective of the Sharks and Ray research-conservation programs |

8:30 AM – 10:00 AM

408/409

Session 19: HL Symposium: Data Integration for Herpetology: Making the Best Use of All Data I

Moderator: Brian Halstead

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| 8:30 am | <i>Brian Halstead, Jonathan Rose</i> | 19.1 Welcome and Introduction: What is Data Integration and Why Should I Care? |
| 8:45 am | <i>David Miller, C. Lane Scher, Riley Mummah, Evan Grant</i> | 19.2 An Overview of Data Integration Methods to Estimate Species Distributions and Range Dynamics. |
| 9:15 am | <i>Riley Mummah, C Scher, David Miller, Evan Grant</i> | 19.3 All Data Welcome: Integrating All Available Data into Species Distribution Models |
| 9:30 am | <i>C. Scher, Riley Mummah, Evan Grant, David Miller</i> | 19.4 Accounting for heterogeneous effort and misclassification when modeling iNaturalist data |
| 9:45 am | <i>Jeffrey Doser, Sarah Saunders, Shannon Reault, Brooke Bateman, Joanna Grand, Elise Zipkin</i> | 19.5 Multi-stage Integrated Species Distribution Modeling to Improve Estimates of Population and Community Change |

10:30 AM – 12:00 PM

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Session 21: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research II

Moderator: Steven Kessel

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| 10:30 am | <i>John B. O'Sullivan, Manny Ezcurra, Ann Greening</i> | 21.1 A case study on the successful exhibitory of juvenile white sharks at the Monterey Bay Aquarium |
| 10:45 am | <i>Kevin Spiby, Koebraa Peters, Taryn Murray</i> | 21.2 Insights into the Movements of Previously Captive Ragged-tooth Sharks, <i>Carcharias taurus</i> , along the Coast of Southern Africa |
| 11:00 am | <i>Kotaro Tokunaga, Shinsuke Saito, Kazuhiro Shibagaki, Takashi Sakai, Junichi Fujimori</i> | 21.3 Reproduction and pup growth of the Sand tiger shark, <i>Carcharias taurus</i> , at Ibaraki Prefectural Oarai Aquarium, Japan |
| 11:15 am | <i>Andrea Leontiou, Jonathan Cohen, Aaron Carlisle, Jennifer Wyffels</i> | 21.4 Captive Deployment of a Novel Tag to Collect Oxygen Utilization from Free Swimming Sharks |
| 11:30 am | <i>Samantha Bock, Kady Lyons, Lei Yang, Jennifer Wyffels, Gavin Naylor, Benjamin Parrott</i> | 21.5 Development of DNA Methylation-Based Age Predictors in the Zebra Shark (<i>Stegostoma tigrinum</i>) |
| 11:45 am | <i>Nick Weber, Jennifer Wyffels, Kady Lyons, Andrew Fields, David Portnoy</i> | 21.6 Epigenetic Age Estimation in the Cownose Ray, <i>Rhinoptera bonasus</i> : Implications for Noninvasive Elasmobranch Ageing |

Session 25: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research III*Moderator: Nicholas Whitney*

1:30 pm	Kevin Feldheim	25.1 Parthenogenesis in elasmobranchs under human care
1:45 pm	Jennifer Wyffels, Kady Lyons, David Portnoy, Christine Dudgeon, Kevin Feldheim	25.2 Unprecedented Rates of Parthenogenesis in Zebra Sharks <i>Stegostoma tigrinum</i>
2:00 pm	Jo Okamoto, Kiyomi Murakumo, Ryo Nozu, Rui Matsumoto, Jennifer Wyffels, Kady Lyons	25.3 Changes in sex steroid hormone levels and reproductive organs reflect the breeding status of zebra sharks in Okinawa Churaumi Aquarium
2:15 pm	Chris Buckner, Lance Adams, Robert George, Jared Durrett, Stacia White, Tim Handsel, Erin Legacki, Jennifer Wyffels	25.4 Effect of a Gonadotropin Releasing Hormone Agonist on the Reproductive System of Male Cownose Rays (<i>Rhinoptera bonasus</i>)
2:30 pm	Taketeru Tomita, Minoru Toda, Atsushi Kaneko, Kiyomi Murakumo, Masaru Nakamura, Keiichi Sato	25.5 Development of artificial uterus: A new conservation breeding technique for sharks
2:45 pm	David Portnoy, Dominic Swift, Christopher Hollenbeck, Wyffels Jennifer, Kady Lyons	25.6 Gamete-based Linkage Mapping for the Sand Tiger Shark, <i>Carcharias taurus</i> .
3:00 pm	Steven Kessel	25.7 Spatiotemporal distribution and site fidelity of the reef manta ray (<i>Mobula alfredi</i>) in Dungonab Bay, Sudan
3:15 pm	Kady Lyons, Allyson Stiles, Devin Dumont, Lisa Kovalanchik, Kylie Rock, Scott Belcher	25.8 Blood Mercury in Juvenile Shark Species Sampled in Three Georgia Salt Marshes
3:30 pm	Jennifer Wyffels, Brittney Goodwin, Rachel Munson, Kevin Feldheim, Kady Lyons, Aaron Carlisle*	25.9 Reconciling conservation objectives with captive display of sand tiger shark
3:45 pm	Lance Adams, Jennifer Wyffels, Brittney Goodwin, Rachel Munson, Kevin Feldheim, Kady Lyons	25.10 Monitoring egg fertility, embryonic morbidity, and mortality in an oviparous elasmobranch using ultrasound

Saturday 13 July • Oral Presentations

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

Session 18: Genetics and Genomics / Behavior and Ethology*Moderator: Miguel Montalvo*

8:30 am	Leah Berkman, Alexandra Clussman, Madison Feeler, Michael Byrne	18.1 Development of a novel microsatellite panel and genotyping process for the management and conservation of American paddlefish (<i>Polyodon spathula</i>)
8:45 am	Thomas Turner, Thomas Dowling, Abby Wicks, Alexander Cameron, Guilherme Caeiro-Dias, Megan Osborne	18.2 New genetic tools give a detailed picture of hybridization and population structure of Flannelmouth Sucker
9:00 am	Kayla Dye, Kevin Conway, Andrew Fields, Megan Bean, Amanda Pinion, Sarah Robertson, Christopher Hollenbeck, David Portnoy	18.3 Assessment of genomic diversity within and between two cryptic shiners, <i>Notropis megalops</i> and <i>N. amabilis</i> .
9:15 am	Milton Tan	18.4 An Update on Comparative Genomic Approaches Applied to Cartilaginous Fish Genome Evolution
9:30 am	Abigail Nagl, Todd Watson, Alicia Mathis	18.5 The Impact of Physical Stress and Residency Status on Territorial Behavior in Two Species of Terrestrial Salamanders

Session 20: Evolution, Biogeography & Phylogeography I

Moderator: *Brady Porter*

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| 8:30 am | <i>Matthew Craig, Gary Longo</i> | 20.1 Whole-Genome Sequencing Reveals the Presence of Japanese Sardine (<i>Sardinops melanostictus</i>) in the California Current: Climate Change or Business as Usual? |
| 8:45 am | <i>Hannah Owens, Carsten Rahbek</i> | 20.2 Marine biodiversity: Why the third dimension matters |
| 9:00 am | <i>Mark Westneat, Samantha Gartner, Kory Evans</i> | 20.3 Biomechanics and Morphometrics: Linkage Modeling of Labrid Fishes in Three Dimensions Using μ CT Coordinate Data |
| 9:15 am | <i>Alexis Lundquist, Darren Johnson</i> | 20.4 Evaluating the Capacity of Larval Fish to Adapt to Ocean Warming; Local Adaptation and Heritability of Thermal Performance Curves. |
| 9:30 am | <i>Mayara Neves, Howan Chan, Kory Evans</i> | 20.5 Navigating Chilly Depths: Examining the impact of an extreme environment on skull evolution of the icefishes (Notothenioidei) |
| 9:45 am | <i>Lynne Parenti</i> | 20.6 Reproduction in Ricefishes (Belontiiformes: Adrianichthyidae) |

Session 22: Systematics II

Moderator: *Tiffany Sih*

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| 10:30 am | <i>Thomas Near, Christine Thacker</i> | 22.1 Challenges and solutions in converting phylogenies to taxonomies in ray-finned fishes (Actinopterygii) |
| 10:45 am | <i>Kyle Piller, Andrew Sherman, Elyse Parker</i> | 22.2 Taxonomic Turmoil: Using Genomic Data to Resolve Taxonomic Discrepancies within Characodon (Cyprinodontiformes: Goodeidae) |
| 11:00 am | <i>Thomas Munroe</i> | 22.3 Sexually Dimorphic Features in Species of the Flatfish Genus <i>Lophonectes</i> Günther, 1880 (Pleuronectiformes: Bothidae) |
| 11:15 am | <i>Chase Brownstein</i> | 22.4 Extensive genome-scale sampling untangles ancient jawed vertebrate phylogeny |
| 11:30 am | <i>Matthew Girard, G. Johnson</i> | 22.5 Hole-y moly: Morphology and evolution of the genus <i>Monomitopus</i> (Ophidiidae) |

Session 23: HL Symposium: Data Integration for Herpetology: Making the Best Use of All Data II

Moderator: *Brian Halstead*

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| 10:30 am | <i>Danielle Bradke, Shelby Bauer, Kirstine Grab, John Maerz</i> | 23.1 Integrated Models to Improve Ongoing and Historical Studies of Herpetofauna |
| 10:45 am | <i>Matthew Keevil, Jacqueline Litzgus, Doug Armstrong, Njal Rollinson</i> | CANCELLED 23.2 Inferring age at maturity in a freshwater turtle when reproduction, age, and growth are imperfectly observed. |
| 11:00 am | <i>Jonathan Rose, Brian Halstead</i> | 23.3 Combining Data Sources in Capture-Recapture Models for Greater Insight into Species Demography |
| 11:15 am | <i>Beth Gardner</i> | 23.4 From Snakes to Wolves: Integrated Spatial Capture-recapture Models |
| 11:45 am | <i>Hardin Waddle, Jennifer Moore</i> | 23.5 Using Expert Elicitation to Fill in Gaps in Species Knowledge for Conservation |

Session 24: Evolution, Biogeography & Phylogeography II

Moderator: Kenneth Kozak

10:30 am	<i>Andrew Hardy, Michelle Gaither, Katie Lotterhos, Samuel Greaves, Kyra Cipolla, Emily Kerns, Andres Prieto, Matthew Gilg*</i>	24.1 Asymmetrical hybridization and environmental factors influence the spatial genetic structure of a killifish hybrid zone
10:45 am	<i>José Jaime Zúñiga-Vega, Vianey Palomera-Hernández, Karla García-Cabello, Eugenia Zandonà</i>	24.2 Pre- and Post-Copulatory Sexual Selection Contribute to the Evolution of Eye Size in Poeciliid Fishes
11:00 am	<i>Kenneth Kozak, Tom Radomski</i>	24.3 Paleodrainages Drive Beta Diversity in Eastern North American Lungless Salamanders
11:15 am	<i>Benjamin Fitzpatrick</i>	24.4 Negative frequency-dependent selection on dorsal color and a model for polymorphism and divergence in small terrestrial salamanders
11:30 am	<i>Joshua Hall, Christopher Thawley, James Stroud</i>	24.5 Highly convergent Anolis lizards exhibit divergence in fundamental life-history traits
11:45 am	<i>Jennifer Deitloff, Francesca Erickson, Craig Guyer, James Godwin</i>	24.6 Environmental Color Matching in Eastern Indigo Snakes (<i>Drymarchon couperi</i>): Crypsis or Conspicuousness?

Session 26: Reproduction / Morphology

Moderator: Allison Bronson

1:30 pm	<i>Brenna Levine, Warren Booth</i>	26.1 ParthenoGenius: A Heuristic for Inferring Presence and Mode of Facultative Parthenogenesis in Reptiles and Elasmobranch Fishes Using Genetic Data
1:45 pm	<i>Rachel Keeffe, Bingyang Zhang, Phillip Anderson, Patricia Brennan</i>	26.2 Evolutionary Morphology of Snake Hemipene Spines Informed by Puncture Mechanics
2:00 pm	<i>Allyson Evans, Emily Naylor, Nathan Lujan, Sandy Kawano, L. Patricia Hernandez*</i>	26.3 Deploy the proboscis!: Functional morphology & kinematics of a novel form of extreme jaw protrusion in the hingemouth, <i>Phractolaemus ansorgii</i> (Gonorynchiformes)
2:15 pm	<i>Peter Wainwright, Michalis Mihalitsis</i>	26.4 Bizarre Feeding Behavior in the Moorish Idol (<i>Zancluscornutus</i>)
2:30 pm	<i>Diego Vaz, Christopher Goatley, Luke Tornabene</i>	26.5 Don't Wanna Be Your Bony Wrench: phylogenetic inferences from skeletal morphology of dwarfgobies, genus <i>Eviota</i> (Gobiidae), and other coral-reef gobies
2:45 pm	<i>Paradyse Blackwood, Amanda Martin*, Jennifer Sheridan</i>	26.6 Climate and Land Use Interact to Influence Body Size of Fowler's Toad (<i>Anaxyrus fowleri</i>)
3:00 pm	<i>Taylor Reitz, Ebony Saccento, Michael Kardos, Sarah Woodley*</i>	26.7 Biofluorescent cutaneous glands are sexually dimorphic in desmognathine salamanders
3:15 pm	<i>Shannon Kuznar, James Albert</i>	26.8 Size and Shape of the Gymnotiform Brain: A Tale of Two Metrics
3:30 pm	<i>Vinicius C. Espíndola, Marcelo R.S. de Melo</i>	26.9 The western South Atlantic chimaeras (Chondrichthyes: Holocephali: Chimaeriformes), with descriptions of two new species of <i>Chimaera</i> Linnaeus, 1758
3:45 pm	<i>Allison Bronson, Jordyn Neal, Taylor Cawthon, Malcolm Edwards-Silva, Angel Palomera, Madeline Pierce</i>	Allison Bronson, Jordyn Neal, Taylor Cawthon, Malcolm Edwards-Silva, Angel Palomera, Madeline Pierce

Session 27: Conservation & Management IModerator: *Hardin Waddle*

1:30 pm	<i>H. Bradley Shaffer, Robert Cooper, Erin Toffelmier</i>	27.1 How Genomics has Enabled Conservation Actions in California Amphibians and Reptiles
1:45 pm	<i>David Green</i>	27.2 Saving the Toads (and How We Did It)
2:00 pm	<i>Robert Fisher</i>	27.3 Desert slender salamander (<i>Batrachoseps aridus</i>) and salamanders in the desert (<i>Batrachoseps</i> sp.) of southern California
2:15 pm	<i>Brian Todd, Kurt Buhlmann, Tracey Tuberville</i>	27.4 The Advantage of Size in Desert Tortoise Head-starting and the Impact of Extreme Drought
2:30 pm	<i>Andrew Gottscho, Dan Mulcahy, Adam Leaché, Kevin de Queiroz, Robert Lovich*</i>	27.5 Population genomics of Flat-tailed Horned Lizards (<i>Phrynosoma mcallii</i>) across a fragmented Colorado Desert landscape
2:45 pm	<i>Christopher Howey</i>	27.6 Restoration of Timber Rattlesnake Rookeries: Efficacy of Daylighting Management
3:00 pm	<i>Rohan Brooker, Miles Parsons, Daniel Pygas, Defne Sahin, Tiffany Sih, Diego Barneche, James Gilmour, Mark Meekan, Luke Thomas, Shaun Wilson</i>	27.7 Reef Song: can fishes enhance coral reef resilience and recovery?
3:15 pm	<i>Taegan Perez, João Pedro Fontenelle, Matthew Kolmann, Alexander Van Nynatten, Arturo Angulo, Nathan Lovejoy</i>	27.8 Building a Curated Barcode Reference Library for Neotropical Freshwater Fishes in Tortuguero, Costa Rica

Session 28: Systematics IIIModerators: *Hernán López-Fernández*

1:30 pm	<i>Bárbara Calegari, Lukas Rüber, Jörg Freyhof, Conor Waldock, Bernhard Wegscheider, Dario Josi, Ole Seehausen</i>	28.1 Taxonomic Overview of the Stone Loaches Genus <i>Barbatula</i> (Cypriniformes: Nemacheilidae) from Switzerland.
1:45 pm	<i>Flávio Bockmann, Eric Hilton, Murilo de Carvalho, Marcelo de Carvalho</i>	28.2 Homology of the Horizontal Intermediate Elements of the Pharyngeal Arches in Actinopterygii
2:00 pm	<i>Harutaka Hata, Sébastien Lavoué</i>	28.3 Redescriptions of two nominal species previously regarded as synonyms of <i>Pellona ditchela</i> Valenciennes, 1847 (Teleostei: Clupeiformes: Pristigasteridae)
2:15 pm	<i>Pedro Rizzato, Flávio Bockmann</i>	28.4 The Early Evolution of Lateral Line Canals in Extant Ray-Finned Fishes, with a New Terminology and Nomenclature
2:30 pm	<i>Julia Giora, Juliana Wingert</i>	28.5 Approaching to Endangered Fish Species of the Pampa Using FAIR Data
2:45 pm	<i>Tiffany Sih, Peter Unmack, Michael Hammer, Matthew McGee</i>	28.6 Reducing taxonomic lag via convolutional neural nets
3:00 pm	<i>Jonathan Baskin, Elisabeth Henschel, Rupert Collins, Nathan Lujan</i>	28.7 Three New Species of Small Blood-feeding Catfishes (Trichomycteridae: Vandelliinae: Paravandellia) and Discovery of the Candiru's Tooth Brush.
3:15 pm	<i>Francesco Janzen, William Crampton, Mark Sabaj, Nathan Lovejoy</i>	28.8 Elucidating the evolutionary history of weakly-electric knifefishes (Gymnotiformes, Actinopterygii) using a species-level molecular phylogeny
3:30 pm	<i>Mateus Haas, Pablo Lehmann-A, Edson Pereira, Reis Reis*</i>	28.9 Unexpected Cryptic Diversity in <i>Pareiorhaphis nudula</i> (Siluriformes: Loricariidae), in South Brazil

Saturday 13 July 2024

Saturday 13 July • Poster Presentations

4:00 PM – 6:00 PM • Hampton Ballroom

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

Contributed Posters: Ichthyology

<i>Laura Donin, Mário Pinna, Victor Tagliacollo</i>	P2.1 Inferring parameters for Bioregion delimitation in Trichomycteridae
<i>Roman Ferraro, Cindy Fajardo, Michael Burns, William Ludt</i>	P2.2 Geographic Patterns of Body Shape in Cryptobenthic Fish Communities of the Tropical Eastern Pacific
<i>Hadeel Saad, Matt Friedman</i>	P2.3 Description of a spadefish (Acanthomorpha: Ephippidae) from Pakistan and its implications for marine fish biogeography in the Paleogene
<i>Nelson Squires, Luke Beall, Abigail Powell, Beth Dakin, Anthony Honick, Brady Porter*</i>	P2.4 Rediscovery of a Relict Population of Brindled Madtom in Crooked Creek
<i>Liam Ward, Garrett Johnson, Wesley Bouska, Benjamin Marcek</i>	P2.5 Bias in hydroacoustic data processing can lead to different fish population estimates
<i>Carylanne Joubert Maier</i>	P2.6 Conservation Amelioration: A 30-Year Meta-Analysis of Papers Presented at the Annual Meetings from 1992-2022 Looking at the Growth of Conservation
<i>Aly Liu</i>	P2.7 Do invasive lionfish avoid spearfish removal by migrating to the deep? Evidence from otolith microchemistry
<i>Delson Hays, Emily Neff, Alison Gould</i>	P2.8 Symbiosis in a New Light: Biogeography and Phylogenetics of a Bioluminescent Vertebrate-Bacterial Symbiosis
<i>Joel Corush, Milton Tan</i>	P2.9 Reassessing The Relationship of Spawning Mode to Conservation of North American Minnows (Leuciscidae)
<i>Diego Elías, Alfonso González-Díaz, Caleb McMahan</i>	P2.10 Species Boundaries and Evolutionary History of the Genus <i>Thorichthys</i> (Herichthyines: Heroini)
<i>Thomas Near</i>	P2.11 How many species of darters (Percidae: Etheostomatinae) are there?
<i>Travis Russell, Katherine Golden, Justin Wright, Thomas Firmino Jr, Christopher Grant, Vincent Buonaccorsi, Regina Lamendella</i>	P2.12 Ecomorphology and Mitochondrial D-Loop Sequencing of Sculpin (<i>Cottus</i> sp.) at Tytoona Cave
<i>Taylor Lunningham, Stacy Farina, Elizabeth Fairchild, Jessica Robinson</i>	P2.13 The Effects of Bone Deformity on Swimming Performance in Lumpfish, <i>Cyclopterus lumpus</i>
<i>Tiffany Sih</i>	P2.14 Australia's tropical deepwater fish assemblages
<i>Christian Graca</i>	P2.15 The Effects of Preservation Method on the Stomach Contents of Round Goby (<i>Neogobius melanostomus</i>) for Nanopore Diet Metabarcoding
<i>Joseph Sweeney, Nicholas Sard, J Siegel</i>	P2.16 Developing an eDNA Metabarcoding Assay for Lake Ontario Coregonines Using Mitochondrial Genome Sequences
<i>John Whalen</i>	P2.17 Temporal Genomics of Fishes in the Center of Marine Biodiversity
<i>Rebecca Smith, David Kazyak, Matthew Kulp, Barbara Lubinski, Benjamin Fitzpatrick*</i>	P2.18 Genetic Trails: Restoring Brook Trout in the Southern Appalachian Mountains Through Multi-Source Reintroductions
<i>Emma Bell, Elizabeth Miller, Luke Tornabene</i>	P2.19 Morphological Constraints of a Shrimp Goby Mutualism
<i>Gus Bienenfeld, Maxwell Hampton, Jacqueline Webb</i>	P2.20 The Mechanosensory Lateral Line System of Barbs (Cypriniformes, Cyprinidae) Using Fluorescent Imaging of Neuromasts
<i>Todd Clardy, Madison Wilson, Teresa Porri, William Ludt</i>	P2.21 CryptoVert: Digitizing Cryptobenthic Fishes in Support of oVert
<i>Michael Ghedotti, Jordon Valdez, Rene Martin, John Sparks</i>	P2.22 Anatomy of the Bioluminescent Organ in Ponyfishes (Leiognathidae)
<i>Allyson Evans, L. Patricia Hernandez*, Joshua Egan</i>	P2.23 Comparative Anatomy of Otomorphan Epibranchial Organs
<i>Murilo Nogueira de Lima Pastana, G. David Johnson, Alessio Datovo</i>	P2.24 Evolution Of The Large-Prey Swallowing Mechanism Of Snaketooths (Teleostei; Chiasmodontidae)
<i>Bárbara Calegari, Tiago Carvalho, Roberto Reis*</i>	P2.26 Biogeography and Evolution of Auchenipteridae (Siluriformes): A Molecular and Morphological Perspective

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<i>David Baker, John Whalen, David Gauthier</i>	P2.27 Using DNA Barcoding and Morphometrics to Determine a Potential Case of Cryptic Species in the Purple Spaghetti Eel (<i>Moringua raitaborua</i>)
<i>Chase Brownstein, Daemin Kim, Maya Stokes, Eva Hoffman, Gregory Watkins-Colwell, Thomas Near</i>	P2.28 Misleading Allopatric Histories and the Evolution of the Sawfin Shiner
<i>Bárbara Calegari, Merline Roth, Conor Waldoock, Bernhard Wegscheider, Dario Josi, Lukas Rüber, Ole Seehausen</i>	P2.29 A New Species of the Minnow Genus <i>Phoxinus</i> (Cypriniformes: Leuciscidae) From Lakes of the Aare Catchment in Switzerland.
<i>Guilherme Dutra, Luiz Peixoto, Laura Donin, Carlos de Santana, Naercio Menezes</i>	P2.30 Description of a New Species of the Glass Knifefish Genus <i>Eigenmannia</i> (Gymnotiformes: Sternopygidae) from the Rio Branco Basin, Brazil
<i>Abigail Huber</i>	P2.31 "It's me, hi, I'm the problem, it's me.": A taxonomic review of the problematic genus <i>Istigobius</i>
<i>Pedro Rizzato, Gabriel Gomes, Maria Bichuette, Murilo Pastana</i>	P2.32 The Osteology of <i>Stygichthys typhlops</i> (Teleostei: Otophysi, Characiformes), a Rare, Endemic, Enigmatic and Endangered Subterranean Characin from Brazil
<i>Kevin Tang, Matthew Girard</i>	P2.33 Phylogeny of Ophidiiformes
<i>Cristina Cox Fernandes, Katherine Doyle, Cristian Paunescu</i>	P2.34 The Fish Collection at University of Massachusetts Amherst
<i>Diogo Parrinha, Leonor Soares, Alexandra Cartaxana, Maria Alves</i>	P2.35 Ichthyology Collections of the Portuguese Oceanographic Campaigns in Former Colonial Territories
<i>Luís Miguel Pires Ceriaco, Bruna Santos, Thiago Semedo, Lucas Garcia, Cristiano Moreira</i>	P2.36 An eighteenth century "fish-herbaria": unlocking the secrets of early Brazilian ichthyology
Contributed Posters: Herpetology	
<i>Ricardo Gibert, Robert Espinoza</i>	P2.37 Gecko Wars: Assessing Competition and Displacement Behaviors among Invasive House Geckos (<i>Hemidactylus</i> spp.)
<i>Taylor Thomisee, Stephen Mullin</i>	P2.38 Where Do You Want to be When You Grow Up? Amphibian Communities in Different Wetland Types
<i>Amanda Martin, George Brooks, Houston Chandler, Kelly Jones, Brandon Rincon, Carola Haas</i>	P2.39 Tracking Reticulated Flatwoods Salamander (<i>Ambystoma bishopi</i>) Recovery in Response to Habitat Restoration
<i>Calum Devaney, Chifundera Kusamba, Angelica Casas, Eli Greenbaum</i>	P2.40 Undescribed Herpetofaunal Diversity and Endemism in the Itombwe Plateau
<i>Jamie Penny, Timothy Krynak, Nathan Byer</i>	P2.41 Analyzing Animal Diel Activity with the Adapted Hunt Drift Fence Technique (AHDriFT)
<i>Sarah Ebert, John Holloway, Emily Gray, Carissa Adams, Casey Hitchens, McKenzie Merritt, Shane Welch, Jayme Waldron</i>	P2.42 Correlates of Rattlesnake Detection on Camera Traps
<i>Cory Adams, James Childress, William Lutterschmidt, Daniel Saenz, Christopher Schalk, Kyra Woytek</i>	P2.43 Alligator Snapping Turtle eDNA Detectability Across a Temporal Scale
<i>Bryan Huerta-Beltrán, Luke Pearson, Joana Días, Emma Humphreys, Helen Weber, Ryan Lehman, Kylie Faulkner, Lauren Coleman, Carl Qualls, Nicole Phillips</i>	P2.44 Environmental DNA surveys suggest possible extirpation of the Western Chicken Turtle (<i>Deirochelys reticularia miaria</i>) in Western Mississippi
<i>Christopher Schalk, Connor Adams, Jessica Glasscock</i>	P2.45 Survival Patterns of Repatriated and Wild Alligator Snapping Turtles
<i>Delanie Crabtree, Sara McClelland*</i>	P2.46 Neurodevelopmental Impacts of Organophosphates on Early-stage Amphibian Larvae
<i>Ethan Kessler, John Crawford, Miles Corcoran, Andrew Kuhns, Michael Dreslik</i>	P2.47 Reproductive output of forested ephemeral wetland-dependent amphibians across a modified landscape
<i>Maxwell Ramey, Alan Babineau, Reese Sloan, Autumn Groesbeck, Ali Montazeri, Jon Davenport</i>	P2.48 Sexual dimorphic effects of a keystone predator on prey communities
<i>Hannah Bey</i>	P2.49 Competition or Habitat: Which is Potentially More Influential in the Decline of a Northeastern Amphibian?
<i>Zeanna Graves, Andrew Durso</i>	P2.50 Pesticide Impacts on Anuran Communities at Florida Gulf Coast University
<i>Kira Miller, Thomas Smith, Vance Vredenburg</i>	P2.51 Loud but Overlooked: Pacific chorus frogs as reservoirs for disease in Sierra Nevada alpine habitats

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<i>Gustavo Ruano Fajardo, Alessandro Catenazzi, Tamí Mott</i>	P2.52 Bromeligenous Amphibians in Suboptimal Habitats: A Case Study of Phyllodytes gyrinaethes and its Environmental Interactions
<i>David Green</i>	P2.53 Movement Ecology of Fowler's Toads at Long Point, Ontario
<i>Aaron Fernando, Katherine Porras-Brenes, Ralph Saporito*</i>	P2.54 No Evidence of Color-Based Honest Signaling in the Green and Black Poison Frog Dendrobates auratus in Costa Rica
<i>Zachary Spicer, Jon Davenport, Alan Babineau, Rosemary Ronca, Elyssa Winterton</i>	P2.55 Using stable isotopes to examine dietary niche space of three coexisting Plethodon salamanders in North Carolina
<i>Anna Velten, Andrew Durso</i>	P2.56 Occupancy Modeling and Population Density of Chamaeleo calyptratus and Anolis equestris in Southwest Florida
<i>Laura Kojima, Brian Halstead, Andrew Rypel</i>	P2.57 Survival Challenges of Giant Gartersnakes in Agricultural Floodplains: Assessing the Impact of Agrochemicals
<i>Rebecca Chastain, Benjamin Fitzpatrick*, Aidan Shaw</i>	P2.58 Reproductive isolation and patterns of co-occurrence in Black-bellied and Shovel-nosed Salamanders (Desmognathus)
<i>Kyle Selcer</i>	P2.59 Evolution of Vitellogenin Proteins in Sauropsids
<i>Jack Dirck, Jeanne Robertson, Robert Espinoza</i>	P2.60 Sticky Thumbs Out: Using Population Genomics to Reveal the Invasion Pathways of a Hitch-hiking Invasive Gecko
<i>Mark Bastian, Gyanpriya Maharaj, Alessandro Catenazzi, Maureen Donnelly</i>	P2.61 Distribution and prevalence of Chytrid fungus (Batrachochytrium dendrobatidis) on anurans within the Iwokrama Forest, Guyana.
<i>Bailey Sauls, Jon Davenport, Benjamin Fitzpatrick</i>	P2.62 Determining dietary niche overlap of two woodland salamanders using stable isotopes in Great Smoky Mountains National Park
<i>Kenzie Pereira, Jakobi Deslouches, Zehra Mehdi, Berthony Deslouches, Jill Dembowski, Sarah Woodley*</i>	P2.63 Antimicrobial properties of hellbender salamander skin secretions
<i>Clare Hilton, Eric Hilton</i>	P2.65 Osteology of the Eastern Worm Snake, Carphophis amoenus (Say) (Serpentes, Dipsadidae, Carphophinae) from Virginia
<i>Daniel Saenz, Kelsey Reider, Cory Adams, Lee Fitzgerald</i>	P2.66 Anuran Calling in the Extreme Conditions of the High-Andes of Peru
<i>Bryce Sweely, Matthew Metcalf, Andrew Durso</i>	P2.67 Short and Long-Term Effects of Urban Development on Native and Invasive Treefrogs at Florida Gulf Coast University
<i>Ricarda Hill, Calandra "Cali" Turner Tomaszewicz, Jeffrey Seminoff</i>	P2.68 Recreating Movement Patterns of Flatback Sea Turtles (Natator depressus) Using Stable Isotope Analysis
<i>Karli Bortner, Nancy Staub</i>	P2.69 Presence of modified granular glands in ventral and dorsal tail tissue of male and female Green Salamanders (Aneides aeneus)
<i>Abby Turner, Rosemary Ronca, Jon Davenport</i>	P2.70 Effects of elevation on morphological traits in a vulnerable salamander: Plethodon welleri (Weller's salamander)
<i>Felipe Floreste, Patrício Garcia-Neto, Sandra Muxel, Fernando Gomes, Vania Assis</i>	P2.71 Exploring Immunomodulation in Toads: Differential Gene Expression Following Stimulation with Bacteria
<i>Robert Espinoza, Henry Bart</i>	P2.72 Where Should ASIH be Headed? An Open Discussion and Listening Space.
<i>Gisela Crespo-Martínez</i>	P2.73 The Jumping performance of two Eleutherodactylus frog species: the effect of temperature.
<i>Noah Irwin</i>	P2.74 Mapping the Metamorphic Timing of a Presumed Nonplastic Species Eurycea cirrigera across their Latitudinal Range.
<i>Jasmine Nasser, Christopher Beachy, Christopher Murray</i>	P2.75 Thermal Preferences of the Southern Two-lined Salamander Across Its Latitudinal Range
<i>David Calemma, Christopher Howey</i>	P2.76 The Effect of Ambient Light at Night on Stress and Energy Reallocation: Trade-offs Between Growth and Reproduction
<i>Matthew Lattanzio, Dane Conley</i>	P2.77 Active Regulation of Ultraviolet Light Exposure Overrides Thermal Preference Behaviour in Eastern Fence Lizards
<i>Kerrigan Wilson, Christopher Howey</i>	P2.78 The Effects of Ambient Light at Night on Anole Energetics
<i>Isabella Davis, Norman Hunter, Jennifer Terry, Susannah French, Lorin Neuman-Lee</i>	P2.79 Immune and Endocrine Tradeoffs in the Western Terrestrial Gartersnakes (Thamnopolis elegans)
<i>Hailey Griffin, Christopher Howey</i>	P2.80 Investigating the Thermobiology of Sympatric Snake Species
<i>Norman Hunter IV, Jennifer Terry, Lorin Neuman-Lee</i>	P2.81 The effects of different temperatures on the blood metabolites of an Old World colubrid

Saturday 13 July 2024

Mariana Marques

P2.82 | A Herpetological Hidden Gem –The Carnegie Museum of Natural History “Alcohol House”

Thomas Firreno, Corey Roelke, Adam Leache, Nathan Rains, Toby Hibbitts, Wade Ryberg, Travis Laduc, Sonal Singhal, Matthew Fujita

P2.83 | Genome-wide data reinforces the evolutionary relationships of previously problematic earless lizards (Phrynosomatidae: Holbrookia)

Contributed Posters: DEI

Sarah Woodley

P2.84 | Community engagement in a summer undergraduate research program: Two approaches

Sunday 14 July 2024

Sunday 14 July • Symposium

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

8:30 AM – 10:00 AM

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Session 29: AES Symposium: Overview of Aquarium Contributions to Elasmobranch Research IV

Moderator: Kady Lyons

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|---------|---|---|
| 8:30 am | Holly Doerr, Carol Price* | 29.1 From Shores to Shipwrecks: NC Aquariums' Role in Sand Tiger Shark Conservation Research |
| 8:45 am | Masayuki Nakamura, Keisuke Kondo | 29.2 Photo-identification survey and movement of Sand tiger shark <i>Carcharias taurus</i> , at Ogasawara Archipelago in Japan |
| 9:00 am | Emily Christiansen, Michael Hyatt, Robert George, Kady Lyons, Jennifer Wyffels | 29.3 Health Assessments in Free-Ranging Sand Tigers (<i>Carcharhinus taurus</i>) in the North Atlantic |
| 9:15 am | Jeff Kneebone, Connor White, Caroline Collatos*, Nick Whitney | 29.4 High survivorship of sandbar sharks (<i>Carcharhinus plumbeus</i>) following catch and release in a rapidly growing land-based fishery in Massachusetts |
| 9:30 am | Ryan Knotek, Jeff Kneebone, John Mandelman, John Chisholm, Tobey Curtis, Nick Whitney | 29.5 Hooked on Collaboration: Investigating Shark Post-Release Mortality with a Conservation-Minded Aquarium and Fishing Industry Partners. |
| 9:45 am | Shawn Larson, Riley Pollom*, Samuel May | 29.6 Molecular analyses reveal life history insights in a data limited species: possible evidence for philopatry in sixgill sharks (<i>Hexanchus griseus</i>) |

Sunday 14 July • Oral Presentations

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

8:30 AM – 10:00 AM

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Session 30: Ecology

Moderator: Stephen Mullin

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|---------|---|---|
| 8:30 am | Matthew Lattanzio | 30.1 Climate Mediates Color Morph Turnover in a Species Exhibiting Alternative Reproductive Strategies |
| 8:45 am | Eric Hileman, Sasha Tetzlaff, Matthew Simon, Gordon Schuett, Mark Davis, William Brown | 30.2 Climate Change Drives Population Dynamics through Reduced Survival and Phenotypic Selection in a Vulnerable Pitviper |
| 9:00 am | Cynthia Carter, Stephen Mullin* | 30.3 Clear as Mudsnakes: Stable Isotope Analysis Reveals a Dietary Shift in Farancia |
| 9:15 am | Casey Dillman | CANCELLED 30.4 A Century of Change: The Fishes of Catatank Creek |
| 9:30 am | Sarah Yerrace, Aly Liu*, Carole Baldwin, Ross Robertson, Katherine Maslenikov, Luke Tornabene | 30.5 Diet of Deep-reef Lionfish in the Caribbean using DNA Metabarcoding |
| 9:45 am | Bruce Stallsmith | 30.6 Sex Ratio and Size of the Saddleback Darter, <i>Percina vigil</i> , Over 5 Consecutive Years in the Pearl River, Louisiana |

Session 31: Conservation & Management II

Moderator: Robert Lovich

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|---------|--|---|
| 8:30 am | <i>Stuart Welsh, Daniel Cincotta, Nathaniel Owens</i> | 31.1 A biodiversity update of West Virginia fishes |
| 8:45 am | <i>Eden Brody, Mark Kirk, Meredith Barney, Casey Bradshaw-Wilson, Lee Demi</i> | 31.2 Mechanisms Behind the Decline of a Class A Brown Trout (<i>Salmo trutta</i>) Fishery |
| 9:00 am | <i>Meredith Barney, Mark Kirk, Casey Bradshaw-wilson, Kelly Pearce</i> | 31.3 Evaluating the Long-term Success of Two Stream-bank Restorations within the French Creek Watershed |
| 9:15 am | <i>Joshua Murauskas, Brian Beckley</i> | 31.4 Tagging for Tomorrow: The Integral Role of PIT Tags in Understanding and Conserving Biodiversity |
| 9:30 am | <i>Mark Kirk, Casey Bradshaw-Wilson, Kelly Pearce</i> | 31.5 Habitat characteristics of terrestrial environments for vernal pool breeding amphibians |
| 9:45 am | <i>R Rao</i> | 31.6 Status, Habitat Threats and Conservation Challenges to Freshwater Turtles in National Chambal Sanctuary, Madhya Pradesh, India |

Session 32: AES Ecology, Habitat Use, Movements I

Moderator: Karyl Brewster-Geisz

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| 10:30 am | <i>Simon Dedman, Frances Farabaugh, Natalie Klinnard, Aaron Wirsing, Michael Heithaus</i> | 32.1 Strength of top-down and bottom up processes involving reef sharks in the world's largest shark sanctuary |
| 10:45 am | <i>Benjamin Marsaly, Noah Motz, Tess Avery, Deena Hansen, Matthew Breece, Edward Hale, Aaron Carlisle</i> | 32.2 Seasonal Variability in Trophic Niche Partitioning Patterns among Coastal, Highly Migratory Sharks in the Mid-Atlantic Bight |
| 11:00 am | <i>Anna Weber, Eloise Cave, Charles Bangley, Marcus Drymon, Bryan Frazier, Matt Smukall, Dean Grubbs, Neil Hammerschlag, Toby Daly-Engel</i> | 32.3 An Integrative Model to Predict Climate Change-Driven Range Shifts in Marine Predators Using Genomics |
| 11:15 am | <i>Shannon Barry, Matthew Ajemian, Charles Bangley, Marcus Drymon, Bryan Frazier, Laura Garcia Barcia, Jayne Gardiner, James Gelsleichter, Dean Grubbs, Tristan Guttridge, Neil Hammerschlag, Mike Heithaus, Matthew Smukall, Bradley Strickland, Tonya Wiley, Toby Daly-Engel</i> | 32.4 Genetic Adaptation to Climate Change Among Nursery Habitats of the Bull Shark (<i>Carcharhinus leucas</i>) |
| 11:30 am | <i>Dominic Swift, Amanda Barker, William Driggers, Bryan Frazier, Douglas Adams, James Gelsleichter, Dana Bethea, Bethany Deacy, David Portnoy</i> | 32.5 Are All Nurseries Created Equal? Understanding Differences Among Scalloped Hammerhead (<i>Sphyrna lewini</i>) Nurseries in the Western North Atlantic Ocean |

Session 33: Systematics IV

Moderator: Mario de Pinna

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|----------|---|---|
| 10:30 am | <i>Leo Smith, Edgar Nikols, Alex Maile, Michael Ghedotti, Matthew Davis</i> | 33.1 A Preliminary Phylogeny of the Anguilliformes |
| 10:45 am | <i>Matthew Davis, Michelle Moore, W. Leo Smith</i> | 33.2 Evolutionary Relationships and Biogeographic Patterns of Lizardfishes (Aulopiformes) |
| 11:00 am | <i>Mario de Pinna, Luiz Peixoto, Victor Tagliacollo, Marcelo Britto</i> | 33.3 Phylogeny and evolution of Siluriformes (Teleostei), a supermatrix analysis, consilience with previous data and hypotheses, and a tentative biogeographic scenario |
| 11:15 am | <i>Guilherme Dutra, Carlos de Santana, Luiz Peixoto, Murilo Pastana, Naercio Menezes</i> | 33.4 Diversity and Evolution of Gymnotiformes: Results of Seven Years Studying Neotropical Electric Fishes |
| 11:30 am | <i>Christopher Scharpf</i> | 33.5 Revelations and Revisions: 10+ Years of The ETYFish Project |
| 11:45 am | <i>Elizabeth Miller, Rose Faucher, JoJo West, Giorgio Carnevale, Aintzane Santaquiteria, Emily Troyer, Carole Baldwin, Mark Westneat, Guillermo Ortí, Lily Hughes, Kory Evans, Ricardo Betancur, Dahiana Arcila</i> | 33.6 Phylogenomics, classification, and diversification of Eupercaria, the new bush at the top |

Session 34: General Herpetology

Moderator: Brian Todd

10:30 am	<i>Matt Patterson</i>	34.1 Of Time and Turtles
10:45 am	<i>Montserrat Suárez-Rodríguez, José García-Dimas, Hibraim Pérez-Mendoza</i>	34.2 Effect of Noise Pollution on the Development and Behavior of Dryophytes arenicolor
11:00 am	<i>Christopher Beachy, Clifford Fontenot Jr.</i>	34.3 Direct-development, early larval development and metamorphosis in the paedomorphic salamander <i>Amphiuma tridactylum</i>
11:15 am	<i>Amanda Picelli, Francisco Ferreira, Maria Pacheco, Pedro Pereira, Aaron Bauer, Igor Kaefer, Felipe Pessoa, Lúcio Viana, Érika Braga, Ananias Escalante</i>	34.4 Hemoparasite Diversity in Gold Tegu Lizards (<i>Tupinambis teguixin</i>) from Central Amazonia
11:30 am	<i>Diogo Parrinha, Mariana Marques, Francisco Gonçalves, Arthur Tiutenko, Aaron Bauer, Luis Ceríaco</i>	34.5 The Genus <i>Holaspis</i> Gray, 1863 (Squamata: Lacertidae) in Angola: A Tale of Forgotten Specimens and Disappearing Forests
11:45 am	<i>Lauren Augustine, Pete DiGeronimo, Katherin Plate, Brianne Light, Zachary Loughman</i>	34.6 Evaluating the effects of infrared light on the health and welfare of false water cobras (<i>Hydrodynastes gigas</i>)

Session 35: AES Ecology, Habitat Use, Movements II

Moderator: Marcus Drymon

1:30 pm	<i>John Hlavin, Catherine Macdonald</i>	35.1 Great Hammerhead Seasonal Resource-Use in an Identified Nursery
1:45 pm	<i>Jerome Pinti, Helga Huntley, Aaron Carlisle, Matthew Shatley, Barbara Block, Matthew Oliver</i>	35.2 Scales of Selection of Eulerian and Lagrangian Environmental Parameters for Three Pelagic Sharks
2:00 pm	<i>Mikki McComb-Kobza, Christopher Malinowski, Nigel Hussey, Daniel Madigan, Joseph Tagne, Robert Hueter, Brett McBride, Chris Fischer, Cindy Gonzalez, Baudisse Postaire, Demian Chapman</i>	35.3 Detecting Western North Atlantic White Sharks (<i>Carcharodon carcharias</i>) with baited underwater video cameras and environmental DNA
2:15 pm	<i>Mackenzie Horton, Ashley Johnson, Nigel Hussey, John Tyminski, Chris Fischer, Brett McBride, Robert Hueter, Bryan Franks</i>	35.4 Space use by white sharks (<i>Carcharodon carcharias</i>) in their overwintering residency area in the western North Atlantic
2:30 pm	<i>Kyle Oliveira, Benjamin Tupper, Megan Winton, Gregory Skomal, Damian Brady, Nicholas Record</i>	35.5 Ecological Forecasting of <i>Carcharodon carcharias</i> Habitat Suitability in the Northwest Atlantic
2:45 pm	<i>Emily Yeager, Jessica Pate, Catherine Macdonald</i>	35.6 Stability and Spatial Variance of Manta-Associated Fish Aggregates and Symbioses in south Florida
3:00 pm	<i>Camrin Braun, Simon Thorrold, Peter Gaube</i>	35.7 Pelagic sharks target mesoscale eddies in the open ocean
3:15 pm	<i>Charles Bangley, Chelsea Eldridge, Daniel Hasselman, Joanna Mills Flemming, Frederick Whoriskey, Megan Winton, Bryan Franks, Greg Skomal, Chris Fischer</i>	35.8 Movements, Residence Time, and Use of Intertidal Environments by Two Shark Species in the Upper Bay of Fundy
3:30 pm	<i>Lucy Howey, Jim Gelsleichter, Yannis Papastamatiou, Matthew Witt, Edd Brooks, Lucy Hawkes, Demian Chapman</i>	35.9 Risky Reproduction: Long-distance Migrations of Mature Female and Gravid Oceanic Whitetips Expose Them to Fishing While Males Stay Put

Session 36: AES Age, Growth, Reproduction & Physiology*Moderator: Christopher Mull*

- 1:30 pm *Baylie Fadool, Kylie Bostick, Lauran Brewster, Alexander Hansell, John Carlson, Matthew Smukall*
- 1:45 pm *Emily Sapp, Jim Gelsleichter*
- 2:00 pm *Jessica Dehn, Ralph Grubbs*
- 2:15 pm *Carl Luer, Cathy Walsh, Craig Douppnik*
- 2:30 pm *Hayden Bessette, Bryan Frazier, Fabio Casu, Jody Beers*
- 2:45 pm *Katie King, Gabriela Ochoa, María Brevé, Alberto Mejía-Paniagua, Adriana Sierra, Grace Horberry*
- 3:00 pm *Grace Casselberry, Andy Danylchuk, Kristen Ewen, Bryan DeAngelis, Gregory Skomal*
- 3:15 pm *Jack Elstner, Emily Spurgeon, Patrick Rex, Elizabeth Jahn, Zach Merson, Whitney Jones, Lauren Faulkner, Ryan Logan, Christopher Lowe, Brice Semmens*
- 3:30 pm *Stephen Kajiura, Tanner Anderson, Kieran Smith, Cheston Peterson, Bryan Keller, Dean Grubbs*
- 3:45 pm *Chiju Yu, Huahsun Hsu, Lisa Hoopes, Alistair Dove, Chris Coco, Kwangming Liu, Shoujeng Joung*
- 36.1 | Age and Growth Estimates for the Nurse Shark (*Ginglymostoma cirratum*) Over 17 Years in Bimini, The Bahamas
- 36.2 | Use of Coelomic Fluid as a Noninvasive Indicator of Reproductive Status in Elasmobranchs
- 36.3 | Employing 14 years of data to assess Atlantic sharpnose shark, *Rhizoprionodon terraenovae*, response to a changing environment in Florida's Big Bend
- 36.4 | Bioactive Properties of Venoms from Three Stingray Species against Mammalian Tumor Cells
- 36.5 | Post-Release Stress and Mortality of Atlantic Sharpnose Sharks (*Rhizoprionodon terraenovae*)
- 36.6 | Understanding Spotted Eagle Ray (*Aetobatus narinari*) Population and Distribution in Roatán and Utila, Honduras
- 36.7 | Roamers and residents: Contextualizing tiger shark (*Galeocerdo cuvier*) use of protected areas in the Caribbean
- 36.8 | Response of juvenile white sharks (*Carcharodon carcharias*) to a rare tropical storm event in Southern California.
- 36.9 | Efficacy of a novel deterrent to reduce catch of elasmobranchs in longline fisheries
- 36.10 | Budding acoustic tracking research for the movement of elasmobranchs in Taiwan

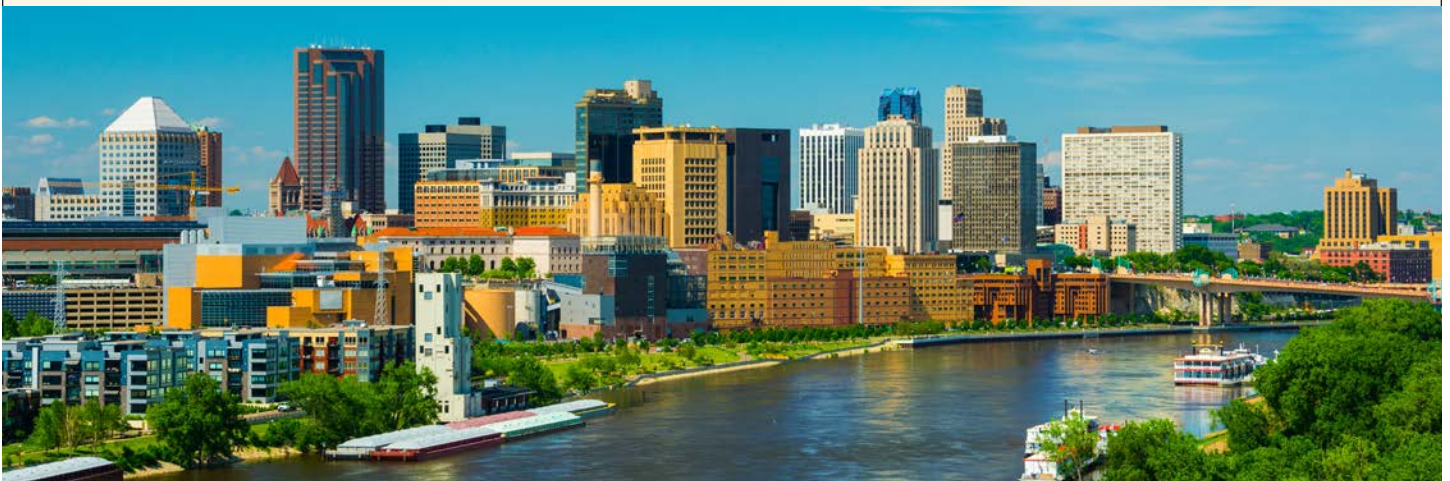
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