

PROGRAM BOOK

**Cephalopod International Advisory
Council Conference 2018**

*Cephalopod Research Across Scales:
From Molecules to Ecosystems*

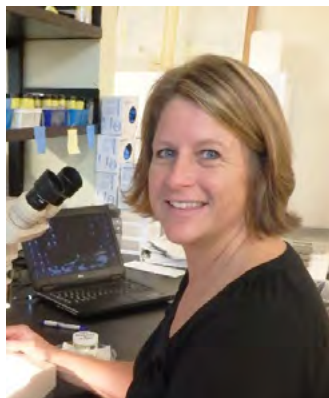


November 12-16, 2018
St. Petersburg, Florida, USA

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Welcome to the 2018 CIAC Conference



Hello, everyone!

I am thrilled to welcome you to St. Petersburg, Florida for the 2018 CIAC Conference on behalf of the Cephalopod International Advisory Council and Organizing Committee! We have been hard at work and are excited to share our city with you for this event. I would like to acknowledge the past CIAC conference coordinators for their advice and assistance along the way to building this fantastic week for you!

The theme for this year's conference – *Cephalopod Research Across Scales- Molecules to Ecosystems* – includes all facets of the growing cephalopod research initiatives worldwide. It has been 30 years since the CIAC meeting was last held in the United States and I am honored to host this important gathering of researchers. This year's program will have a variety of oral presentations, including two keynote talks: the opening by Dr. Alison Sweeney and the closing talk by Dr. Gretta Pecl, 124 posters, and we are introducing a new presentation platform with 16 Lightning Talks this year. Registrants will number more than 240 and come from 30 countries.

This conference is the perfect platform to welcome our early career scientists as well as catch up with seasoned veterans in cephalopod field. I hope this conference provides participants with new knowledge in our growing field as well and new connections for future collaborations while enjoying all that the surrounding area has to offer.

Happy conferencing!

Heather Judkins, PhD.
CIAC 2018 Conference Chair
University of St. Petersburg, FL

Welcome from the Chancellor of the University of South Florida St. Petersburg



On behalf of the University of South Florida St. Petersburg, welcome to the 2018 CIAC Conference.

As a university that supports researchers engaged in significant, relevant work, we are pleased to join with so many distinguished scientists from around the world. Like many other scientists located within St. Petersburg's Innovation District, we know you are here to present new ideas and discoveries, seek to understand, and in some cases, share your life's work.

At USF St Petersburg, we absolutely value and support science and what you do as scientists. We believe in you. We believe in what you represent to a world seeking solutions to significant environmental problems that threaten our planet. Science is the base from which we educate, and we have incredible scientists and education happening here.

USF St. Petersburg is located in a thriving, vibrant green city and home to one of the largest concentrations of marine and ocean scientists in the southeastern U.S. Our blue economy helps define us as a community. As such, we value the groundbreaking work you do to advance our knowledge of cephalopods, ecology, and fisheries while working with us and others to take immediate action to reverse the effects of environmental degradation through research and action.

I invite you to spend time exploring our campus while you are here. Take a stroll along our waterfront. Grab a coffee at our University Student Center. And, most importantly, take a moment to interact with our students. I think you'll find them interested and engaged in the important work you do. They are friendly and will welcome a conversation with you.

Have a wonderful conference and enjoy your time in the Sunshine City.

Regards,
Martin Tadlock
Regional Chancellor
USF St. Petersburg



Greetings:

On behalf of the citizens of the Sunshine City, welcome to the 2018 Cephalopod International Advisory Council Conference! Thank you to the sponsors, including our friends at USF St. Petersburg, for making this event possible.

In particular, I am pleased to welcome each of you to the City of St. Petersburg's Innovation District, an environment consisting of healthcare, education, and research assets. We consider USFSP to be an anchor for this district, as well as a vital city partner as we plan our future.

St. Petersburg has been welcoming visitors to our city for more than a century. While visiting us, I hope you have an opportunity to take advantage of our vibrant downtown, arts and cultural amenities, and beautiful waterfront park system. You won't be disappointed.

Have a terrific conference, and please visit us again soon. Sincerely,



Mayor Rick Kriseman



Organizers and sponsors

Organizers

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Heather Judkins

Conference Assistant

Brenna Meath

Scientific Committee

Elaina Jorgensen

Annie Lindgren

Elizabeth Shea

Michelle Staudinger

Michael Vecchione

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South Florida

Florida Insitute of Oceanography

OPEN, University of South Florida St.

Petersburg

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General information

Conference venue:

Hilton St. Petersburg Bayfront

333 1st Street South

St. Petersburg, FL 33701

Phone: 1-727- 894-5000

<https://www3.hilton.com/en/hotels/florida/hilton-st-petersburg-bayfront-SPTSHHF/index.html>

ATMs that accept international cards:

1. Bank of America Financial Center

ATM: 24 hours

2. Suntrust Bank

300 1st Ave South, St. Petersburg, FL

ATM: 24 hours, Branch open Mon-Fri, 0900-1800

3. Wells Fargo Bank

125 5th Street South, St. Petersburg, FL

ATM: 24 hours

Postal Services:

United States Postal Service (St. Petersburg Post Office)

76 4th Street North, St. Petersburg, FL 33701

Hours: 0830-1700 M-F

Nearby Grocery Store:

Publix

250 3rd St S, St. Petersburg, FL 33701

Nearby Drugstore:

CVS

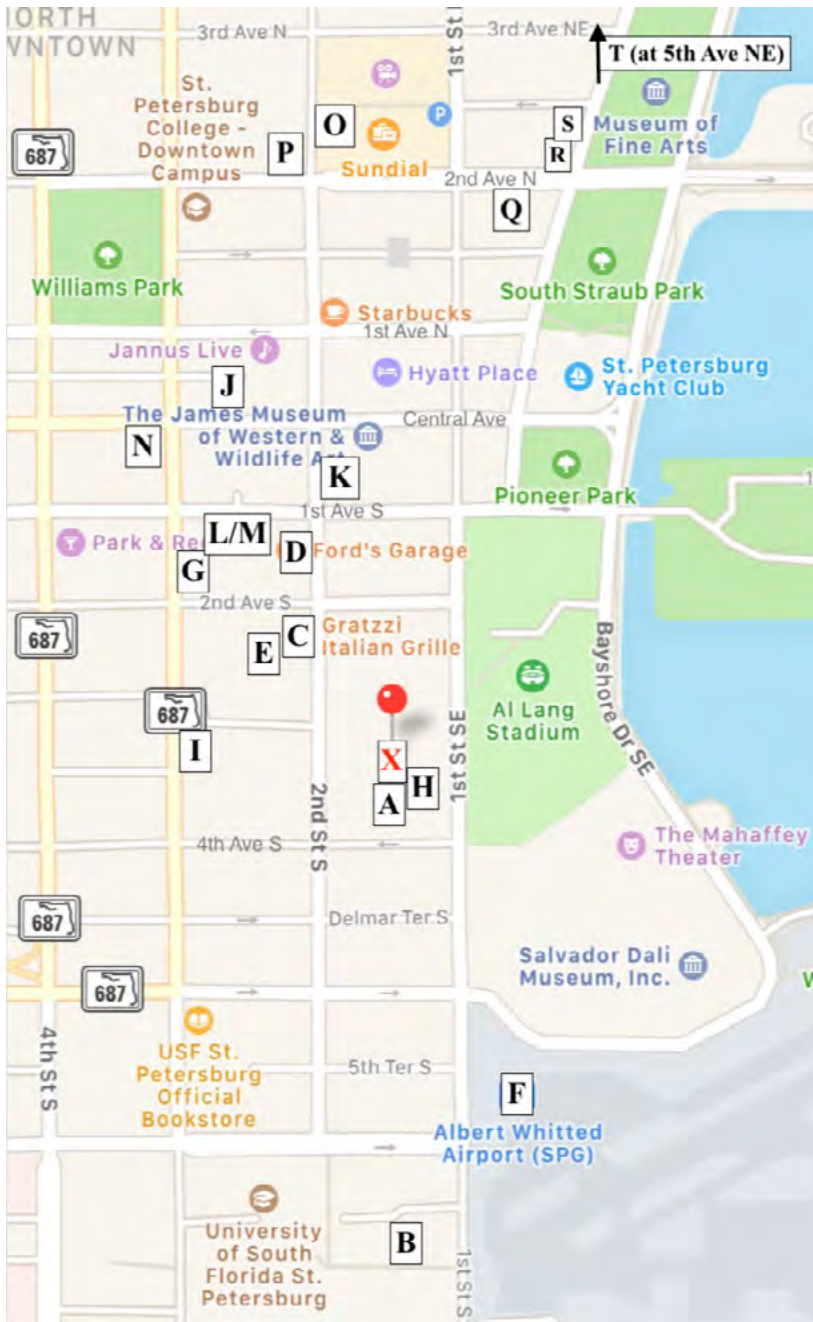
301 3rd St S, St. Petersburg, FL 33701

Restaurants and bars near the Hilton Bayfront Hotel

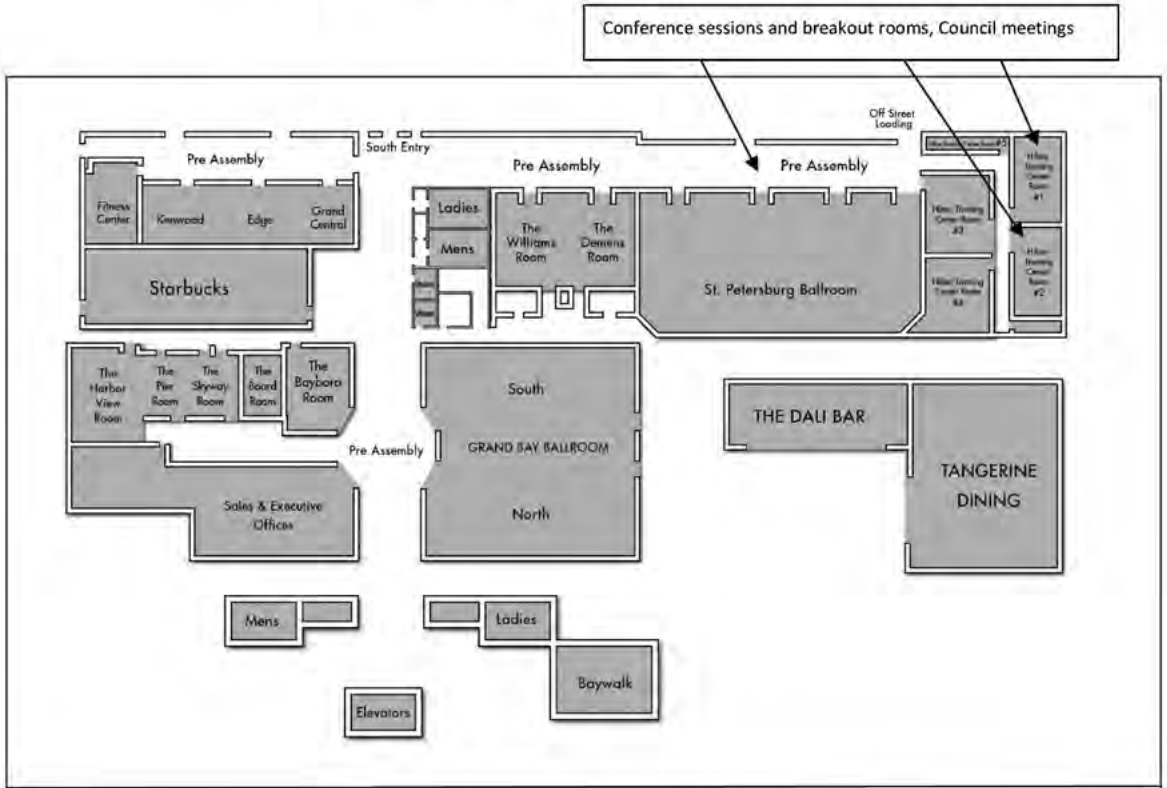
Map ID	Name / Address	Cost	Food Style
A	Tangerine at the Bayfront Hilton 333 1 st St. S., St. Petersburg, FL 33701 727-894-5000 https://www3.hilton.com/en/hotels/florida/hilton-st-petersburg-bayfront-SPTSHHF/dining/index.html	\$\$- \$\$\$	American
B	The Tavern at Bayboro 120 6th Ave S, St. Petersburg, FL 33701 727-821-1418 http://www.thetavernatbayboro.com The Campus Grind (next door to The Tavern) 727-823-5282 http://thecampusgrind.com	\$\$- \$	American Coffee, Cafe
C	Gratzzi Italian Grille 211 2 nd St. S., St. Petersburg, FL 33701 727-623-9037 http://gratzzigrille.com	\$\$- \$\$\$	Italian, Vegetarian friendly, Vegan options
D	Ford's Garage 200 1 st Ave. S., St. Petersburg, FL 33701 727-295-3673 https://www.fordsgarageusa.com	\$\$- \$\$\$	American, Gastropub, Bar
E	China Kitchen 268 3 rd St. S., St. Petersburg, FL 33701 727-820-0889 http://www.chinakitchen727.com	\$	Chinese, Asian
F	The Hanger Restaurant & Flight Lounge 540 1 st St. SE, Albert Whitted Airport, 2nd Floor, St. Petersburg, FL 33701 727-823-7767 https://www.thehangarstpete.com	\$\$- \$\$\$	American, Bar, Vegetarian friendly
G	Red Mesa Cantina 128 3 rd St. S., St. Petersburg, FL 33701 727-896-8226 https://www.redmesacantina.com	\$\$- \$\$\$	Mexican, Latin, Bar
H	Starbuck's 333 1 st St. S., St. Petersburg, FL 33701 727-894-5000 https://www.starbucks.com/store-locator/store/10343/central-ave-66th-st-6575-central-avenue-saint-petersburg-fl-337108412-	\$	Cafe, American
I	The Simple Greek 312 3 rd St. S., St. Petersburg, FL 33701 727-592-4715 https://thesimplegreek.com	\$\$- \$	Greek, Vegetarian friendly

J	The Oyster Bar 249 Central Ave., St. Petersburg, FL 33701 727-897-9728 https://oysterbarstpete.com	\$\$- \$\$\$	American, Seafood, Bar
K	Oak & Stone 199 Central Ave, St. Petersburg, FL 33701 727-565-4064 https://www.oakandstone.com	\$\$- \$\$\$	American, Pizza, Bar
L	The Station House 260 1 st Ave S., St. Petersburg, FL 33701 727-895-8260 http://stationhousestpete.com	\$\$- \$\$\$	Spanish, Pub, Bar
M	Ichicoro Ana at Station House / St. Pete 260 1 st Ave S., ST. Petersburg, FL 33701 727-300-0281 https://www.ichicoroane.com	\$\$- \$\$\$	Japanese, Asian
N	The Lemon Grass 310 Central Ave., St. Petersburg, FL 33701 http://www.lemongrassstapas.com/index.php	\$\$- \$\$\$	Japanese, Sushi, Asian
O	Locale Market 179 2 nd Ave. N., St. Petersburg, FL 33701 727-523-6300 https://localegourmetmarket.com	\$\$- \$\$\$	American, Seafood, Vegetarian, Vegan
P	2 nd & Second 24-Hour Diner 201 2 nd Ave. N., St. Petersburg, FL 33701 727-440-4700 http://2ndandsecond.com	\$- \$\$\$	American, Breakfast Lunch Dinner
Q	Wooden Rooster 104 2 nd Ave NE, St. Petersburg, FL 33701 727-822-7373 http://thewoodenrooster.com	\$\$- \$\$\$	Café, American, Vegetarian friendly
R	BellaBrava 204 Beach Dr. NE, St. Petersburg, FL 33701 727-895-5515 http://bellabrava.com	\$\$- \$\$\$	Italian, Vegetarian, Vegan options
S	Stillwater Tavern 224 Beach Dr. NE, St. Petersburg, FL 33701 727-350-1019 http://stillwatertavern.com	\$\$- \$\$\$	American, Vegan options, Bar
T	400 Beach Seafood & Tap House 400 Beach Dr. NE, St. Petersburg, FL 33701 727-896-2400 https://www.400beachseafood.com	\$\$- \$\$\$	Steakhouse, American, Seafood, Wine bar

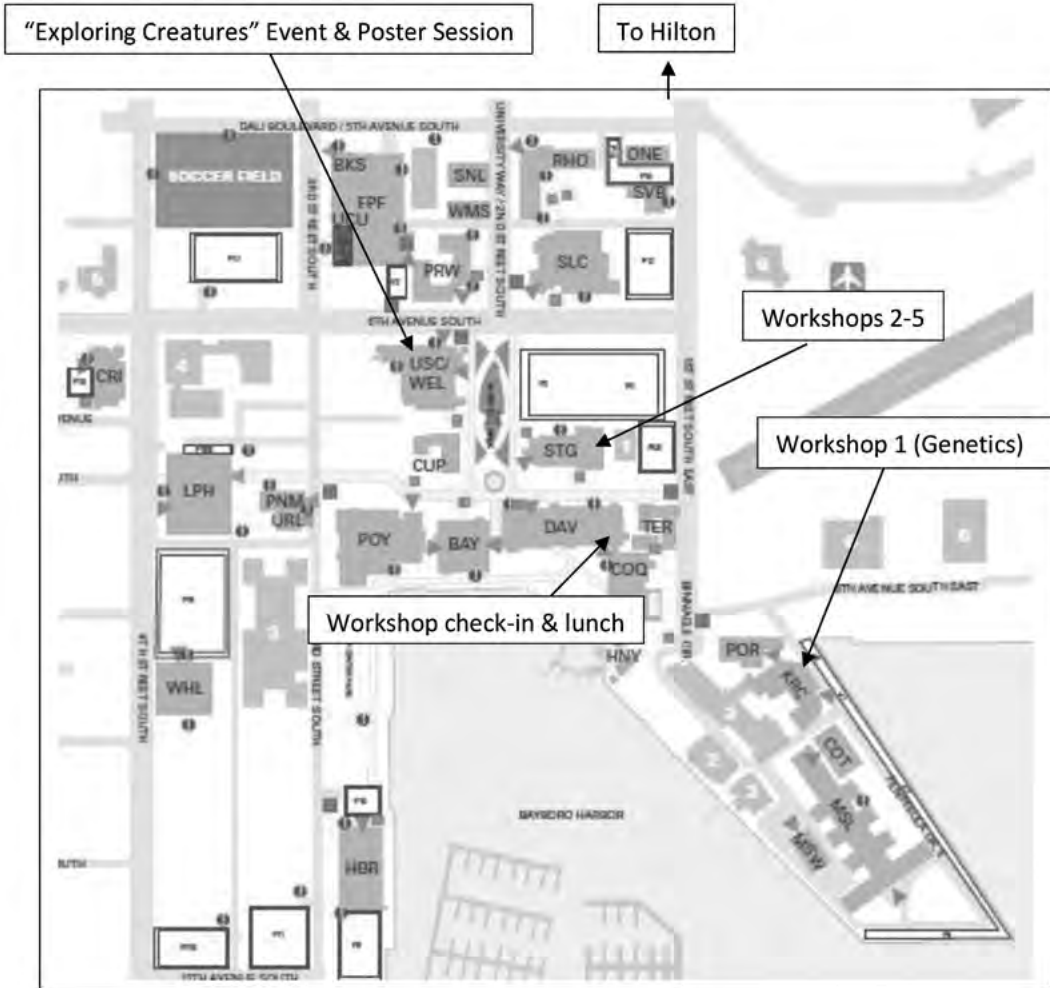
Map of local area: nearby restaurants and bars



Map of Conference Venue- Hilton Bayfront



USFSP Campus Map (Workshops and Poster Session)



Notes

Presentations

To allow the sessions to run smoothly, and in fairness to other speakers, all presentations are expected to adhere strictly to the time allocated (15 minutes). Speakers should designate 2-3 minutes for questions.

Speakers are asked to send their presentations to the conference Dropbox well in advance of their talks. The presentation laptop will be equipped with Windows and Microsoft PowerPoint.

Important: Please name your files: day-time-lastname-session (e.g., Monday-0945-Judkins-lifehistory). You will receive a link to upload your presentations to a Dropbox account. There will be a PC at the podium for all presentations. You will be able to check your presentation prior to your session at the computer stations at the registration table throughout the week. If there are problems uploading prior to the conference, you may bring your presentation to the registration table on a flashdrive to upload on the presentation set-up computers.

Posters

Posters will be displayed in the University of South Florida St. Petersburg University Student Center Ballrooms. Posters can be affixed between 1430-1630 on November 12 and any time after 0900 on Tuesday, Nov. 13th. The poster session will be held on November 13 between 1830-2030, when poster presenters are expected to be available to answer questions. Posters must be removed at 2030 (end of the poster session).

Internet access

Free WiFi access will be available at the workshop and symposium venues.

Social activities

Welcome Reception	November 12, 1730-2030; buses leave at 1645
CIAC Group Photo	November 13, 1700 (outside USFSP USC Building)
Poster Session	November 13, 1730-2030
Field Trips	November 14, various times
Lightning Talks	November 15, 1725-1650
CIAC Celebration Dinner	November 16, 1745-2200; buses leave at 1715

Conference timetable

Saturday, November 10

0730-1630 Workshop Check-In; Workshops (0830 start)

1000-1400 Outreach Event- “Exploring Creatures of the Deep: Squid and Octopus”

Sunday, November 11

0830-1630 Workshops

1630-1930 Registration Check-In; Hilton

1900- CIAC Council Meeting (USFSP STG 115)

Monday, November 12

0800-1645 Welcome Address, Keynote Speaker, Alison Sweeney;
Conference Sessions: Systematics and Biogeography; Fisheries
Management

1730-2030 Welcome reception: The Florida Aquarium

Tuesday, November 13

0800-1645 Conference Sessions: Life History, Reproduction, Culture and Welfare

1700 CIAC Group Photo; Outside USFSP USC Building

1730-2030 Poster Session: USFSP USC Ballrooms

Wednesday, November 14

0715- Field Trips: Swim with Manatees, Kayaking the Hillsborough River, Mote
Marine Laboratory/St. Armands Circle, Ft. DeSoto Beach

1900- CIAC Council Meeting

Thursday, November 15

0800-1645 Conference Sessions: Genetics and Evolution, Behavior, Anthropogenic
Effects

0900-1030 Breakout Session 1: Biodiversity and Taxonomy of Cephalopods from the
Gulf of Mexico and Caribbean Sea; Room: HTC 2

1725-1850 Lightning Talks

1900- CIAC Council Meeting

Friday, November 16

0800-0825

Keynote speaker: Gretta Pecl

0830-1645

Conference Sessions: Physiology
CIAC Conference Closing Remarks

0900-1030

Breakout Session 2: Biological Bases for Octopus Aquaculture (Sisal
Conference 2018); Room: HTC 2

1745-2200

CIAC Celebration Dinner: Gulfport Casino Ballroom

Pre-conference workshops

Before the conference, there will be five workshops (November 10-11). All will be held at the University of South Florida St. Petersburg and the USF College of Marine Science. These venues are two blocks from the conference hotel and walkable. See campus map on page 11.

Workshop 1

Genetic Tools and Live Imaging in Cephalopods

Organizer: Eric Edsinger

This 2-day workshop will cover 1) identifying genes of interest in annotated genomes (discussion and hands-on with computer software), 2) designing transgenic reporters, biosensors, and CRISPR-Cas9 guide RNAs (discussion and hands-on with computer software), 3) injection of mRNA/constructs/CRISPR-Cas9 in one or more cephalopod species (hands-on injection of pygmy squid and/or other species), 4) live imaging approaches for light-based genetic tools (discussion and hands-on live imaging of fluorescent dyes, proteins, and/or biosensors), and 5) applications of genomic resources and genetic tools to cephalopod biology, emerging genetic models, and other future prospects (discussions). The workshop will produce a number of embryos and hatchlings expressing injected mRNAs, transgenic constructs, or genome edited genes which could possibly lead to a co-authored publication.

Workshop 2

Paralarval and juvenile cephalopods: an updated identification guide

Organizers: Erica Vidal, Liz Shea, Heather Judkins

“The “Larval” and juvenile cephalopods: A manual for their identification”, was published in 1992 and is outdated, as several recent publications have broaden our knowledge of the taxonomic status of cephalopods early life stages. The provisional identification key provided in that manual has several problems and badly needs a revision. Thus, the goal of this workshop is to compile and synthesize existing taxonomic information to create an update identification guide of cephalopods early life stages. Currently, the identification of early stages of many species is problematic and any improvement in this regard will promote a better understanding of the life cycles and population dynamics of these species. This workshop also would be an excellent opportunity to disseminate knowledge on the identification of cephalopods early life stages among the participants with a “hands on” approach. The expected output from this workshop is creating a publication of an identification guide for paralarval and juvenile cephalopods.

Workshop 3

Hard structures of cephalopods and their application in your field of study

Organizers: Alexander I. Arkhipkin, Catalina Perales-Raya, Fedor Lischenko

For several decades, hard structures of cephalopod mollusks have been used as practical and reliable tools in a wide variety of studies. Nowadays the age, growth and maturity rates could be estimated using increments on statoliths, beaks or vestigial shells, taxonomic or even population affiliation of individual could be determined by the shape of hard structures. Moreover, hard structures alone could provide enough data to describe the animal's life cycle. At the moment the amount of information about species biology which could be obtained using hard structures, is

literally staggering. It is easy to get confused in such a variety of methods and approaches. To solve this problem, we are going to discuss at this working group the modern challenges of cephalopod's hard structures use and the latest achievements in this sphere. In addition to that, hands-on course of hard structure application for ageing and taxonomic studies is planned. Expected product from discussion part of workshop is the article on modern methods of hard structures use, expected product from the second part of workshop - practical skills of age estimation and shape analysis obtained by participants.

Workshop 4

The biogeochemical role of cephalopods in the world's oceans

Organizer: Henk-Jan Hoving

Cephalopods perform extensive vertical and horizontal migrations, they are key organisms in the oceanic foodweb as predators and prey, they have high growth and metabolic rates and they typically are monocyclic, which in combination with mating and spawning aggregations may result in mass mortality events. All these aspects of cephalopod behavior and life history suggest that they are significant components of the energy flow and biogeochemical cycle of the world oceans. This workshop aims to bring scientists together who have an interest in the role of cephalopods in ocean biogeochemistry. During this workshop we will discuss several topics related to energy transfer and biogeochemistry (e.g. migration, consumption, respiration and excretion, terminal spawning), and participants are invited to give a short presentation, followed by a discussion. This will form the basis for a peer reviewed review article on the biogeochemical role of cephalopods.

Workshop 5

Cephalopod Science: the direction of future research and the relevance of new policies

Organizers: Giovanna Ponte, Ian Gleadall, Graziano Fiorito

- (1) A brainstorming session to identify likely avenues for novel ground-breaking research and their potential effects on and benefits to human society.
- (2) A discussion on the changes in policy for, e.g. experimentation on (and fisheries of) cephalopods occurring in different regions of the world and the potential effects of these changes on cephalopod research in both global and local contexts.
- (3) Preparations for a white paper to summarize and report on (1) and (2).

Conference Breakout Discussions

Breakout Session 0900~1030 Thursday Nov. 15, 2018

Biodiversity and Taxonomy of Cephalopods from the Gulf of Mexico and Caribbean Sea

A number of fisheries surveys have been conducted in the Gulf of Mexico (GoM) and Caribbean waters but certainly for cephalopods there seem to have been few surveys of littoral to sublittoral species, so the cephalopod fauna of this region is poorly known. Biogeographically, this is a very interesting and complex region that promises to yield interesting new findings concerning its cephalopod biodiversity. The highly destructive hurricane season of 2017 devastated many parts of the region, making it impractical to conduct a systematic collecting expedition (and since many animal communities will also be recovering from dramatic losses, such an expedition at the present time is ethically questionable). This breakout session will summarize current knowledge and recent findings on the diversity of cephalopods (particularly octopuses) in this region and discuss directions for future collecting, collaboration and research.

Programme (Chair: Ian G. Gleadall)

- 0900 Introduction: Outline of GoM and Caribbean cephalopod biodiversity
- 0910 Summary of the presentations at the Sisal Conference (Nov. 5, 2018).
- 0930 Discussion: Focus for future research effort to advance the field.
- 1000 Discussion: Future collecting in the GoM and Caribbean regions.
- 1025 Closing remarks

Breakout Session 0900~1030 Friday, Nov. 16, 2018

Biological Bases for Octopus Aquaculture (Sisal Conference 2018)

The life cycle of the common octopus was first completed artificially in Japan and reported in 1963. Since then, there has been an explosion both in the exploitation of natural octopus populations and in research into aquaculture techniques. Today, fisheries exploitation threatens to bring about the collapse of natural cephalopod populations, and there is an accelerating demand for aquaculture, but commercially successful large-scale aquaculture of octopuses has yet to be achieved. Success has been achieved recently for other organisms which previously had proved difficult, such as eel and tuna, both of which, like many octopus species of commercial interest, have complex developmental cycles involving prolonged planktonic larval stages. It can therefore be considered that it is only a matter of time before successful octopus aquaculture will be established. This breakout session will consider the present status of octopus aquaculture and identify what is required to achieve reliable, commercial success.

Programme (Chairs: Ian Gleadall and Carlos Rosas)

- 0900 Introduction: Aquaculture conference (Sisal, Mexico; Nov. 5 2018) outline.
- 0910 Summary of major advances in cephalopod aquaculture since CIAC2012
- 0920 Summary of the main problems obstructing the octopus aquaculture industry
- 0930 Discussion: Focus of future research effort to advance the field
- 1000 Discussion: Future international collaboration and information exchange
- 1025 Closing remarks

Keynote Speakers

Monday Keynote Speaker

Alison Sweeney



Alison Sweeney was initially trained in organismal biology at Illinois Wesleyan University. She then joined Sonke Johnsen's organismal biophysics lab at Duke University, where she completed a Ph.D. thesis on the evolution of the lens proteins in squid. In her postdoctoral work in the Morse group at UCSB, she worked on camouflage and self-assembling optical devices in many species of midwater squid. As an associate professor in the Department of Physics & Astronomy at the University of Pennsylvania, her group is currently working on the physics of self-assembly of the S-crystallins and reflectin proteins that comprise these devices.

Friday Keynote Speaker

Gretta Pecl



Gretta Pecl is a Professor of marine ecology with broad interdisciplinary research interests and a passion for science engagement and communication with the public. Much of her current research centres around understanding climate change impacts in marine systems, and how our marine industries and communities may best adapt to these changes. Gretta has spent much of her career examining the life history, fisheries biology and ecology of inshore cephalopods and uses cephalopods as a focus in her climate change research. She is the Director of the Centre for Marine Socioecology at the University of Tasmania, and is a Fulbright Fellow, an ARC future fellow, and the Editor in Chief of the international journal "Reviews in Fish Biology and Fisheries".

Conference Program

Monday, November 12, 2018

0800 *Welcome addresses*

- **Erica Vidal**, CIAC President
- **Martin Tadlock**, USFSP Chancellor
- **Heather Judkins**, CIAC 2018 Chair
- **Alison Sweeney**, Keynote Speaker

Session 1: Systematics and Biogeography

Chair: **Elaina Jorgensen**

0845 **Nik Lupse, Mandy Reid, Tsunemi Kubodera, Morag Taite, Louise Allcock**

Molecular systematics of the family Sepiidae

0900 **Heather E. Braid, Kat S. R. Bolstad**

Cephalopod biodiversity of the Kermadec Islands: implications for conservation

0915 **Otilio Avendaño, Iván Velázquez-Abunader, Paulina Guarneros-Narváez, Luis Ángeles-González, Ángel Guerra, Carlos Fernández-Jardón**

Spatio-temporal variation and abundance of the red octopus (*Octopus maya*) in the northeast zone of the Campeche Bank

0930 **Juana Dominguez Lorenzo, José Iván Damas Payro, Leonardo García Hernandez, Susana Camarillo Coop**

Loliginid squids in the coasts of Tabasco, Mexico

0945 **Aaron Boyd Evans**

A revision of the Pacific Cranchiidae: Untangling a giant knot of squid

1000 **Coffee break**

Chair: **Mandy Reid**

1015 **Guanyu Hu, Xinjun Chen**

Temporal variation of statolith elements for Jumbo squid *Dosidicus gigas* off the Peruvian Exclusive Economic Zone

1030 **Tsunemi Kubodera, Kazuhiko Yamada, Takashi Okutani**

A New Species of *Sepia* (Cephalopoda: Sepiidae) from Japan with a Note of Unusual Sexual Display

1045 **Owen C. Nichols, James J. Bisagni**

Offshore Influences on Inshore Squid: Linkages Between Water Mass Dynamics and *Doryteuthis pealeii* Distribution

- 1100 **Ximena Orosco, Patricia Ayón**
Cephalopod paralarvae in the Northern System of the Humboldt Current (NSHC)
- 1115 **C. Perales-Raya, A. Bartolomé, E. Hernández-Rodríguez**
How old are giant squids? First approach to ageing *Architeuthis* beaks
- 1130 **James F. Peyla, Robert D. Podolsky**
A Squid for All Salinities? Distribution of the Euryhaline Squid *Lolliguncula brevis* in South Carolina
- 1145 **Ricardo Pliego-Cárdenas, Frederick G. Hochberg, Unai Markaida, Verónica Castañeda- Fernández de Lara, Francisco J. García De León, Irene de los Ángeles Barriga-Sosa**
Systematic position of Pygmy *Octopus* “Octopus” *fitchi* Berry 1953 and the larger striped octopus (Cephalopoda:Octopodidae)
- 1200 **Lunch**
Chair: **Uwe Piatkowski**
- 1330 **Rui Rosa, Vasco Pissarra, José Xavier, Ian Gleadall, Alexey Golikov, Álvaro Roura, Heather Judkins, Uwe Piatkowski, Michael Vecchione, Roger Villanueva**
Global patterns of coastal cephalopod richness: hotspots and latitudinal gradients
- 1345 **Morag Taite, Michael Vecchione, Sheena Fennell, Louise Allcock**
Larval and juvenile cephalopods from the North Atlantic
- 1400 **Michael Vecchione**
Vertical and small-scale distribution of cephalopods in the Charlie-Gibbs Fracture Zone of the Mid-Atlantic Ridge
- 1415 **Harvey Walsh, David Richardson, Leah Lewis, Liz Shea**
Distribution and Abundance of Cephalopod Paralarvae on the Northeast US Shelf
- Session 2: Fisheries, stock assessment and management**
- 1430 **JM Gornall, MJ Roberts, WHH Sauer**
Could possible environmentally driven changes in the South African Chokka squid spawning behaviour be affecting the sustainability of the fishery?
- 1445 **Samantha H. Cheng, Mark Gold, Dianna Porzio, Paul H. Barber**
Genome-wide SNPs reveal complex fine-scale population structure in the California market squid fishery (*Doryteuthis opalescens*)

- 1500 **Ángel F. González, Elsa García Mayoral, Álvaro Roura Labiaga**
Ageing techniques and genetic studies: towards an improved management of squid populations
- 1515 **Coffee/Tea break**
Chair: **Angel Gonzalez**
- 1530 **Lisa C. Hendrickson, Avijit Gangopadhyay**
Boom or bust: oceanographic factors that influence *Illex illecebrosus* (Northern shortfin squid) abundance on the U.S. fishing grounds
- 1545 **Ana Moreno, Fábio Pereira, Paulo Vasconcelos, Miguel B. Gaspar**
Catches of *Sepia officinalis* in the small-scale cuttlefish trap fishery off the Algarve coast (southern Portugal)
- 1600 **Yumeng Pang, Chih-Shin Chen, Yoko Iwata**
Seasonal comparison of female reproductive traits in swordtip squid (*Photololigo edulis*) among different geographical populations
- 1615 **Warwick Sauer**
World Octopus Fisheries
- 1630 **End of session**
- 1640 **Buses to The Florida Aquarium**
- 1730-2030 **Welcome reception**
2030 **Buses back to the Hilton**

Tuesday, November 13, 2018

Session 3: Life history and role in the ecosystem

Chair: **Annie Lindgren**

- 0800 **Morgane Bonade, Boudjema Imarazene, Laure Bonnaud-Ponticelli**
Development of the dopaminergic system during embryogenesis in *Sepia officinalis* (Cephalopoda) and influence of light
- 0815 **Sergio A. Carrasco, Christian M. Ibáñez, Andrea I. Varela, Javier Sellanes, Martin Thiel**
Early life-history stages provide insights on cephalopod fauna inhabiting oceanic islands in the Juan Fernández and Desventuradas Ecoregion
- 0830 **KSR Bolstad, MO Amsler, C De Broyer, M Komoda, J Miake, H Iwasaki**
Live observations of deep-sea cephalopods in the Western Antarctic Peninsula
- 0845 **Yves Cherel, Pierre Richard, Paco Bustamante**
Use of compound specific isotope analysis of individual amino acids to infer trophic ecology of cephalopods
- 0900 **Chun-I Chiang, Tin-Yam Chan, Chia-Hui Wang**
Application of statolith barium isotopic marking technique and chemistry composition on the dispersal and migration of *Sepioteuthis lessoniana* in Taiwan
- 0915 **Céline Zatylny-Gaudin, Valérie Cornet, Benoit Bernay, Erwan Corre, Gildas Le Corguille, Joël Henry**
Cuttlefish egg: from formation to the embryo hatching.
- 0930 **Angel Guerra, Jorge Hernández-Urcera, Manuel E. Garci, Angel F. Gonzalez**
Identification and characterization of essential habitats for three cephalopod species in the Galician Atlantic Islands National Park
- 0945 **Henk-Jan Hoving**
How in situ observations advance our understanding of life cycles of deep living cephalopods
- 1000 **Coffee break**
Chair: **Rui Rosa**
- 1015 **H. Judkins, M. Vecchione, L. Timm, T. Richards, I. Romero, A. Cook, T. Sutton**
What have we learned since 2011 about cephalopods of the northern Gulf of Mexico?

- 1030 **Uwe Piatkowski, Mardik Leopold, Naomi Tuhuteru, Henk-Jan Hoving, Jerome Spitz**
The Boreoatlantic armhook squid (*Gonatus fabricii*) is the essential food resource of male sperm whales in the northern Atlantic Ocean
- 1045 **Graham Pierce, Natalie Ward, Peter Evans, Begña Santos**
Gonatus fabricii and the North Sea sperm whale trap
- 1100 **Guadalupe Bárcenas, Claudia Caamal-Monsreal, Luciana Guzella, Maite Mascaró, Manuel Mazón-Suástegui, Nicolás Ortiz, Alberto Olivares, Iker Uriarte, Carlos Rosas**
What limits the thermal tolerance of octopus embryos? A study along of latitudinal gradient of some American species
- 1115 **Masayuki Sawamura**
Transition of food habit with increase in body size in Japanese flying squid *Todarodes pacificus* around Hokkaido, Japan.
- 1130 **M. Staudinger, V. Hartigan, E. Jorgensen, H. Judkins, A. Lindgren, E. Shea, M. Vecchione**
Ecological roles and trophic diversity of the cephalopod assemblage near Bear Seamount in the Northwest Atlantic Ocean
- 1145 **Roger Villanueva, Montserrat Coll-Lladó, Oscar Escolar-Sánchez, Fernando Á. Fernández-Álvarez, Pilar Sánchez, Jim Swoger**
Transitional characters to the benthic lifestyle in juvenile merobenthic octopuses
- 1200 **Lunch**
Chair: **Graham Pierce**
- 1330 **Yoshiki Kato, Hideyuki Yamashita, Siri Hakala, Donald Kobayashi, Michael Seki**
Long-term research data shows migration, habitat and lunar effect of *Ommastrephes bartramii*
- 1345 **Carolina C. Araújo, Maria A. Gasalla**
Biodiversity of paralarval cephalopod in the Southeastern Brazilian Bight: richness and spatial-temporal distribution
- Session 4: Reproduction**
- 1400 **Lígia Haselmann Apostólico, José Eduardo Amoroso Rodriguez Marian**
From sneaky to bully: ontogenetic mating tactics lead to ejaculate transition in dimorphic male squid
- 1415 **Yoko Iwata, Noriyosi Sato, Takashi Kasugai, Yoshiro Watanabe, Eiji Fujiwara**
Secret in female arms – how female inseminate her eggs with stored sperm

- 1430 **Jesse Kelly**
 Inferred post-spawning reproductive system morphology in female
Octopoteuthis sicula Rüppell, 1844 (Cephalopoda: Octopoteuthidae)
- 1445 **José Eduardo A. R. Marian, Lígia H. Apostólico, Luiza O. Saad, Renan L. S. Del Bel**
 Revisiting the squid mating system
- 1500 **PW Shaw, NJ McKeown, I Skujina, WHH Sauer**
 Mating tactics, male dimorphism, sperm deposition site and fertilisation patterns
 within broods of a loliginid squid (*Loligo reynaudii*)
- 1515 **Coffee/Tea break**
 Chair: **Michelle Staudinger**
- 1530 **Rodrigo S. Martins, Ricardo de Camargo, Maria A. Gasalla**
 Is the recruitment of the tropical arrow squid *Doryteuthis plei* linked to retention
 processes? A case study case off southeastern Brazil
- 1545 **Noriyosi Sato, Noritaka Hirohashi, Yoko Iwata**
 Why do you have so many seminal receptacles? : The sperm storage pattern in
 the Japanese flying squid *Todarodes pacificus*

Session 5: Culture and Welfare, Cephbase

- 1600 **Penelope Bastos, Carlos Rosas, Pedro Gallardo, Felipe do Nascimento Vieira, Gabriel Braga, Carlos Peres, Luciana Guzella, Fernando D. Brignol, Débora M. Fracalossi**
 Pelleted diet with thermal treatment of ingredients for *Octopus vulgaris* type II
 ongrowing: zootechnical performance and digestive enzymes
- 1615 **Jennifer Hammock**
 The online biodiversity data landscape and what it means for CephBase
- 1630 **End of session**
- 1700 **CIAC Group Photo (outside USFSP University Student Center)**
- 1730-2030 **Poster Session; USFSP University Student Center Ballrooms**

Wednesday, November 14, 2018

- Field Trips** **All depart from the front of the Hilton Bayfront**
0715 Swim with the Manatees Field Trip departure
- 0730 Kayaking the Hillsborough River departure
- 0845 Mote Marine Laboratory and St. Armands Circle departure
- 0900 Ft. Desoto Beach departure
- 1900- **CIAC Council Meeting (HTC 1)**

Thursday, November 15, 2018

Session 6: Genetics and Evolution

Chair: **Erica Vidal**

- 0800 **Elena A. Ritschard, Robert R. Fitak, Oleg Simakov, Sönke Johnsen**
Genomic signatures of GPCR expansions reveal step-wise functional evolution of cephalopod sensory organs
- 0815 **Hannah Schmidbaur, Akane Kawaguchi, Jamie Foster, Elly Tanaka, Spencer Nyholm, Oleg Simakov**
Genome reorganization and the evolution of cephalopod novelties in the Hawaiian bobtail squid, *Euprymna scolopes*
- 0830 **Hannah Schmidbaur, Caroline B Albertin, Z. Yan Wang, Therese Mitros, Oleg Simakov, Clifton Ragsdale, Daniel Rokhsar**
Genomic “big bang”: Chromosomal-scale assemblies reveal fusion- and fission-rich history during cephalopod karyotype formation
- 0845 **Inger E. Winkelmann, M. Thomas P. Gilbert**
A Molecular Search for the Giant Squid Continued: Going Nuclear
- 0900 **Yan Tang, Ran Xu, Xiaodong Zheng**
Phylogeny of Octopods in coastal waters of China by complete mitochondrial genomes and exploration of the optimal method for phylogenetic analysis
- 0915 **Caroline B Albertin, Z Yan Wang, Therese Mitros, Hannah Schmidbaur, Oleg Simakov, Daniel S Rokhsar, Clifton W Ragsdale**
Gene family expansions in the evolution of cephalopod novelty
- 0930 **Frank E. Anderson, Annie R. Lindgren**
Disentangling the decapodiforms: can currently available genome-scale data resolve squid and cuttlefish phylogeny?

0945 **Alexander Arkhipkin**
Divergence and convergence in evolution of sensory organs in cephalopods and fish

1000 **Coffee/Tea break**
Chair: **Inger Winkelmann**

1015 **Vladimir Laptikhovsky, Svetlana Nikolaeva, Mikhail Rogov, Dirk Fuchs**
Reproduction of coleoid cephalopods from Paleozoic to Recent

1030 **Mathieu D. M. Renard, Kirsten Peramba, Takeshi Kasugai, Masa-aki Yoshida, Eric Edsinger**
Establishing a novel model organism for cephalopods: Development of genetic tools in pygmy squids

Session 7: Behavior

1045 **Roger Hanlon**
Rapid adaptive camouflage in cephalopods

1100 **Jennifer KK Hofmeister, P Ed Parnell, Paul K Dayton, Shelby K Kawana, Benjamin J Walker, Cynthia A Catton, Ian Taniguchi, Derek Stein, Kathleen A Sowul, Laura Rogers-Bennett**
Stalking the stalkers: an integrative approach to understanding octopus movement and predatory response

1115 **Eduardo Sampaio, Simon Gingins, Rui Rosa**
Decision-making, communication, and cognition in interspecific cooperative hunting between octopus (*Octopus cyanea*) and fishes.

1130 **Kerry Perkins**
Effects of viewing conditions on camouflage in *Sepia officinalis*

1145 **Caitlin O'Brien, Graziano Fiorito**
“Model” Behavior? Temperamental differences in *Octopus vulgaris*

1200 **Lunch**
Chair: **Roger Hanlon**

1330 **Jennifer Mather, Claudio Carere, Graziano Fiorito**
Octopus mirror recognition

1345 **Ryuta Nakajima, Chikatoshi Sugimoto, Zen Amida, Yuzuru Ikeda**
Diversity in body pattern development within the species complex of juvenile Bigfin reef squid, *Sepiotheuthis lessoniana* from Okinawa archipelagos Japan

Session 8: Anthropogenic Effects

- 1400 **Casey Zakroff, Aran Mooney**
 Stress responses and variability in hatchling squid, *Doryteuthis pealeii*, reared under acidification and warming
- 1415 **Vijai Dharmamony, Ben P. Harvey, Kunshan Gao**
 A meta-analysis of physiological responses of cephalopods to ocean acidification
- 1430 **Kirt Onthank**
 The One-Two Punch: A tale of CO₂, temperature and octopus physiology
- 1445 **Alexey V. Golikov, Yves Cherel, Louise Allcock, Rui Rosa, Rushan M. Sabirov, Martin E. Blicher, José C. Xavier**
 Biodiversity, distribution and ecological role of cephalopods in the Arctic and Antarctic marine ecosystems under a changing ocean
- 1500 **J. M. Githaiga-Mwicigi**
 Which environmental variables have the most impact on South Africa's squid fishery in a changing climate?
- 1515 **Coffee/Tea Break**
 Chair: **Mike Vecchione**
- 1530 **Thành Nguyễn, Paco Bustamante, Alain Manceau, Jerome Spitz, Nathalie Bodin, Yves Cherel, Thomas Lacoue-Labarthe**
 Validation of cephalopod beaks to monitor Hg in the Ocean
- 1545 **Françoise D. Lima, Tatiana S. Leite, Sergio M. Q. Lima, Sylvia Limi de Souza Medeiros**
 Global climate changes over time shaping the ecological niche of *Octopus insularis* Leite and Haimovici, 2008 in the Atlantic Ocean
- 1600 **Alexandra Lischka, Chris Pook, Kat Bolstad**
 Metals in the pelagic squid *Nototodarus sloanii* (Ommastrephidae) from the Chatham Rise, New Zealand
- 1615 **Yasunori Sakurai**
 Recent decline in winter stock of Japanese flying squid, *Todarodes pacificus* related to climate change during winter-spring
- 1630 **Wei Yu, Xinjun Chen**
 Ocean warming-induced range-shifting of potential habitat for jumbo flying squid *Dosidicus gigas* in the Southeast Pacific Ocean off Peru

- 1645 **Nefertiti Taydé Roldán-Wong, Karen A. Kidd, Bertha Patricia Ceballos-Vázquez, Marcial Arellano-Martínez**
 Is there a Risk to Humans from Consuming Octopus Species from Sites Polluted with Metals?
- 1700 **Michael O. Navarro, Wayne A. Palsson**
 Ocean warming along the coast of the Gulf of Alaska evidenced and tracked by a persistent range expansion of market squid, *Doryteuthis opalescens*
- 1715 Session Ends
- 1725 **Lightning Talk Introduction**
 Chairs: **Liz Shea and Louise Allcock**
- 1730 **Kathleen Ritterbush, Nicholas Hebdon, Olivia Jenkins**
 The Quick and the Dead: Measuring the hydrodynamic cost of extinct ammonite shells
- 1735 **Chengyi Xu**
 Adaptive Infrared Camouflage Inspired by Cephalopods
- 1740 **Astrid Deryckere, Eve Seuntjens**
 How to expand your invertebrate brain: are stem cells key to solve the cephalopod enigma?
- 1745 **Nancy F Alvarez, Alfonso R Condal, Ivan Velazquez-Abunader, Pedro-Luis Ardisson**
 Chromatophores in *Octopus vulgaris* paralarvae from the eastern Campeche Bank: intraspecific variation in their spatial arrangement
- 1750 **Seonmi Jo, Seung-Hyun Jung, Ha Yeun Song, Young Se Hyun, Yu-Cheol Kim, Ilson Whang, Tae-Young Choi**
 Construction of the brain atlas in the long arm octopus, *Octopus minor*
- 1755 **Kieran Murphy, Gretta Pecl, Shane Richards, Jayson Semmens, Julia Blanchard**
 Cephalopod Community Trophic Ecology in Relation to Body-size in an Oceanic Ecosystem
- 1800 **J. Voight, J. Kurth, R. Strauss, J. Strugnell, L. Allcock**
 Clinal descent into the deep sea by octopuses of Graneledone
- 1805 **Giambattista Bello**
 Proposal for a protocol to document cephalopod new records
- 1810 **Christina L. Sagorny, Alexander Ziegler**
 A new species of dumbo octopod from the North Pacific

- 1815 **C. Allen Akselrud, Trevor A. Branch**
Valuing information for sustainable squid fisheries
- 1820 **Arieli Tristão Rézio, Antônio Olinto Ávila da Silva, Felipe Mendonça Pimenta, Ricardo de Camargo, Rodrigo Silvestre Martins**
Recruitment failure of the tropical arrow squid *Doryteuthis plei* linked to anomalous oceanographic conditions during the spawning season
- 1825 **Seung-Hyun Jung, Seonmi Jo, Yong-Hee Han, Kyoung-Bin Ryu, Sung-Jin Cho, Hye Suck An**
Octopus genome provides insights into evolution for physiological adaptations and heart development
- 1830 **Hanna Butler-Struben, Samantha Brophy, Nasira Johnson, Robyn Crook**
Measuring anesthesia effects on the central and peripheral nervous system of cephalopods
- 1835 **Zdeněk Lajbner, Tamar Gutnick, Takahiro Nishibayashi, Fabienne Ziadi, Keishu Asada, Teresa L. Iglesias, Jonathan Miller, Michael Kuba**
Captive breeding of the oval squid (*Aori-ika*; *Sepioteuthis* sp.)
- 1840 **Lele Xu, Daohai Chen, Yongqin Li, Liyun Wang, Yulin Sun, Jing Wen, Juan Zhao**
Can *Sepia pharaonis* be reared on sea roach, *Ligia exotica*, from the first day after hatching?
- 1845 **Jing Wen, Lara Tinacci, P.L. Acutis**
An insight into the Chinese traditional seafood market: Species characterization of cephalopod products by DNA barcoding and phylogenetic analysis
- 1850 Lightning Talks end

Friday, November 16, 2018

Session 9: Physiology

Chair: **Dick Young**

- 0800 **Keynote Speaker: Gretta Pecl**
- 0830 **Giovanna Ponte, Graziano Fiorito**
Octopamine in octopus brain
- 0845 **Xue Feng Wang, Jian Hua Li, Rui Jiang, Jing Yuan Lin, Bi Lin Lui**
Comparative growth increments of gladius surface and cross-sections to estimate *Stenoteuthis oualaniensis* age

- 0900 **Pamela Imperadore, Graziano Fiorito**
Imaging regeneration: exploring the unseen in the adult common octopus,
Octopus vulgaris
- 0915 **Ying Li, Zi-hao Cao, Hai-feng Li, Hui-hui Liu, Zhen-ming Lü, Chang-wen Wu, Chang-feng Chi**
Identification, Characterization, and Expression Analysis of a FMRFamide-Like Peptide Gene in the Common Chinese Cuttlefish (*Sepiella japonica*)
- 0930 **Paola Borgo De la Rosa**
Embryonic Development of the Central Nervous System of Green Octopus
Octopus hubbsorum (Berry, 1953)
- 0945 **F. Lishchenko, A. Bartolomé, A.V. Sykes, C. Perales-Raya**
A novel approach to age estimation of *Sepia officinalis* (Linnaeus 1758)-analysis of beak microstructure
- 1000 **Coffee/Tea break**
Chair: **Janet Voight**
- 1015 **Zhou Fang, Xinjun Chen, Hang Su, Kevin Staples, Yong Chen**
Exploration of statolith shape variation in jumbo flying squid, *Dosidicus gigas*, based on wavelet analysis and machine learning methods for stock class
- 1030 **Matthew A. Birk, Brad A. Seibel**
Do squids breathe through their skin?
- 1045 **Wen-Sung Chung, Nyoman Kurniawan, Justin Marshall**
Unlocking the cephalopod brain
- 1100 **Luis Nahmad-Rohen, Misha Vorobyev**
Behavioural Study of Contrast Sensitivity in Octopus: Evidence of Lateral Inhibition
- 1115 **Gabrielle Winters, Caleb Bostwick, Hannah Weber, Leonid Moroz**
Molecular dissection of Octopus memory circuits- thinking outside of the skull
- 1130 **Ruth Styfhals, Giovanna Ponte, Oleg Simakov, Remo Sanges, Eve Seuntjens, Graziano Fiorito**
Neuronal conversations – The brain of *Octopus vulgaris*
- 1145 **Sarah J. McAnulty, Spencer V. Nyholm**
Catch and Release: differential hemocyte binding in the squid-vibrio symbiosis
- 1200 **Lunch**
Chair: **Roger Villaneuva**

- 1330 **Meng-Wei Lin, Po-Hsuan Sung, Jiun-Hong Chen, Pung-Pung Hwang, Yung-Che Tseng**
Comparative evaluations of acid/ammonium transport machineries in branchial epithelium of cephalopods
- 1345 **Tyson MacCormack, Neal Callaghan, Simon Lamarre, Louise Tunnah, Juan Capaz, Antonio Sykes, William Driedzic**
The cardiac and metabolic effects of taurine in the cuttlefish, *Sepia officinalis*
- 1400 **Gabriela Rodríguez-Fuentes, Fernando Díaz, Claudia Caamal-Monsreal, Luisa Méndez-Can, Nelly Tremblay, Sadot Ramos-Rodríguez, Carlos Rosas, Karen Ortega-Ramírez**
Ontogenetic changes of *O. maya*: morphology, respiratory metabolism and antioxidant defense mechanisms
- 1415 **Giovanna Ponte, Giuseppe Petrosino, Graziano Fiorito, Remo Sanges**
Transposable elements in *Octopus vulgaris* neural transcriptome
- 1430 **Stephanie Chancellor, Rachel Santymire, Eric Edsinger, Kirsten Peramba, David Scheel**
Octopus Hormones: A New Noninvasive Technique to Measure Stress Hormones
- 1445 **Giulia Di Cristina, Pamela Imperadore, Giovanna Ponte, Graziano Fiorito**
Mapping putative nociceptors in *Octopus vulgaris* arm
- 1500 **Cristopher Niell, Judit Pungor**
Neural coding in the octopus visual system
- 1515 **Coffee/Tea Break**
Chair: Natalie Moltschaniwskyj
- 1530 **Marta Solé, Marta Monge, Michel André, Carme Quero**
Protein content of the statocyst endolymph in common cuttlefish (*Sepia officinalis*): an assessment of acoustic trauma after exposure to sound
- 1545 **Ignacio Ruiz-Jarabo, Cristina Barragán-Méndez, Benjamín Costas, Ignacio Sobrino, Juan Miguel Mancera**
Stress-related parameters in plasma and muscle of three species of octopus after fishing
- 1600 **Conference Closing Ceremony**
- 1645 **Conference ends**
- 1715 **Buses to Conference Celebration**
- 1745-2200 **CIAC Conference Celebration** (shuttle back to the Hilton at 2115 as needed)

Posters

Session: Anthropogenic Effects

- P1 **Matthew A. Birk, Erin L. McLean, Brad A. Seibel**
What can squids tell us about marine animal sensitivity to ocean acidification?
- P2 **Adriana García-Rueda, Nelly Tremblay, Claudia Caamal-Monsreal, Nelli Rodríguez, Fernando Díaz, Carlos Rosas**
Physiological and behavioral responses of *Octopus maya* juveniles to environmental temperature regimes
- P3 **Ian Hampton, Jean MW Githaiga-Mwicigi, Stephen J Lamberth, Carl van der Lingen, Grant Pitcher, Dawit Yemane, Michelle Pretorius**
How do you identify marine fisheries most vulnerable to climate change? The squid resource and lessons from South Africa
- P4 **Vanessa M. Lopes, Pedro R. Costa, Rui Rosa**
Cephalopods as vectors of harmful algal bloom toxins
- P5 **Guadalupe Bárcenas Pazos, Laura E. Ibarra García, José M. Mazón Suástegui, Gabriela Rodríguez Fuentes, Ariadna Sánchez, Nelly Tremblay, Carlos Rosas**
Effect of temperature in growth and antioxidant response during embryonic development of *Octopus bimaculoides*
- P6 **Eduardo Sampaio, Catarina Santos, Érica Moura, Eve Otjacques, Marta Pimentel, Rui Rosa**
Cognitive impairments in future oceans: the case of cephalopods and its potential universality
- P7 **Blake Spady, Sue-Ann Watson, Philip L Munday**
The effects of elevated CO₂ on the behaviours and physiology of two cephalopod species
- P8 **Hideo Takahara, Hideaki Kidokoro, Hiroshi Kubota, Yasunori Sakurai**
Effect of temperature on growth and sexual maturation in the young Japanese flying squid, *Todarodes pacificus*

Session: Behavior

- P9 **Gavan Cooke, Andrew Jackson**
What can social humans tell us about social cuttlefish? Citizen science meets cephalopod behavioral ecology
- P10 **Robyn J. Crook**
Behavioral and neurological effects of early life injury in the squid *Euprymna scolopes*

- P11 **Ryan Howard, Robyn Crook**
The effects of injuries on associative learning in *Euprymna scolopes* under predation threat
- P12 **Sylvia Lima de Souza Medeiros, Sidarta Tollendal Gomes Ribeiro, Tatiana Silva Leite**
Description of sleep and learning behavior in two octopus species: *Octopus cf. vulgaris* and *Octopus insularis*
- P13 **Eduardo Sampaio, Catarina Ramos, Bruna Bernardino, Maela Bleuven, Marta Augustin, Vanessa Madeira, Rui Rosa**
Social learning in *Sepia officinalis*: Testing inhibition of predatory behavior and primed goal directed behavior
- P14 **Xiaodong Zheng, Jinhai Wang**
An *Octopus minor* characterization of predation behavior adaptability with a novel signal display

Session: Conservation and Biodiversity

- P15 **Tatiana Silva Leite, Françoise Dantas de Lima, Sérgio Lima**
A new species of pygmy octopus of the genus *Parooctopus* (Octopodidae) found in antropic debris in southeastern Brazil

Session: Culture and Welfare

- P16 **Keishu Asada, Tamar Gutnick, Takahiro Nishibayashi, Fabienne Ziadi, Zdenek Lajbner, Teresa Iglesias, Jonathan Miller, Michael Kuba**
Improving keeping and welfare for captive *Octopus cyanea* trough environmental enrichment
- P17 **Cristina Barragán-Méndez, Ignacio Ruiz-Jarabo, Benjamín Costas, Juan Miguel Mancera, Ignacio Sobrino**
Development of a system for the maintenance of octopus on board of oceanographic vessels: evaluation of the survival rates after bottom-trawling
- P18 **Adam Daw, Gregory J. Barord, Roger T. Hanlon**
Post-mortem: The National Resource Center for Cephalopods (NRCC), 30 years of cephalopod aquaculture and research
- P19 **Jeffrey Jolly, Chikatoshi Sugimoto, Gustavo Sanchez, Oleg Simakov, Daniel Rokhsar**
Towards a laboratory suited cephalopod: laboratory culture of Indo-Pacific Bobtail Squids

Session: Fisheries, stock assessment and management

- P20 **Otilio Avendaño, Iván Velázquez-Abunader, Ángel Guerra**
Changes in catch trends and distribution type of the common octopus *Octopus vulgaris* in the continental shelf of the Yucatan Peninsula

- P21 **Gregory J. Barord, Peter D. Ward**
Development of the first, managed nautilus fishery to save Nautiluses
- P22 **Vladimir Laptikhovsky, Christopher Barrett, Daniel Oesterwind**
Summer-spawning *Loligo vulgaris* in the North Sea: the story of a disappeared stock or a reverse of reproductive patterns?
- P23 **Adrian Núñez, Francisco Arreguín-Sánchez, Iván Velázquez-Abunader, Juan Enrique Mendoza, Gustavo De la Cruz, Victor Gómez**
Evidencing hurricanes effect on octopus catches in the Campeche Bank, Mexico
- P24 **J.G. González-Lorenzo, B. Sotillo, A. Jurado-Ruzafa, S. Jiménez-Navarro, E. Hernández-Rodríguez, C. Perales-Raya**
Cephalopods in multispecies small-scale fisheries: Case study of the Canary Islands
- P25 **Anne Marie Power, Mark Johnson, Louise Allcock, Graham Pierce, Cristina Pita, João Pereira, Sebastian Villasante, Ignacio Sobrino, Jean-Paul Robin, Sadie Davoren , Anne O’Leary**
Ceph’s and Chefs - Octopus, squid, cuttlefish, sustainable fisheries and chefs
- P26 **Luis Silva, Alejandro Terrón, Miguel Cojan, Javier Collado, Jorge Rey, José Antonio Canseco**
Cuttlefish *Sepia officinalis* Linnaeus (1758) discard estimates from the main demersal fisheries operating in the Gulf of Cádiz (SW Spain)
- P27 **Luis Silva, Sergio José, Arone Salença, Tagir Quibuana, Guadalupe Martín**
Small scale fishery for *Sepioteuthis lessoniana* Férussac 1831 in Cabo Deldago, North Mozambique (Indian Ocean)
- P28 **Mariana Zamora-Rios, Jorge López-Rocha, Carlos Rosas**
Artificial shelters for reproduction of *Octopus maya*: in the road to sustain the fishery

Session: Genetics and Evolution

- P29 **Otilio Avendaño, Ángel Guerra, Iván Velázquez-Abunader, Carlos Fernández-Jardón, Silvia Salas, Miguel A. Cabrera-Vázquez**
Biometric comparisons in the group "*Octopus vulgaris*" complex: Adaptive strategies of cosmopolitan populations
- P30 **KSR Bolstad, HE Braid, JM Strugnell, AR Lindgren, A Lischka, T Kubodera, VL Laptikhovsky, A Roura Labiaga**
A mitochondrial phylogeny of the family Onychoteuthidae Gray, 1847
- P31 **Heather E. Braid, Kat S. R. Bolstad, Yves Cherel, Fernando Ángel Fernández-Álvarez, Heather Judkins, Tsunemi Kubodera, Saji Kumar, Alexandra Lischka, Michael Vecchione, Roger Villanueva**
Molecular phylogenetic analysis of the squid family Histioteuthidae (Mollusca, Cephalopoda)

- P32 **Tzu-Yun Ching, Kang-Ning Shen, Chih-Shin Chen, Chia-Hui Wang, Atauko Yamaguchi, Naoki Yagishita**
Composite variations in genetic structure, life-history traits, and statolith morphology of *Sepioteuthis lessoniana* populations around Nagasaki prefec
- P33 **Elsa García-Mayoral, Álvaro Roura, Ángel F. González**
Molecular tools to improve the knowledge of loliginid paralarvae and their assessment
- P34 **Amy J.E. Healey, Niall J. McKeown, Warren M. Potts, Warwick H.H. Sauer, Paul W. Shaw**
Understanding the evolutionary history of the *Sepia officinalis* species complex
- P35 **Oscar E. Juárez, Laura López-Galindo, Leonel Pérez, Fernando Díaz, Carlos Rosas, Clara Galindo-Sánchez**
Effect of fast temperature shifts and prolonged heat exposure over the metabolic performance and gene expression of *Octopus maya* juveniles
- P36 **Oscar E. Juárez, Laura López-Galindo, Leonel Pérez, Carlos Rosas, Clara Galindo-Sánchez**
Transcriptomic analysis of *Octopus maya* white bodies show sex-specific signaling processes during reproduction
- P37 **Veronique Merten, Thorsten Reusch, Oscar Puebla, Uwe Piatkowski, Till Bayer, Henk-Jan Hoving**
Assessment of cephalopod biodiversity and distribution around the Cape Verde Archipelago using environmental DNA
- P38 **Liyun Wang, Lele Xu, Yongqin Li, Jing Wen, Yulin Sun, Juan Zhao, Daohai Chen**
De novo assembly of cuttlefish (*Sepiella japonica* Sasaki) transcriptome during different embryogenesis period based on RNA-Seq data
- P39 **Inger E. Winkelmann**
New frontiers: The potential applications of eDNA in cephalopod science
- P40 **Masa-aki Yoshida, Risa Ikai, Davin H. E. Setiamarga**
Reacquisition of Argonaute outer shells on the octopus genetic background
- P41 **Henry, Ouali, Zannutini, Zatylny-Gaudin**
PEPTRAQ: a new data analysis tool for searching through -omics databases

Session: Life History, Ecosystem Roles

- P42 **Kohsuke Adachi, Mitsuhiro Nakaya, Takashi Yanagimoto, Tuneso Goto, Hideo Takahara, Katsuji Morioka, Jun Yamamoto, Yasunori Sakurai**
The links between the bacterial profiles of seawater, feces, and egg masses of *Todarodes pacificus* in an aquarium

- P43 **L.E. Ángeles-González, C. Yañez-Arenas, C. Rosas, J.A. López-, P.V. Guarneros Narvaez**
 Relationship of the relative abundance of *Octopus maya* and its environmental suitability in the Yucatan Peninsula, Mexico by a maximum entropy model
- P44 **Matthew A. Birk, Erin L. McLean, Brad A. Seibel**
 How do mesopelagic octopods breathe in oxygen minimum zones?
- P45 **Rubén Melvyn García-Guillén, Roxana De Silva-Dávila, Raymundo Avendaño-Ibarra, Jaime Gómez-Gutiérrez**
 Cephalopod paralarval community of the Northwest Mexican Pacific
- P46 **Pedro Gallardo, Israel Santiago, Carlos Rosas, Ariadna Sanchez, Pedro Domingues, Cristina Pascual, Claudia Caamal, Maria Eugenia Chimal**
 Effect of semi-moist and dry food in the nutritive, digestive and respiratory response of juveniles of the red octopus *Octopus maya*
- P47 **Roberto González-Gómez, Piedad S. Morillo-Velarde, César Meiners-Mandujano, Unai Markaida**
 First approach to the population structure and reproductive dynamics of *Octopus insularis* in the Veracruz Reef System (Mexico)
- P48 **Jennifer KK Hofmeister, JoMarie Alba, Laura Rogers-Bennett**
 Prey-handling and preference of octopus on red abalone (*Haliotis rufescens*) and potential impacts on recovering abalone populations
- P49 **Renato Junqueira de Souza Dantas, Tatiana Silva Leite, Cristiano Queiroz de Albuquerque**
 The trophic role of *Octopus insularis* in the food web of Rocas Atoll, Southwest Atlantic
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- P88 **Mong-Fong Lee, Shin-Yu Lee, Jing-Duan Huang, Chung-Cheng Lu**
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- P95 **Noriyosi Sato, Tsuda Seiichirou, Masa-aki Yoshida, Noritaka Hirohashi**
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- P97 **Hau-Wen Li, Chih Chen, Ching-Fong Chang, Guan-Chung Wu**
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- P98 **Juan Zhao, Yulin Sun, Jing Wen, Lele Xu, Yongqin Li, Liyun Wang, Daohai Chen**
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- P103 **Gabriela Castillo-Estrada, Unai Markaida, Roxana De Silva-Dávila, Laura Carrillo, Lourdes Vázquez-Yeomans**
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- P104 **Celso Cedillo-Robles, Ricardo Pliego-Cárdenas**
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- P106 **Roxana De Silva-Dávila, Raymundo Avendaño-Ibarra, Richard E. Young, Frederick G. Hochberg, Martín E. Hernández-Rivas**
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- P108 **Oscar Escolar-Sánchez, Fernando Á. Fernández-Álvarez, Roger Villanueva**
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- P114 **Tatiana S. Leite, Manuel Haimovici, Luiz Fernando Martins, Maíra Carneiro Proietti**
 Cephalopods of the continental slope of northeastern Brazil, with description of a new incirrate octopod.
- P115 **F. Lishchenko, L. Silva, A. Bartolomé, A. Juarez, C. Perales-Raya**
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- P116 **Ana Moreno, Pedro Gomes, Inês Farias, Uwe Piatkowski**
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- P119 **Ricardo Pliego-Cárdenas, Scarlett Munguía-Prieto, Marco A. Apón, Unai Marcaida, Irene de los Ángeles Barriga-Sosa**
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- P120 **David E. Richardson, Tristan Strange, Harvey Walsh, Katey Marancik**
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- P121 **Elizabeth K. Shea, Rosemary Ginzberg, Martha S. Nizinski**
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- P122 **Morag Taite, Jim Drewrey, Louise Allcock**
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- P123 **Fernando A. Fernandez-Alvarez, Kathrin S.R. Bolstad, Heather E. Braid, Manuel Haimovici, Chingis M. Nigmatullin, Pilar Sánchez, Roger Villanueva**
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