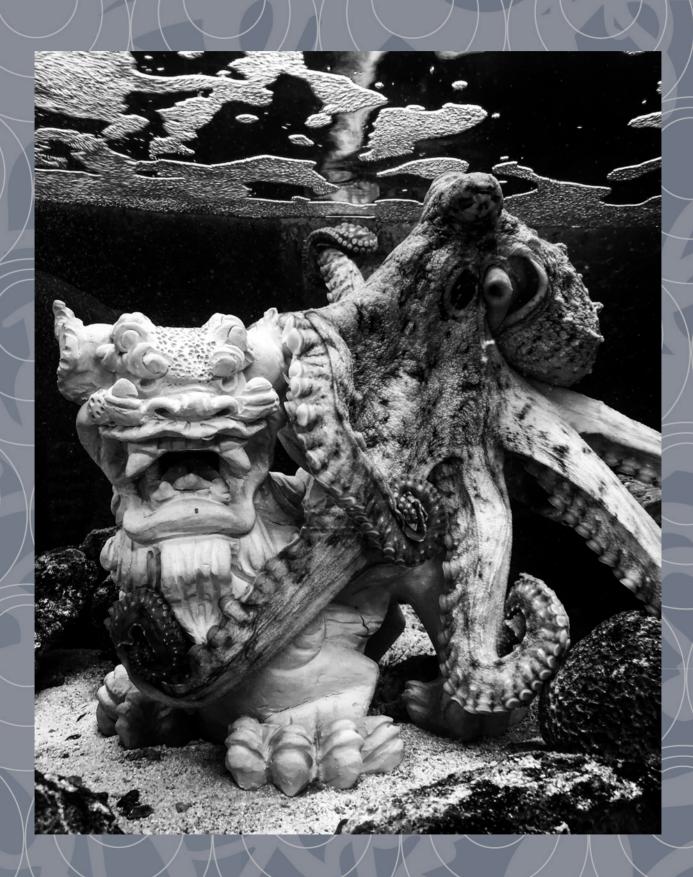


# CIAC 2025 in OKINAWA

# COMPLEXITY & BEAUTY OCTOBER 25th -NOVEMBER 1st 2025





## PROGRAM BOOK

Cephalopod International Advisory Council Conference







October 25th – November 1st, 2025 Onna, Japan



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#### Welcome to the 2025 CIAC Conference



Dan Rokhsar and I welcome you to Okinawa and the Cephalopod International Advisory Council (CIAC) Conference 2025. First, we would like to express our deep gratitude to the Okinawa Convention and Visitors Bureau and the Okinawa Institute of Science and Technology Graduate University for their generous support, which made this conference possible. We also wish to acknowledge the corporations and individuals who generously sponsored the conference and AE Planning, which helped administer it. The theme of this conference is "Recent Advancements in Cephalopod Research: Beauty and Complexity." There is increasing interest in cephalopods from both scientific and cultural communities; we recognize cephalopods as a "boundary object" that bridges various fields, including fishery science, conservation, behavior, and art, while presenting the most recent advancement in cephalopod research and providing an opportunity for future collaboration.

At this year's conference, we are thrilled to announce four pre-conference workshops: "Session 1: Cephalopod Fisheries Management - Underlying Triggers and Assumptions for Data-Limited Stocks," "Session 2: The Cryptic Biodiversity of Cephalopods - State of the Art and Future Trends," "Session 3: Cephalopod Health Management," and "Session 4: Artificial Intelligence - Unlocking New Frontiers in Cephalopod Research." The program also features a panel discussion titled "The Devilfish's Advocate: Cephalopods as Models, Wonders, and Food." The keynote speakers for the conference include internationally acclaimed scholars: Prof. Yoko Iwata (Tokyo University), Gilles Laurent (Max Planck Institute), Michele Nishiguchi (Department of Molecular and Cell Biology, UC Merced), and Jan Strugnell (James Cook University). Additionally, there will be a public lecture by Dr. Tsunemi Kubodera (National Museum of Nature and Science). Alongside the academic content, the conference showcases two art exhibitions featuring internationally recognized underwater photographer Ryo Minemizu and thirteen local artists at two locations.

CIAC provides a wonderful opportunity to welcome students and early-career researchers entering this vibrant field and community. It also serves as a platform for many to reconnect with friends, colleagues, and mentors from around the world for future collaboration and exchange, promoting further advancements in cephalopod research and innovations while enjoying the breathtaking nature and rich culture of Okinawa. Lastly, we thank all the volunteer staff and the local community for their support of the conference. Welcome to the CIAC 2025 in Okinawa! We wish you a wonderful time!

Ryuta Nakajima, PhD University of Minnesota Duluth

Dan Rokhsar, PhD University of California Berkley



#### Welcome message from the president of OIST



On behalf of the Okinawa Institute of Science and Technology, I welcome you to CIAC2025!

OIST is a pioneering graduate university that conducts cross-disciplinary research exploring new frontiers of scientific knowledge and educates the next generation of scientific and transformative leaders. We are an international community of world-class researchers with students, postdocs, and faculty, and researchers from around the world.

It is therefore particularly fitting that OIST hosts CIAC2025, which brings together a diverse community of scientists from around the world to discuss a broad range of problems in cephalopod biology. The breadth of your meeting is spectacular, ranging from fundamental questions in genomics, development, neuroscience, behavior, ecology, and evolution to addressing the intersection between these knowledge areas and the critical challenge of maintaining vigorous fisheries in the face of global climate change.

OIST is proud to continue Okinawa's long history of innovation that stems from the thriving trade and cultural exchange of the Ryukyu Kingdom. The OIST Innovation Hub supports science and technology -based startups through a comprehensive range of programs, networks, and resources, fostering both local and global collaborations. I encourage you to learn more about these opportunities.

As you enjoy CIAC2025 I hope you also find time to explore Okinawa and learn more about its history and culture. In addition to its beautiful beaches and reefs, Okinawa is the home to unique flora and fauna. The island preserves ancient customs including unique artisanal pottery, textiles, glassworks, music, and arts. It is home to UNESCO World Heritage sites preserving gusuku architecture, and the birthplace of karate. And don't miss out on Okinawa's unique fusion cuisine!

Have a wonderful conference and enjoy your time in Okinawa. Regards,

Dr. Karin Markides, President Okinawa Institute of Science and Technology



### Welcome message from the president of CIAC



#### Dear colleagues,

On behalf of the organizing committee, it is my great pleasure to welcome you to the 2025 Cephalopod International Advisory Council (CIAC) Meeting, set against the breathtaking backdrop of Okinawa, Japan. This triennial gathering serves as a cornerstone for cephalopod research, conservation, and collaboration, and we are thrilled to have you join us for what promises to be an insightful and inspiring event.

Okinawa, renowned for its rich marine biodiversity and stunning coral reefs, provides an unparalleled setting for discussions on cephalopod biology, behaviour, resource management, biodiversity and conservation of the marine environment, ecology, as well other cutting-edge disciplines. As we convene experts, researchers, early career researchers and cephalopod enthusiasts from around the world, we look forward to dynamic exchanges that will advance our collective understanding and stewardship of these remarkable creatures.

This year's meeting will feature an exceptional line-up of keynote presentations from leading scientists, thought-provoking panel discussions, hands-on workshops, and field excursions. Attendees will have the opportunity to engage in meaningful dialogue, share groundbreaking research, and forge lasting professional connections.

Beyond the scientific agenda, we invite you to immerse yourself in the cultural richness of Okinawa. Take time to experience the region's unique traditions, cuisine, and hospitality. Whether you are a first-time visitor or a returning guest, we are confident that Okinawa's charm and warmth will enhance your stay. We encourage you to participate actively, explore new collaborations, and make the most of the opportunities this meeting offers. Your contributions will be invaluable in shaping the future of cephalopod research. Once again, welcome to the 2025 CIAC Meeting in Okinawa. We wish you a productive, enriching, and enjoyable experience, and we look forward to connecting with each of you in the days ahead.

Prof. Ángel F. González President of CIAC

Happy conferencing! Angel Gonzalez, PhD.

## 島戦

### **Organizers and Sponsors**

**Organizers** 

Conference Chairs Ryuta Nakajima Daniel Rokhsar

Local organizing committee

Yohei Morita Ryuta Nakajima Dan Rokhsar Mariko Shimokawa Tomomi Nishi Yana Maneva

Scientific program committee

Dan Rokhsar Ryuta Nakajima Sam Reiter Angel Gonzalez Yoko Iwata CC Chiao Yoshiki Kato Gerald Pao

1. Biodiversity, population biology, and evolution

Jan Strugnell Mandy Reid Ian Greadall

Vladimir Laptikhovsky

2. Genomics and molecular biology

Carrie Albertin Davin Setiamerga Spencer Nyholm Masaaki Yoshida

3. Neurobiology, behavior

Jennifer Mather Wensung Chung CC Chiao Kristen Koenig

4. Physiology, aquaculture, and fisheries science

Jaruwat Nabhitabhata

Michael Kuba Giovanna Ponte 5. Ecology, life history, and biotic/abiotic interactions

Jose Xavier Erica Vidal Heather Judkins Fedor Lischenko

6. AI, robotics, engineering, and culture

Gerald Pao Letizia Zullo Giambattista Bello

Secretariats

Zdenek Lajbner (Miller unit)

Support Team

**OIST Conference Section** 

OIST PR Section Zdenek Lajbner Mehmet Arif Zoral Mizumo Chiba Chikatoshi Sugimoto

Tatuya Toda Keishu Asada Ryosuke Kimbara Giovanni Masucci

**Sponsors** 

Sumitora Corporation

Keystone Inc.

Suntory Spirits Limited

KURA OSAKANA FARM Co.

HAKKI LLC Lequison

Lifetime Ventures LLC.

Okinawa Convention & Visitors Bureau

Kwahuu Ocean Co.

Moon Beach Gallery & Resort

**Donations** 

Clyde and Ingrid Roper

Takashi Otsubo



#### General information

#### Conference venue:

#### Okinawa Institute of Science and Technology Graduate University

#### What is OIST?

The Okinawa Institute of Science and Technology (OIST) is an interdisciplinary graduate school offering a 5-year PhD program in Science. It was founded by the Japanese government to contribute to science and technology worldwide, attract leading researchers from Japan and around the world to conduct high-quality research, advance the development of a world-class research hub, and nucleate a knowledge cluster that will catalyze technology transfer and industrial innovation in Okinawa.

Address: Okinawa Institute of Science and Technology

1919-1 Tancha, Onna-son, Kunigami-gun

Okinawa, Japan 904-0495 Website: https://www.oist.jp Internet (WIFI) OIST Public

Mapcode navigation system

Enter code 206 159 202\*17 as the destination into your car navigation system.

\*MAP CODE is a registered trademark of Denso Corporation

#### **OPEN HOURS:**

Monday - Sunday (including national holidays) 9:00 - 17:00 Closed for tours Dec. 29 - Jan. 3

Parking: https://www.oist.jp/campus/parking

#### **Emergency**

Police: Call 110

Fire and Medical emergency: Call 119

#### <u>ATM</u>

Bank of Okinawa

Address: 2491-1 Onna, Onna-son

TEL: 098-966-8438

- Bank of Okinawa Level C, OIST Center Building

- Family Mart

Address: 1917 Tancha, Onna-son

TEL: 098-965-6550

- Lawson

Address:: 2581-1 Onna, Onna-son

TEL: 098-966-8058

#### **POST**

Japan Post

One of the most popular postal/mail Service Company Both domestic and international shipping available



#### Categories of stores

#### **Grocery store**

San-A, which has three large "A"s on a yellow background, is Okinawa's major supermarket. Kanehide has two orange birds on a green background. Gyomu Super is a wholesale food store where you can buy big quantities of food at a discounted price. They also sell food products imported from all around the world.

StoreBusiness HoursSan-A9:00am~11:00pmKanehide9:00am~11:00pm

MaxValu 24 hours

Gyomu Super 9:30am~8:00pm Onna kyoudou baiten 9:00am~8:00pm

#### **Drug store**

Drug stores sell over-the-counter drugs, cosmetics, cleaning, and sanitary supplies. Some stores also sell electronics and food at discounted prices. There are pharmacists/certified drug sellers in the stores, so you can ask for assistance if you need it. If you don't understand Japanese, you can write down your symptoms in English on paper and show it to them.

StoreBusiness HoursDrug store Mori9:00am~0:00amDirex9:00am~11:00pmMatsumoto Kiyoshi9:00am~10:00pm

#### Electronic appliance

The major electronic appliance stores in Okinawa have a wide variety of products. You may need to wait a week or two to have your purchased items delivered. They also have booths that sell cell phones and internet service.

Store Business Hours
Edion 9:00am~10:00pm

#### 100 yen shop

100 yen shops are commonly called "hyakkin" in Japanese. If you want to buy supplies and items at a very cheap price, these are the places to go. There are thousands of items sold, but it's better not to expect much on the quality and durability. Daiso is the pioneer of the 100 yen shop industry and has overseas locations.

StoreBusiness HoursDaiso9:00am~10:00pmCan do9:00am~10:00pm

#### Convenience store

You can find convenience stores almost everywhere, sometimes several in a close proximity. Aside from food, snacks, and drinks, you can also buy daily necessities, magazines, buy tickets for events and exhibitions, use the ATM, use the printing service, and pay bills. They are open 24/7, so if you need something very quick, you can rely on them.

Store Business Hours

7-11 24 hours Lawson 24 hours Family Mart 24 hours



#### Restaurants and bars

Vegetarian Restaurants

Sakae Ryoriten

Location:Ishikawa, Uruma

+81 98-964-7733

http://r.gnavi.co.jp/f256200/

Hours: 17:00-24:00, Closed on Tuesdays;

Wine and Veggie [Macro] Location: Mihama, Chatan

098-921-7789

https://www.facebook.com/WINE.VEGGIE.MACRO

Cards accepted Hours: 11:30-24:00

Ukishima-Garden

Location: 2-12-3 Matsuo, Naha

098-943-2100

www.ukishima-garden.com

Cards accepted

Hours: Open every day 11:00-24:00

Gilead Health Café/ Herb Vegetarian Restaurant

Location: Imadomari, Nakijin 098-056-5681 or 080-3943-9180 http://herb.srministry.com

Hours: 12:00-15:00; Closed Friday and Saturday

Vegie Café Shanti

Location: Shuritonokura, Naha

050-1310-3463

http://www.shantiprema.jp/

Hours: Mon-Sat 11:00 AM to 7:00 PM (last order); Tuesday, OPEN 11:00 AM to 4:00 PM, Sun 11:00 AM to 2:30 PM (last

order)

Café bio smile

Location: Nakagami, Yomitan

098-956-4000

http://vegmag.org/shop/bio-smile/

Hours: 11:30-15:00; Closed Wednesday, Thursday, and Friday.

Applemint Café

Location: Maki Port, Urasoe

098-878-4452

http://www.otc.ne.jp/~applemint/

Hours:17:00-23:00, L.O.: 21:30; Closed Sunday and Monday;

Vegetarian Café Choukrane Location: Itoman, Itoman

098-994-8005

http://choukrane.ti-da.net/

Hours: 12:00-16:00; Closed Wednesday. and Thursday.

Goocuru Café Location: Chatan 098-926-5069

http://digicool.org/wp/?p=450

Hours:Closed Tuesday; Hours: 12:00-21:00

Noah Organic Café

Location: Shurionaka, Naha

098-885-7217

http://naha.machitane.net/report.php?id=5698

Hours: 11:30-22:00 (L.O. 21:00)

Café Sprout

Location: Samashita, Ginowan

098-988-9471

http://vegmag.org/shop/sprout/

Hours: Monday - Thursday; 11:30-19:00 (L.O. 18:00); Friday-Sunday

Hours:11:30-21:00 (L.O. 20:00)

Sangmi Okinawa Location: Makishi, Naha

098-868-8726

http://vegmag.org/shop/sangmi-okinawa/ Hours:11:30-21:30; Closed Sundays

Halal Restaurants

Ryukyu Dining Matsuo

Location:1-2-5 Matsuo, Naha-City 900-0014

098-862-0334

Serves Halal shabu-shabu, Okinawan foods with Halal meat, and

non-alcohol spicy sauce.

Ukishima Garden

Location: 2—12-3 Matsuo, Naha City 900-0014 http://ukishima-garden.com/menu/?lang=en

098-943-2100

Prepares island organic vegetable dishes cooked with a touch of

Italian, French and Oriental cuisines.

Yotsutake Dinner Show Restaurant

Locations: Kume Branch:

2-22-1 Kume, Naha City 900-0033

098-866-3333 Kokusai Street

http://www.yotsutake.co.jp/kume/?lang=en

098-863-4444

Enjoy Ryukyu foods with Halal meat while watching the an Okinawa

cultural show.

Krishna Indian Restaurant

Location: Plaza House Shopping Center https://www.facebook.com/KrishnaRestaurant

098-931-0885

Krishna offers delicious Indian food in an authentic and comfortable atmosphere. It is a "no pork" restaurant and uses Halal certified

meat.

Okinawa Fruitsland

Location: 1220-71 Bimata, Nago Shi 905-0005

http://www.okinawa-fruitsland.com/

098-052-1888

One of the best places to experience the subtropics is at Okinawa Fruitsland. The restaurant menu offers a wide selection of meals including BBQ dishes and other delicacies at affordable prices. Hala meals can be prepared for groups and individual tourists.

Turkish Rokanta Kerebekki



Location: 558-2 Onaga, Nishihara-cho, Nakagami-Gun 903-0117 098-944-4747

Delicious Turkish food served in a clean setting with warm and friendly staff. The restaurant has a Halal menu (dinner only) where separate utensils are used for preparing foods.

#### **Local Favorits**

#### Welcome to the world of Sen-bero: Adachiya

"Sen-bero": means "getting merry on 1000 yen" is definitely an useful expression to remember if you're an Izakaya lover. Quite a new concept to Okinawa introduced from the downtown Tokyo izakaya culture, Sen-bero could simply represent izakayas with highly cost performance providing 1000yen set menu, such as Adachiya; considered as a pioneer of the field. Adachiya's 1000 yen set menu features a choice of simmered giblets (Motsuni) or four deep fried skewers (kushiage) and three drinks (excl. bottled beer)! Located in the backstreet of Naha and Park Avenue in Okinawa-city, Adachiya promises you a real down town Tokyo Izakaya experience.

Address: 2-10-20, Matsuo, Naha-shi Open: 6:00~22:00 (Mornig 6:00-10:00)

Adachiya Okinawa City

Address: 1-20-9 Chuo Okinawa-city

Open: 1700-1:00

#### Kijimuna

One of the best and original Taco Rice Omelet (Omutaco) restaurants on the island. The fluffy Omelet over Taco rice is just perfect. Their Omutako is now available in Chatan, Rycom, and Senaga island as well.

Address: 475 Seragaki, Onna

Open: 11:00 - 15:00 (& 18:00 - 20:00 May to Oct)

Closed: Wednesdays

#### **NICENESS**

Delicious Vegan Curry in Nago-city

One of a kind, unique and delicious vegan curry can be found here: Niceness in Nago-city. Beautifully handcrafted interior using scrap materials creates a warm and cozy atmosphere. Would definitely recommend spending a lazy Sunday afternoon there.

Address: 1635-1 Umusa, Nago-city

Open: 11:00 - 16:00 (L.O 15:00) Closed Mon-Wed

uidunchi is a restaurant where you can enjoy Okinawan traditional cuisine and variety of Awamori (Okinawan sake) in a traditional Okinawan house.

There are also two galleries next to the restaurant where they exhibit Okinawan antique objects and their Awamori collections. The restaurant is located along the famouse Kinjo-ishidatami, implies stone pavement which leads to the Shuri castle.

Address: 2-81 Kinjo-cho, Naha, Okinawa

TEL: 098-885-6161

Open: Lunch 11:00 (Last order 16:00) Dinner 17:00 (Last order

23:00)

Cafe Mori no Terrace

This place is a MUST go restaurant when it's sunny. You can see beautiful ocean and the famous Kudaka island which is known as a spiritual island in front of you while you are eating. Also, they have a cozy gallery where they exhibit some paintings by famous Okinawan painters, antique objects, and a huge garden with beautiful flowers. You will never get bored there!

Address: 143- Chinen, Chinen-ji, Nanjo-shi, Okinawa(-

Check location here) TEL: 098-949-1666 Open: 11:00~17:30 Closed every Tuesdays

Shizen-Inu: Amazing Vegan Cuisine and Sweets Located in Yomitan, Shizen-Inu is a vegan Cafe using only fine Okinawan organic vegetables. They open only two days a week so reservation is definitely requited. Meal of the Day: 850yen features colorful and creative dishes made with seasonal ingredients.

https://www.facebook.com/shizeninu/ address: M-1, 183 Furugen, Yomitan-son

Open: Fri and Sat: 11:30 - 15:00

Tel: 090-2715-5774

Petite Boulangerie de Koza: Zazou

This is where you can find tasty pastries and sandwiches: Zazou is a little French-Japanese style bakery located in Okinawa-city. Try their amazing savories like their chicken sandwiches and savory pastries with roasted veggies. They also have lovely Japanese breads such as custard cream or jam buns.

Address: 2-15-1 Chuo, Okinawa-city Opening: 10:00- 19:00 Close: Tuesdays

**RC-GORDIES-OLD-HOUSE** 

Authentic Yet Original: GORDIES OLD HOUSE

Gordies Old House specializes in authentic American burgers, located opposite Kadena Air Base on Route 58. Their whole beef patties prepared with an original recipe and paired with homemade buns. Its classic interior provides the backdrop for enjoying a burger, shake or American breakfast.

House-204913386952321/

Address: 189-1, Mizugama, Kadena-cho Nakagami-gun

Open: 11:00-21:00 Close:Thursdays

pizzeria da ENZO

pizzeria da ENZO offers OIST discount!!

Just show your OIST ID card at the restaurant, you'll get a drink of your choice for free; a glass of beer, a glass wine (red/white), a cocktail or a soft drink. If you are a group of 6 or more, a free bottle of sparkling wine will be on the house!!

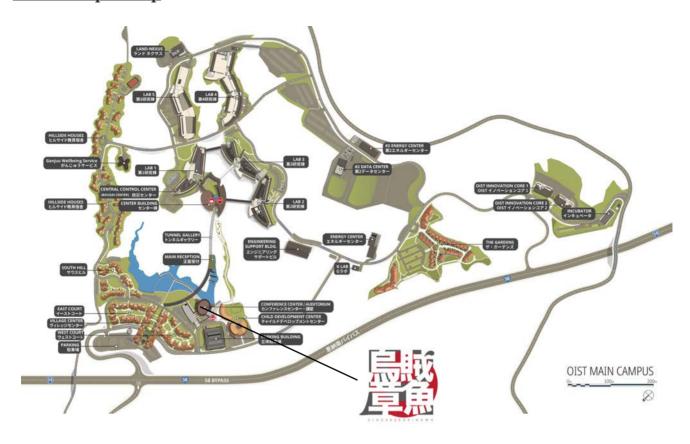
TEL: 098-923-5924

Open: Lunch11:30-15:00 (LO 14:30) Dinner: 17:30-22:00

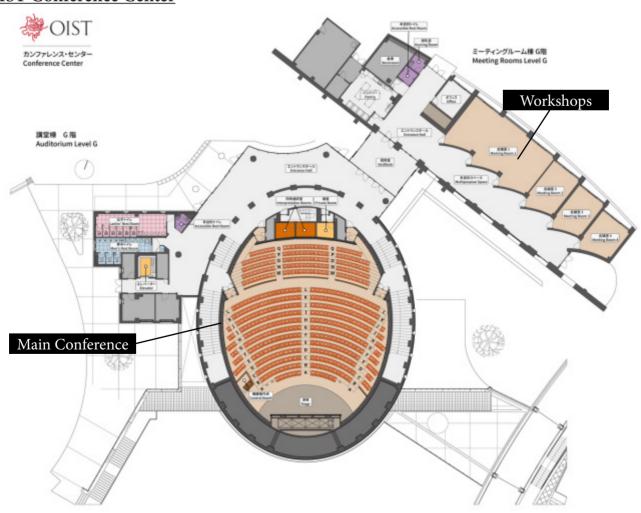
(LO 21:30)



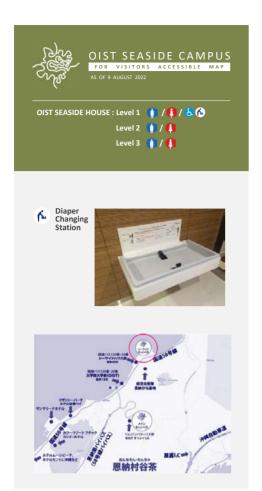
## OIST Campus Map

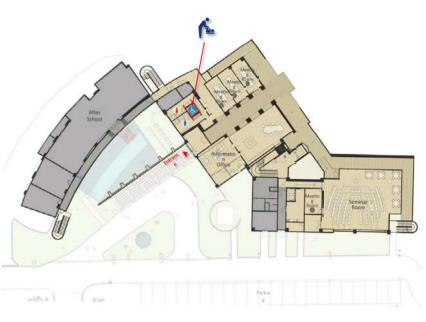


## OIST Conference Center

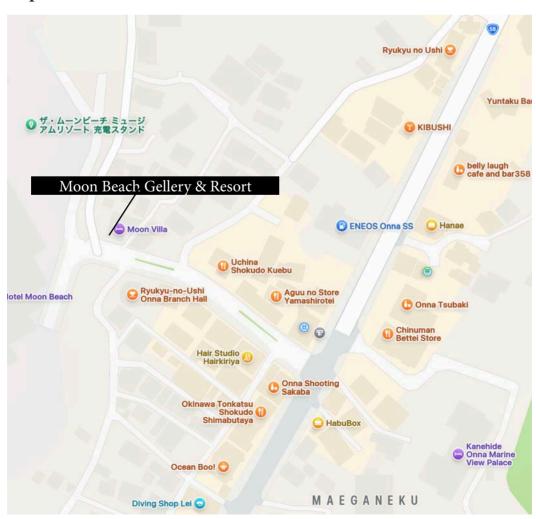








## Maeganeku Map





#### **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 Google Drive 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 (e.g., Monday-0945-nakajima).

You will receive a link to upload your presentations to a Google Drive account. 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 at OIST Tunnel Gallery. Posters can be affixed between 1230-1630 on October 28th and any time after. The poster session will be held on October 28th between 17:30-20:00, when poster presenters are expected to be available to answer questions. Posters must be removed at 20:00 (end of the poster session).

#### Internet access

Free WIFI access will be available at the workshop and symposium venues. Please use "OIST public."

#### Schedule

Welcome Reception/Registration October 26th, 17;00-20:00; (Moon Beach Gallery & Resort) CIAC Group Photo October 27th, 12:30 (outside OIST Auditorium)
Poster Session October 28th, 16:00-18:00
Field Trips October 29th, various times
CIAC Celebration Dinner October 31st, 18:30-21:00; buses leave OIST at 17:30

#### **Art Exhibitions**

Art Exhibition 1: Cephalopods: The Masters of the Ocean (OIST Tunnel Gallery) October 25th-November 3nd

Art Exhibition 2: Squid and Octopus Exhibition (Moon Beach Gallery and Resort)

October 18th-December 14th



# Schedule

	October 25th Saturday	October 26th Sunday	October 27th Monday	October 28th Tuesday	October 29th Wednesday	October 30th Thursday	October 31st Friday	November 1st Saturday
8h00-8h30			Staff Briefing	Staff Briefing		Staff Briefing	Staff Briefing	
8h30-9h00			Talk Dr. Tsunemi Kubodera	Keynote talk Dr. Yoko lwata		Keynote talk Dr. Jan Strugnell	Keynote talk Dr. Michele Nishiguchi	
9h00-10h30	Workshops	Workshops	Oral Presentations	Oral Presentations		Oral Presentations	Oral Presentations	
10h30-11h00	Coffee Break	offee Break/ Staff Briefir	Coffee Break	Coffee Break		Coffee Break	Coffee Break	
11h00-12h30	Workshops	Workshops	Oral Presentations	Oral Presentations Neurobiology, behavior		Oral Presentations	Oral Presentations	Public Talk Tsunemi Kubodera
12h30-14h00	Lunch	Lunch	Lunch/Group Photo	Lunch	Free day	Lunch	Lunch	Lunch
14h00-15h30	Workshops	Workshops closure	Oral Presentations	Oral Presentations		Oral Presentations	Oral Presentations	
15h30-16h00	Coffee Break		Coffee Break	Coffee Break		Coffee Break	Coffee Break	
16h00-17h00		Transportation to Hotel		Oral Presentations		Keynote talk Dr. Gilles Laurent	Closure ceremony Student Oral & Poster Presentations Awards/Beet Paner Award	
17h00-17h30	Workshops		Oral Presentations					
17h30-18h30		Registration, Welcome				Oral Presentations	Transportation to Hotel	
		Opening, (Moon Beach Gallery and Resort)		Poster Session (OIS Tunnel Gallery)	CIAC Council Meeting, (Moon Beach Gallery and			
18h30-20h00					Resort)		Official Symposium Dinner (Moon Beach Gallery and Resort)	
			Art Exhibit	Art Exhibition: Cephalopods: The Masters of the Ocean (OIST Tunnel Gallery)	ers of the Ocean (OISTTun	nel Gallery)		
			Art Exhibition:	: Octopus Squid. Which way is it up? (Moon Beach Gallery and Resort)	is it up? (Moon Beach Galle	ery and Resort)		



#### Conference timetable

#### Saturday, October 25th, 2025

08:30 – 17:00 Workshops 1 to 4 (Day 1)

#### Sunday, October 26th, 2025

08:30 – 16:00 Workshops 1 to 4 (Day 2)

17:00 – 18:30 Registration Check-In (Moon Beach Gallery & Resort, Art Gallery)

18.30 – 20:00 Welcome Party, Art Exhibition Opening

#### Monday, October 27th, 2025

08:30 – 17:30 Welcome address, Keynote Speaker (Tsunemi Kubodera),

Conference sessions: • Diversity and populations (Masaaki Yoshida, chair), Ecology and Evolution (Jan Strugnell, chair), Fisheries (Yoshiki Kato), and Cognition, Mind and

Intention (Gerald Pao, chair)

18:00 – CIAC Council Meeting

#### Tuesday, October 28th, 2025

08:30 – 17:30 Keynote Speaker (Yoko Iwata)

Conference sessions: Reproduction and Mating (Yoko Iwata, Chair), Predatory and Biomechanics (CC Chiao, chair), and Molecular neuroanatomy (Wen-Sung Chung,

chair)

12:30 CIAC Group Photo

16:00 – 18:00 Poster Session (OIST Tunnel Gallery)

#### Wednesday, October 29th, 2025

Free day

18:30 – 20:00 CIAC Council Meeting (Moon Beach Gallery & Resort, Art Gallery)

#### Thursday, October 30th, 2025

08:30 – 18:30 Keynote Speaker (Jan Strugnell and Gilles Laurent)

Conference sessions: Genomics and microbiome (Davin Setismarga, chair), Develop mental biology (Ian Gleadall, chair), Camouflage (Sam Reiter, chair), Neuroscience

(Erica Vidal, chair)

#### Friday, October 31st, 2025

08:30 – 15:30 Keynote Speaker (Michele Nishiguchi)

Conference sessions: Healthy, Welfare and culture (Angel Gonzalez), Stress and climate 1 (Rui Rosa, chair), and Stress and climate 2 (Michele Nishiguchi, chair)

16:00 –17:00 Closing Ceremony

18:30 – Social Dinner (Moon Beach Gallery and Resort)

#### Saturday, November 1st, 2025

11:00 - Public Lecture (Tsunemi Kubodera)



#### Pre-conference workshops

Four workshops will be held before the conference (October 25th—26th) at the Okinawa Institute of Science and Technology Graduate University.

#### Workshop 1: Cephalopod fisheries management, underlying triggers and assumptions for data-limited stock

#### Organizers:

Vladimir Laptikhovsky, Centre for Environment, Fisheries and Aquaculture Science Graham J Pierce, Instituto de Investigaciones Marinas Cristina Pita, Instituto de Investigaciones Marinas Jean-Paul Robin, University of Caen Normandy Katina Roumbedakis, Instituto de Investigaciones Marinas/Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional

This Workshop is planned to attract fisheries ecologists, stock assessors, conservationists, among other experts, that will work together aiming to review the most relevant conservation measures that might be used for management of data-limited cephalopod fisheries. Through interactive discussions, case studies, and collaborative exercises, this workshop will foster a transdisciplinary dialogue, aiming to build capacity for sustainable cephalopod fisheries governance. The workshop will consider the successful cases of management to reveal the "secret of success" in supporting sustainable harvest of these resources in combination with underlying approaches to the stock assessment and respective trigger points used in decision making with an exercise to co-define indicators of sustainability for small-scale octopod fisheries. Outcomes of the workshop will include a set of recommendations for improving management practices in cephalopod fisheries and strategies to address knowledge gaps, ensuring the long-term sustainability of these vital marine resources. A result of the workshop might be a collection of publications in a special issue of a peer-reviewed journal, dedicated to cephalopod fisheries management under data-limited scenarios, like "Fisheries Research", where a similar collection of crustacean papers was recently published as "Lobster and Crab Biology and Management 2023" (https://www.sciencedirect.com/special-issue/10GCFKB7RHP)

#### Workshop 2: Cryptic biodiversity of cephalopods: state-of-the-art and future trend

#### Organizers:

Fernando Á. Fernández-Álvarez. Marine Science Institute of Barcelona Gustavo Sánchez. Okinawa Institute of Science and Technology Graduate University Christian Ibañez. Universidad Andres Bello

Cryptic biodiversity poses one of the greatest problems for the assessment of the diversity of the Earth. It refers to the phenomenon where two or more species are morphologically similar that they are mistakenly classified as a single species. This similarity can arise from selective pressures that lead to convergent morphologies or from overconservative taxonomic practices, where differences in various traits are overlooked and considered variations within a single species. The traditional way of thinking that the ocean is a continuum devoid of physical barriers for genetic exchange makes the appearance of cosmopolitan morphologically-similar cryptic species complexes more common, as similar groups from distant places had been traditionally lumped together in a single species. This has especially impacted groups like cephalopods, where cryptic biodiversity has been increasingly reported. Coleoid cephalopods, with their soft and flexible bodies, often lack clear morphological markers, making it challenging to distinguish among closely related species. In some cases, there is ethological, biochemical, morphological differences among putative cryptic species. However, the primary driver of cryptic biodiversity discovery has been the advent of affordable molecular techniques, such as DNA



barcoding. In this workshop, we propose to review the knowledge on cryptic biodiversity among extant members of the class Cephalopoda Cuvier, 1797, identify emerging trends in this discipline and discuss the best approaches (e.g., species delimitation) to characterize the actual diversity of the group accounting for described and undescribed cephalopod species diversity and formally describe the last when possible. The aim of this workshop is to write a multiauthor review article on this topic.

#### Workshop 3: Cephalopod Health Management

#### Organizers:

Mehmet Arif Zoral, Okinawa Institute of Science and Technology Graduate University Zdenek Lajbner, Okinawa Institute of Science and Technology Graduate University Lucia Zifcakova, Okinawa Institute of Science and Technology Graduate University

Cephalopods are increasingly emerging as a subject of basic research and of commercial endeavors. Due to their complex behavior and make up they are a prime subject for the study of intelligence through the lens of neuroscience and behavioral sciences as well as constituting a significant resource within the fishing industry. Some cephalopods show a potential for commercial aquaculture due to their ease of domestication, high growth rate, and sufficient large final size for market in short time in both artificial and semi-artificial settings. Our group has been able to maintain one inbred lineage of oval squids for ten generations under laboratory settings. In 2010, as part of the cephalopod research's growing interest, the European Union parliament has integrated cephalopods into its animal welfare legislation, underscoring the importance of promoting the general health and well-being of these animals. To meet this objective, it is essential to conduct further robust scientific research and investigation into cephalopod health. Given the rapid increase of studies on cephalopods, the need is pressing especially regarding the health management of cephalopods in captivity and laboratory settings. There is also a lack of research addressing the overall health and wellbeing of these animals in laboratory conditions, despite a large body of literature on other topics of cephalopod biology. The workshop aims at convening researchers and experts including aquatic pathologists, veterinarians, marine biologists, and aquaculturists to advance discussions on cephalopod health management. The workshop will also shed light on the infectious pathogens and stress factors that impact cephalopods and their relevance to the seafood production and ornamental trade. Also, the workshop will emphasize the diagnostic skills, health assessment techniques, and preventative strategies, including biosecurity measures and control procedures to address health issues in cephalopods in diverse environments. The workshop will conclude with the writing of at least one review publication on health management in cephalopod captivity or aquaculture.

#### Workshop 4: Artificial Intelligence: Unlocking New Frontiers in Cephalopod Research

Organizers:

Catalina Perales-Raya: Spanish Institute of Oceanography (IEO, CSIC)

Hassan Moustahfid: National Oceanic & Atmospheric Administration (NOAA)

Cephalopods are among the most ecologically and economically important marine organisms. They play a key role in marine food webs and are significant targets in global fisheries. However, despite their importance, studying cephalopods poses unique challenges due to their diversity, complex behaviors, and often elusive nature. Recent advancements in Artificial Intelligence (AI) are offering innovative solutions to these challenges and opening new avenues for cephalopod research and management.

This workshop will explore the transformative applications of AI in cephalopod science, focusing on how AI tools are revolutionizing the field. An example is species identification through deep learning algorithms that analyze image and video data for more accurate cephalopod taxonomy. AI is also being explored



for age-growth studies by automating the analysis of hard structures, which can support our understanding of cephalopod life cycles and population dynamics. Modern machine learning tools have also been developed in neuroscience for quantitatively analyzing the complex behaviors of cephalopods, resulting in high-dimensional datasets attempting to form accurate and interpretable descriptions of these behaviors. Additionally, AI tools could be used to analyze genomic data, shedding light on cephalopod evolutionary history, genetic diversity, and population structure. Another key focus of the workshop will be AI's potential for ecological modeling and fisheries management. AI models are helping predict species abundance, migration patterns, and population dynamics, aiding in the understanding of how the species respond to environmental pressures like climate change and fishing. AI also supports ecosystem-based management by integrating complex data sets to generate decision-support models for conservation and resource management.

These AI-driven approaches allow for faster, more accurate data collection and analysis, uncovering new insights into cephalopod biology that were previously out of reach. Attendees are invited to share their experience on this emerging topic, engage in active discussion on the latest AI developments applicable to cephalopods, and explore collaboration opportunities. We aim to highlight interdisciplinary approaches, where AI is helping to decode large-scale biological data and predict ecological trends that can inform better management and conservation strategies.





#### <u>Keynote Speakers</u>



#### YOKO IWATA

Yoko Iwata is an Associate professor at Atmosphere and Ocean Research Institute (AORI, same as the Japanese name of Sepioteuthis Aori-ika!) at the University of Tokyo. She obtained her Ph.D. in Fisheries Science at Hokkaido University under the supervision of Prof. Yasunori Sakurai, and enjoyed "Ika-dance" at the summer festival in Hakodate (of course!). She started her career studying alternative reproductive tactics in loliginid squids as a model system to understand the evolution and maintenance mechanisms of polymorphism. She is fascinated by the beauty of cephalopods, especially their flexible behaviors and life histories, and studying reproductive strategies in several cephalopod species, focusing on communication, reproductive behaviors, fertilization process, and the influence of environmental and social conditions on life history traits.



#### TSUNEMI KUBODERA

Tsunemi Kubodera is a curator emeritus at the National Museum of Nature and Science, where he also holds the title of Honorable Member. He earned his Ph.D. in Fisheries Science from Hokkaido University in 1978, followed by postdoctoral research at the College of Oceanography, Oregon State University. In 1984, Kubodera joined the National Museum of Nature and Science as a curator, a position he held until his retirement in 2016. His research has focused primarily on cephalopods, with key interests including the cephalopod fauna of Japanese waters, systematics and zoogeography of cephalopods in the Indo-West Pacific region, deep-sea cephalopod biodiversity and more.

His contributions to marine biology and cephalopod research have been recognized with several prestigious awards, including the Prime Minister's Award as a Contributor to Japan's Founding of the Ocean (2014) and the Honorary Lifetime Achievement Award from the Cephalopod International Advisory Council (CIAC) in 2015.

#### Keynote Speakers



#### JAN STRUGNELL

Jan Strugnell completed her BSc (Hons) at James Cook University before obtaining her DPhil at Oxford University, UK, funded by a Rhodes Scholarship. During her DPhil she used molecular and fossil evidence to investigate phylogenetic relationships and divergence times within cephalopods (octopus, squids, cuttlefish). Jan then worked as a post-doctoral research fellow at Queen's University, Belfast, the British Antarctic Survey, and Cambridge University UK, where she investigated evolutionary relationships within and between Antarctic and deep-sea octopods. Jan is now based at James Cook University where she investigates the evolution and function of marine organisms using genomic and transcriptomic techniques. Her research encompasses both applied and blue skies questions and includes investigation of population differentiation, adaptation, resilience and susceptibility to temperature stress, range shifts and method development. She also continues to investigate population and species level molecular evolution in marine species in the context of past climatic and geological change.



#### **GILLES LAURENT**

Gilles Laurent grew up in Morocco and France, and holds a doctorate in veterinary medicine and a PhD in Neuroethology (respectively from the Ecole Nationale Vétérinaire and the Université Paul Sabatier, Toulouse, France) (both in 1986). After a postdoctoral and Locke Research Fellowship of the Royal Society at the University of Cambridge (UK) he joined the Biology Division faculty at the California Institute of Technology in 1990, where he spent 20years. In 2009, he became a Director at the Max Planck Institute for Brain Research in Frankfurt (Germany), where he is now located.

Gilles Laurent's interests are centered on identifying principles of brain function and circuit dynamics, using a wide range of techniques including comparative approaches. He has worked on olfactory computation, motor control, local circuits architecture, and vision (mostly in insects and fish). His research today concerns sleep (using reptiles as model systems), brain evolution (in vertebrates), and visual texture perception and generation (as expressed by camouflaging cephalopods).





#### Keynote Speakers



#### MICHELE NISHIGUCHI

Dr. Michele "Nish" Nishiguchi is presently a Professor in the Department of Molecular and Cell Biology, Director of the recently established NSF Biological Integration Institute INSITE: Institute for Symbiotic Interactions, Training and Education in the Face of a Changing Climate, MPI for the undergraduate training program URISE@UC Merced, and is President and one of the co-PIs for the Society for Integrative and Comparative Biology BIO-LEAPs IDEA (Inclusivity, Diversity, Equity, and Access) program. She was a Regents professor, the Sundt Honors College Endowed Chair, and the Academic Department Head (2016-20) in the Department of Biology at New Mexico State University from 1999-2020. She obtained her B.S. in Biochemistry/Theatre Arts at the University of California, Davis, M.S. in Marine Biology at Scripps Institution of Oceanography, University of California, San Diego, and Ph.D. in Biology at the University of California, Santa Cruz.

She has focused her work on the evolutionary ecology between marine organisms and their symbiotic bacteria. De-

spite being a marine biologist in the middle of the Central Valley, Nish manages to chase after squid and their bioluminescent bacteria in places such as the Indo-West Pacific, Australia, and the Mediterranean Sea, and manages to eat some calamari along the way. Her work spans the bridge between microbial ecology and evolution, and is best known for deciphering the mechanisms for environmental transmission of beneficial bacteria that occur in animal hosts. She has been passionate about reaching out to students in the US Southwest and now Central California by introducing them to marine biology and microbial ecology. She has trained a number of students from underrepresented groups and continues her commitment to increasing diversity through research, teaching, service, and outreach. Her hobbies include marathons/ultras, ironman triathlons, ballroom dancing, and cooking/eating.





#### Clyde and Ingrid Roper Travel Fund

We are excited to announce our Clyde and Ingrid Roper Travel Fund for the conference. The awardees are:

#### Hsin-Yu Chang (Institute of Oceanography, National Taiwan University, Taiwan)

I have been focused on the topic of cuttlefish camouflage through my Masters degree, and would like to keep devoting to this research topic in my future PhD studies. I have currently finished most of the part of my master research, and I hope attending this conference at this stage will help complete my master thesis.

#### Janina Leonie Rockner (University of Genova)

My name is Janina Reckner, and I am a third year PhD student working on the motor control of Octopus vulgaris. Thanks to the support of my former supervisors, I had the opportunity to give my first conference presentation at the CIAC 2022 in Sesimbra. It was a great pleasure to gain insight into the work of CIAC and become part of this inspiring community. I especially enjoyed the conference workshop and program. As an early-stage scientist, it would be an honor to present my current work to the people who inspired my passion for this particular field of research. Participating in this year's CIAC in Okinawa would offer a unique opportunity to share my latest results, network with specialists and receive valuable feedback.

#### A. Sadot Ramos Rodrigues (CICESE)

This conference is directly relevant to my research as ii focuses on plasticity phenotipic, climate change adaptation and developmental biology, which align with my work on the epigenetic impact of thermal stress in Octopus maya. Attending at this stage of my PhD is particularly important because. I'm currently analyzing and interpreting key datasets, and the opportunity to engage with experts in the field will provide valuable feedback, broaden the impact of my findings, and help shape the final stages of my dissertation.

#### Renato Junqueira de Souza Dantas (Universidade Federal de Santa Catarina)

I am in my third year of doctorate, investigating the population dynamics of cephalopod species targeted by artisanal fishing, the local ecological knowledge associated with this fishery and the diversity of coastal octopuses and squids in an important Marine Protected Area (MPA) of the southeastern Brazilian coast. The Cephalopod International Advisory Council (CIAC) Conference is the main international event for cephalopod researchers and it is a great opportunity for scientific exchange, networking and professional development for a PhD student like me.

#### Mariae del Carmen Estrada González (Instituto Politécnico Nacional, CICIMAR)

The Pacific pygmy octopus (Paroctopus digueti) is not economically important, so studies are limited; this is the first study on its genetic population structure. The results obtained will be a novel approach for the international discussion of the sustainable use of pygmy octopuses as research models or even as gourmet resources.

#### Marina Maranzana (Auckland University of Technology)

Attending the Cephalopod International Advisory Council (CIAC) conference is relevant to my research on the microbiome of deep-sea squid (Cephalopoda: Oegopsida) in New Zealand. I am focusing on microbial—host interactions and their roles in host physiology, development, and adaptation to extreme environments, specifically the deep sea. As the leading international forum for cephalopod science, the CIAC conference offers a unique opportunity to network with experts whose work directly informs and complements my own.

#### Mathieu Daniel Marco Renard (Goethe Uni./ Max Planck for Brain Research)

I am currently finalizing my PhD in neuroscience at the Max Planck Institute for Brain Research in Frankfurt, where my work focuses on the motor control of cephalopod chromatophores. My research combines high-resolution video analysis, machine learning, and signal decomposition methods to reconstruct neural influence patterns over the chromatophore network. As part of this work, we developed CHROMAS, a flexible analysis pipeline for quantifying and decomposing chromatophore dynamics. I plan to present this tool



at CIAC, where I believe it could be an invaluable resource for researchers working on cephalopod behavior, physiology, and neural control. By providing a standardized, scalable way to analyze chromatophore activity, CHROMAS has the potential to support a wide range of future studies in the field.

#### Roman Diaz Polo (CICESE)

My graduate research focuses on the effects of rising temperatures on embryonic developmer gene regulation, and epigenetic mechanisms in Octopus maya, a key species for the fishe industry in southeastern Mexico. I have examined how thermal stress impacts processes such DNA methylation and the expression of genes involved in morphogenesis and nervous syste development.

#### Kazuki Hirota (The University of Tokyo)

Hirota investigates the evolutionary origin, structural organization, and formation mechanisms of the shell-like eggcase in argonaut octopuses, a uniquely derived and evolutionarily intriguing group within cephalopods. Using detailed scanning electron microscopy, I have identified structural convergence between their eggcase and other independently evolved biomineralized structures

#### María Guadalupe Martínez Morales (CICIMAR -IPN)

This conference is directly related to my research as it will provide an opportunity to present the first results of my doctoral work about the digestive physiology of the pygmy octopus. I am currently halfway through my PhD, and I see this as an excellent opportunity to receive expert feedback on my findings, which will be invaluable for refining the direction of my ongoing research.

#### Eve Otjacques (Universidade de Lisboa)

This conference will be an opportunity for me to present my latest data. Moreover, as a 4-th year PhD student, this conference will provide networking opportunities for future research projects including postdoc collaborations.



#### **Public Events**



#### **Public Lecture**

Title: ダイオウイカを探せ — the man and the legend

Speaker: Tsunemi Kubodera Location: OIST Auditorium

Dates/Time: November 1st 11:00AM -

#### Profile:

Born in 1951 in Nakano, Tokyo, Dr. Tsunemi Kubodera is a renowned Japanese zoologist and Curator Emeritus at the National Museum of Nature and Science. He earned his Ph.D. in Fisheries Science from Hokkaido University in 1978 and pursued postdoctoral research at Oregon State University's College of Oceanography. From 1984 to 2016, he served as a curator at the National Museum of Nature and Science.

Dr. Kubodera's research focuses on cephalopod biodiversity around Japanese waters, the systematics and distribution of Indo-West Pacific cephalopods, deep-sea cephalopod ecology, and the feeding behavior of cephalopod predators. His groundbreaking achievement came in 2012, when he, alongside Steve O'Shea and Edith Widder, became the first to capture live footage of a giant squid (Architeuthis) in its natural habitat off the Bonin Islands.

His contributions to marine science have been recognized with numerous honors, including the Prime Minister's Award (2014), the Honorary Lifetime Achievement Award from the Cephalopod International Advisory Council (CIAC, 2015), and designation as a Contributor to the Founding of Japan's Ocean Science.



#### **Art Exhibitions**

#### **Exhibition 1:**

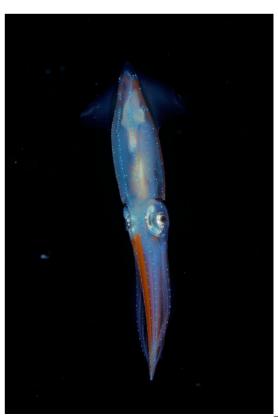
Title: Cephalopods: The Masters of the Ocean

Location: OIST Tunnel Gallery Time: 9:00 AM – 5:00 PM Daily

Artist: Ryo Minemizu

#### About the Artist:

Born in 1970 in Hirakata City, Osaka, Ryo Minemizu is an acclaimed underwater photographer with a deep passion for marine life. Beginning his diving journey in 1990, Minemizu became a professional photographer in 1997 after thousands of dives in Japan's Izu Peninsula. With a career spanning over 25 years, he has contributed extensively to science publications, television, and film, and has co-authored multiple papers on new species. His photography, focused on the microscopic beauty of plankton and marine ecosystems, combines scientific rigor with aesthetic brilliance.





#### **Artist Statement:**

"My photography is driven by the desire to capture the unseen and to communicate the preciousness of life. Every dive reveals wonders of marine biodiversity that often go unnoticed. Through my lens, I strive to share the awe and fragile beauty of underwater life, fostering a deeper appreciation for our planet's oceans."

#### **Exhibition 2:**

Title: Squid and Octopus Exhibition

Location: Moon Beach Museum Resort, Moon Seaside

Gallery

Dates: October 18 – December 14, 2025 Gallery Hours: 10:00 AM – 6:00 PM Daily Opening Party: October 26, 6:00 PM

#### **Artists:**

Masaru Nakamoto, Doucatty, Izumi Okuyama, Reimi Kuba, Syoronin Zenryu, Shinya Shirasuna, Toshiro Sumi, Aya Taira, Yuka Dota, Seijiro Nakashima, Ryuta Nakajima, Katsuhiro Nagamine, and Shinji Hayakawa

#### **Exhibition Overview:**

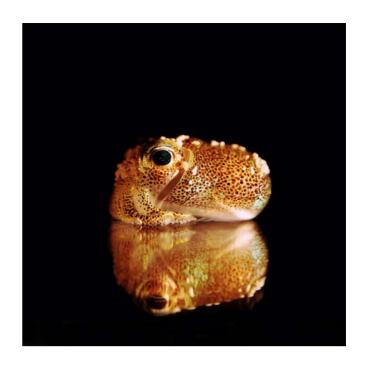
This group exhibition features thirteen Okinawa-based artists whose works explore the mysterious world of cephalopods—octopuses, squids, and cuttlefish. These fascinating creatures have inspired humans across time and culture, appearing in everything from ancient art to contemporary consumer goods. "Squid and Octopus Exhibition" delves into the cultural, emotional, political, and ecological dimensions of our relationship with these marine animals.

Through a vibrant mix of mediums and approaches, the exhibition offers a platform for interdisciplinary dialogue between art and science. Curated by Ryuta Nakajima and Seijiro Nakashima, it invites viewers to reflect on how cephalopods help us reimagine our place in the natural world.

#### **Performing Arts:**

#### Ryukyu Traditional Court Music and Sanshin

Ryukyu Traditional Court Music and the Sanshin Ryukyu Traditional Court Music (known in Japanese as "Ryūkyū Koten Ongaku") is the refined classical music of the Ryukyu Kingdom, which ruled over the islands of Okinawa from the early 15th century until its annexation by Japan in 1879. This music was developed and









performed primarily for the royal court in Shuri Castle. where it accompanied formal ceremonies, diplomatic receptions, and ritual events.

The Sanshin: The Heart of Ryukyuan Music
At the center of Ryukyuan music is the sanshin, a
three-stringed lute covered with snakeskin (usually
python) and played with a plectrum called a bachi.
It was introduced to Okinawa from China in the
14th century and evolved into a core instrument of
Ryukyuan musical identity. In court music, the sanshin plays a melodic and rhythmic role, often accompanying highly stylized vocals sung in the Ryukyuan
classical language, distinct from modern Okinawan
dialects.

#### Cultural Significance and Legacy

For centuries, Ryukyuan court music was taught orally within aristocratic families and court-appointed musician lineages. Following the fall of the Ryukyu Kingdom, these traditions faced decline but were preserved by dedicated musicians who passed them down to new generations.

Today, Ryukyu Traditional Court Music is recognized as a vital part of Japan's Important Intangible Cultural Properties, and it is taught at music conservatories, universities, and cultural institutions in Okinawa. Contemporary performers strive to keep the tradition alive while also engaging in collaborations with modern and global music styles. This music continues to be performed at cultural festivals, traditional dance performances (kumi-odori), religious ceremonies, and formal events, offering audiences a direct connection to the refined aesthetic and spiritual depth of the Ryukyu Kingdom.

#### **Eisa**

Heshikiya Youth Association – Guardians of Okinawan Eisa Tradition

Eisa is a traditional Okinawan performing art that combines drumming, dancing, and chanting, historically performed by youth during the Bon Festival (Obon) to honor the spirits of ancestors. With origins dating back to the 16th–17th centuries, Eisa evolved from Buddhist chanting practices introduced through mainland Japan and blended with local Okinawan beliefs and music. Over time, it became a vibrant expression of both spiritual devotion and community identity.



Takeshige Miyagi Master Instructor, Matsumura Tögenkai (Nomura-ryū of Classical Ryukyuan Music) Head of Ryūkyū Kofū Shiragakujuku Holder of Okinawa Prefecture Designated Intangible Cultural Property: "Traditional

Music of the Nomura School"



Töru Yonaha Renowned Musician Representing Okinawan Music Across Genres Töru Yonaha is a versatile musician whose work spans from classical Ryukyuan music to contemporary pop. His innovative approach and strong foundation in tradition make him a leading figure in the modern evolution of Okinawan music



Yukako Majikina

A leading dancer in Okinawa, Yukako Majikina is celebrated for her refined and elegant performances of classical women's dance. As the second-generation head of the Shinbuyō-ryū school, she upholds the tradition while also contributing to its artistic evolution. Her dignified and graceful presence on stage continues to enchant audiences and convey the timeless beauty of Ryukyuan dance.



The Heshikiya Youth Association, based in Hechigaya (Heshikiya), Uruma City, is one of the region's most respected Eisa groups. Their Eisa style reflects deep-rooted local traditions, passed down through generations of young performers. Known for its powerful taiko drum rhythms, precise choreography, and striking traditional costumes, Heshikiya Eisa has become a symbol of pride for the community. Established to unite and empower local youth, the Heshikiya Youth Association not only performs during the Bon season, but also takes part in cultural festivals across Okinawa and beyond. Their activities promote cultural continuity, community cohesion, and the spiritual values embedded in Okinawan heritage.

Today, the association continues its mission of preserving and revitalizing Eisa, ensuring that the legacy of their ancestors is honored through each beat of the drum and every step of the dance.

#### Karate

International Okinawa Shōrin-ryū Seibukan Karate-dō Association

The International Okinawa Shōrin-ryū Seibukan Karate-dō Association is a traditional Okinawan karate organization rooted in the teachings of Chotoku Kyan (1870–1945)—a legendary master known as Chanmi-gwā, whose dynamic techniques and strict adherence to kata form the core of our system.

Born in Shuri, Okinawa, Kyan Chotoku studied under some of the most prominent karate masters of the time, including Sokon Matsumura, Kosaku Matsumora, and Kokan Oyadomari. Although small in stature, he became renowned throughout Okinawa for his lightning-fast movements and deep understanding of Shuri-te. He dedicated his life to teaching and preserving the traditional kata, maintaining a lifelong principle of "no alteration" to the original forms. His philosophy emphasized karate as a path for health, self-defense, and personal character development.

Today, the association has grown into a worldwide organization with over 200 branch dojos across 14 countries, in addition to dojos in Okinawa and mainland Japan. The association is dedicated to the faithful transmission of Kyan Chotoku's karate, including seven original kata, plus the uniquely developed Wanchin kata by Zenryo Shimabukuro. Through seminars, demonstrations, and international exchange, the association continues to spread the art and spirit of Okinawan karate-dō while nurturing a new generation of practitioners who carry on the values of respect, discipline, and harmony.









#### Jazz trio

KgK Tasuya Kawasaki [guitar] Kazuya Gacha Uechi[double-bass] Kazuhiro Shiroma [drums]

KgK is a genre-defying jazz trio consisting of Takuya Kawasaki (guitar), Kazuhiro Shiroma (drums), and Kazuya "Gacha" Uechi (double bass). Rooted in jazz, the group blends elements of electronica and post-rock to create a unique and exploratory sound. The band released its first CD in 2005 and was featured on the compilation album Our Aurasian Things! from the independent label off note. KgK performed at Jazz in Nanjo in both 2023 and 2024, and contributed the soundtrack for the 2024 film When the Theater Ends (Gekijō ga Owaru Toki). With a sound that weaves between delicate improvisation and bold sonic architecture, KgK continues to push boundaries, inviting listeners into a deep and dynamic musical experience that transcends genre.

Uechi Kazuya is a highly respected bassist known for his dynamic and versatile playing across genres such as jazz, fusion, and experimental music. With a deep understanding of rhythm and harmony, Uechi brings both technical precision and expressive warmth to his performances. Over the years, he has collaborated with a wide range of artists and bands, contributing to recordings, live performances, and soundtracks.

Uechi's style is characterized by a strong groove foundation combined with melodic phrasing, allowing him to seamlessly blend traditional Japanese musical elements with modern improvisation techniques. His ability to adapt to different musical contexts—from intimate acoustic settings to high-energy ensembles—has earned him a reputation as a reliable and innovative bassist.

In addition to performing, Uechi is also involved in music education and mentoring younger musicians, sharing his passion and knowledge to help develop the next generation of players. His ongoing contributions to the Japanese music scene make him a prominent figure in contemporary bass performance.



#### **Special Issues**

#### 1. Aquatic Conservation: Marine and Freshwater Ecosystems

Title: Cephalopod International Advisory Council 2025: An Aquatic Conservation Perspective Rationale: The importance of cephalopods to society goes beyond the legends and mythologies of ocean monsters with giant tentacles. Globally, cephalopod species are recognized as a major component of many marine ecosystems. They are present in all marine waters with a distribution from the surface layers down to several thousand meters, on the continental shelf and in the open ocean. The number of cephalopod species targeted by commercial fisheries has increased in recent times, and as a result, they represent the third-largest marine group consumed by the human population (the largest two being finfish and crustaceans). Consideration of the ecological and economic roles that cephalopods play worldwide is necessary for developing a more comprehensive understanding of their physiology, ecology, fisheries, genetics, and, especially, their conservation, as several human populations depend on them, although knowledge of their ecology remains incomplete. Website: https://onlinelibrary.wiley.com/page/journal/10990755/homepage/productinformation.html

#### 2. Marine Biology

title: Capturing biological and ecological complexity of cephalopods: Cephalopods biological and ecological complexities: research advances and challenges

Rationale: This topical collection invites contributions related to the latest advances across all fields of cephalopod research, aiming to capture the complexity and beauty of these animals in areas such as Biodiversity, Behavior, Ecology, Evolution, Life History, Genetics, and Fisheries, among others. Authors who contributed to the Cephalopod International Advisory Council Conference - CIAC 2025 (https://www2.aeplan.co.jp/ciac2025/general\_information.html; October 25th-November 1st, 2025), with the main theme "Cephalopod Complexity and Beauty," are especially encouraged to submit their findings.

Website: https://link.springer.com/journal/227



## 島戦

#### Conference Program

#### Monday, October 27th, 2025

0800 Welcome addresses

Daniel Roksher, CIAC 2025 Chair Angel Gonzales, CIAC President Karin Markides, OIST President

0830 Tsunemi Kubodera, Keynote Speaker

In memory of the Japanese great mollusk scientist, Dr. Takashi Okutani

#### Session 1: Diversity and Population Chair: Masaaki Yoshida

0900 Kat Bolstad

Deep-sea Cephalopod Observations from Schmidt Ocean Institute's First Antarctic Field Season

0915 Lorenzo Halasan

Population Genetics and Evolutionary History of Uroteuthis duvaucelii in the Central Indo-Pacific

0930 Angel F. Gonzalez

Ecology of wild common octopus: the way towards a sustainable management (ECOSUMA PROJECT)

0945 Lucas Bastos

Phylogeny of Southern Ocean Squid Using Novel Moleular Methods for Species Identification

1000 Giambattista Bello

The biogeography of Mediterranean cephalopods: 20 years after

1015 Zoe Doubleday

Capitalising on the wealth of chemical data in lesser-known taxa: future directions for cephalopods

1030-1100 Coffee Break

#### Session 2: Ecology and Evolution Chair: Jan Strugnell

1100 Tajika Amane

Recent advances in the ecology and evolution of nautilus

1115 Alexey Golikov

Ecosystem changes recorded in squid beaks from natural history museums – retrospective stable isotope study

1130 Tongtherm Kittichai

Triassic Nautiloids and Ammonoids from Thailand, 2015-2025

1145 Elodie Réveillac

Ecological update on Sepia officinalis in the Bay of Biscay inferred from a multifaceted approach

1200 Arieli Tristao Rezio

Are radiogenic isotopes a viable tool for investigating cephalopod ecology?

1215 Catalina Perales-Raya

Age and Growth of the colossal squid Mesonychoteuthis hamiltoni

1230-1400 Lunch

#### Session 3: Fisheries Chair: Yoshiki Kato

1400 Renato Dantas

Arraial do Cabo, a center of cephalopod aggregation and mixing in southeastern Brazilian coast

1415 Abhijeet Purkayastha

Journey to the Depths: Taxonomic arrangement and redescription of Toyama octopus from Sea of Japan

1430 Anna Marcout

Connectivity between fishing grounds: spatio-temporal trends in Loliginid squid biomass indices and fisheries landings in the English Channel and the southern North Sea.



1445 Michael Navarro

Sustainable squid fisheries in Alaska, USA

1500 Vladimir Laptikhovsky

Evaluation of cephalopod resources and management triggers: ways forward for data-limited stocks

1515 Jessica Legaspi

Statolith Elemental Signatures Reveal Ontogenetic and Regional Variation in the Indian Squid, Uroteuthis duvaucelii, Across the Western Pacific

1530-1600 Coffee Break

#### Session 4: Cognition, Mind, and Intention Chair: Gerald Pao

1600 Ian Gleadall

Octopus Intelligence Fantasy and Fact: Identifying and Allocating the Cogs of Cognition

1615 Wolfgang Slany

Towards Multi-Context Two-Way Communication Between Humans and Common Octopuses:

An AI-Assisted Approach

1630 Jennifer Mather

Consciousness in Cephalopods

1645 Eduardo Sampaio

Communication in multispecies interactions

1700 Hsin-Yu Chang

Energy expenditure of cuttlefish on camouflage

1715 Mizumo Chiba

Development of a machine learning framework for analyzing body patterns in Sepioteuthis lessoniana

1800-2000 CIAC Council Meeting (OIST Conference room)

#### **END of MONDAY**

#### Tuesday, October 28th, 2025

0830 Yoko Iwata, Keynote Speaker

Flexible reproductive strategies of squid: from gamete to populations

#### Session 5: Reproduction and Mating Chair: Yoko Iwata

0900 Blondine Agus

Exploring some reproductive traits among Mediterranean ommastrephid squids

0915 Theodora Tong Mautz

Squid pro quo: Female choice and the co-evolutionary dynamics of coleoid cephalopod reproduction

0930 Arata Nakayama

Polarization signals in cuttlefish mating displays: morphological adaptations for conspicuousness and potential diversity

0945 Kamrun Naher Azad

Genetic evidence of mating system in pair-forming diamond squid assessed by microsatellite markers

1000 Guan-Chung Wu

Molecular Regulation of Gonadal Differentiation in the Bigfin Reef Squid (Sepioteuthis lessoniana)

1015 Manami Kinoshita

Sex determination and sex ratio at birth in the firefly squid, Watasenia scintillans

1030-1100 Coffee Break

#### Session 6: Predation and Biomechanics Chair: CC Chiao

1100 Baowen Zhang

Biomimetic Models Reveal the Scaling Principles and Morphological Adaptations of Cuttlefish Suckers



1115 Heather Judkins

Cephalopod prey analysis of a deep-sea predator, Omosudis lowii from the northern Gulf of Mexico

1130 Kei Aizawa

Analysis of the Flight Mechanism of Flying Squid: Yaw Stability Influenced by Arm Shape

1145 Antoni Sánchez-Márquez

Acoustic telemetry reveals spatiotemporal segregation in deep-sea predator-prey dynamics

1200 Janina Leonie Röckner

Activation and deformation of antagonistic muscles in Octopus vulgaris arm motion

1215 Daniel Oesterwind

**TBA** 

1230-1400 Lunch

#### Session 7: Molecular Neuroanatomy Chair: Wen-Sung Chung

1400 David Hain

Diversity and Evolution of Neuronal Cell Types in Cephalopods

1415 Loyal Goff

Unbiased and Targeted Spatial Transcriptomics of the Octopus chierchiae Central Brain

1430 Simone Rencken

A Chromosome-Scale Genome and Brain Cell Atlas of the Common Cuttlefish Sepia officinalis

1445 Tomoyuki Mano

Hierarchical processing and polarization encoding in the cephalopod visual system

1500 Ishaan Ghosh

Visual System Development in the Bobtail Squid in the Presence and Absence of RNA-Editing

1515 Eve Seuntjens

Embryonic development of a distributed nervous system in Octopus vulgaris

1530-1600 Coffee Break

1600-1800 POSTER SESSION

#### **END of TUESDAY**

Wednesday, October 29th, 2025

Free Day

1830-2000 CIAC Council Meeting (Moon Beach Gallery & Resort, Art Gallery)

#### Thursday, October 30th, 2025

#### 0830 Jan Strugnell, Keynote Speaker

Antarctic octopods: time capsules and fortune tellers of global change

#### Session 8: Genomics and Microbiome Chair: Davin Setismarga

0900 Masaaki Yoshida

Large-scale genome size variations in the octopus - insights from Vampire squid

0915 Setiamarga Davin

Para-Para: Comparative Genomics of Shell Matrix Proteins in Nautilus pompilius Reveals the Paradox of Paralog Usage in Mollusks

0930 Frank Anderson

Effects of RNA editing on transcriptome-based phylogenetic analyses of Decapodiformes

0945 Gustavo Sanchez

Comparative analysis of diverse decapodiform genomes reveals rapid order-level cladogenesis at mid-Cretaceous



1000 Arno Hagenbeek

Pelagic bobtail squid harbors a degraded bioluminescent symbiont

1015 Leone Yisrael

Analyzing The Gill Microbiome Of Lolliguncula brevis Response to Environmental Change To Deter mine If These Effects Follow Microbial Community Shifts Seen Within The Water Column

1030-1100 Coffee Break

#### Session 9: Developmental biology Chair: Ian Gleadall

1100 Filippo Macchi

Defining epigenomic and transcriptomic profiles of the highly regenerative octopus arm

1115 Emeline Manganella

A search for the germline in Doryteuthis pealeii

1130 Jessica Stock

BMP signaling is required for body, but not brain, patterning in cephalopods

1145 Erica Vidal

Arm-crown in the early life phases of cephalopods: a search for developmental patterns

1200 Cassady Olson

The octopus axial nerve cord is segmented

1215 José Jiun-Shian Wu

Utilizing Fluorescence Lattice Lightsheet Microscopy with Tissue Clearing and Expansion to Study Neural Development in Sepioteuthis lessoniana and Sepia pharaonis

1230-1400 Lunch

#### Session 10: Camouflage Chair: Sam Reiter

1400 Tessa Montague

The neural basis of cuttlefish camouflage and social behavior

1415 Max Brodeur

Network Analysis of the Cortical Optic Lobe of Sepia officinalis

1430 Roger T. Hanlon

Cephalopod camouflage

1445 João Saldanha da Gama

Cuttlefish survival and camouflage abilities under extreme flooding events

1500 Mathieu Renard

Disentangling Chromatophores Motor Units with Computer Vision

1515 Erica Shook

Representing cuttlefish skin patterns

1530-1600 Coffee Break

1600 Gilles Laurent, Keynote Speaker

Ins and Outs of the Cuttlefish Camouflage System

#### Session 11: Neuroscience Chair: Erica Vial

#### 1630 Maureen Pred'homme

Post-reproductive neuro-degeneration and "programmed" death of S. officinalis progenitors: conse quences of an Alzheimer's disease-type tauopathy?

1645 Marianna de Luca

Frequency domain characterizing 'EEG-like' signature in Octopus vulgaris

1700 Wen-Sung Chung

Inside Out: sexual dimorphism and neural plasticity shape the brain and behaviour in octopuses



#### 1715 Xu Zhou

Mining of the neuropeptide genes in the common Chinese cuttlefish Sepiella japonica and exploration of its' pleiotropic functions

1745 CIAC Council Meeting (OIST Conference room)

**END of THURSDAY** 

# Friday, October 31st, 2025

## 0830 Michele Nishiguchi, Keynote Speaker

Lit Partnerships: Squid, Vibrio, and the Evolution of Beneficial Mutualisms

# Session 12: Health, Welfare, and Culture Chair: Angel Gonzalez

# 0900 Andrea González Alonso

Octopus welfare biomarkers: a minimally invasive tool for proteomic immune response analysis

# 0915 Connor Gibbons

Multigenerational Culture of Ascarosepion bandense to Generate a Transgenic Cephalopod

#### 0930 Mehmet Zoral

Cephalopod Health Management in Aquaculture through Novel Disease Control Strategies"?

# 0945 Rosas Carlos

Natural tranquilliser in cephalopod eggs: What substances work in Octopus maya?

# 1000 Maria del Mar Costa

Immune cell diversity in octopus hemolymph and white body: optimizing a single cell RNA-seq protocol

# 1015 Kosuke Adachi

Existence of bacterial mass on the mantle of Todarodes pacificus paralarvae after hatching

1030-1100 Coffee Break

## Session 13: Stress and climate 1 Chair: Rui Rosa

#### 1100 Thomas Sol Dourdin

A de novo transcriptome assembly to study the effects of MeHg and elevated pCO2 in Sepia officinalis juveniles

## 1115 Marta Solé

Effects of cargo ship noise exposure on Sepia officinalis using Aquavib.

# 1130 Abimael Sadot Ramos Rodriguez

Thermal stress leaves epigenetic footprints: Evidence of intergenerational DNA methylation in Octopus maya

# 1145 Yung-Che Tseng

Ocean acidification alters neural processing and predatory behavior in bigfin reef squid

#### 1200 Koki Komatsubara

Feeding habits of Japanese flying squid Todarodes pacificus during its population decline around Japan

# 1215 Scarlett Munguia Prieto

Potential genomic responses to climate change in Octopus mimus (Cephalopoda: Octopodidae) from the Eastern Tropical Pacific

1230-1400 Lunch

# Session 13: Stress and climate 2 Chair: Michele Nishiguchi

# 1400 Matthew Birk

Do cephalopods edit mRNA in response to environmental oxygen?



1415 Meg Mindlin

Tickled Zinc: Characterizing A-to-I RNA Edits in O. rubescens in response to ocean acidification

1430 Erica Durante

Reconstructing life-time reproductive histories using steroid hormones in cephalopod beaks

1445 Rui Rosa

Global biogeography and ecology of cephalopod strandings

1500 Kazuki Hirota

Convergent evolution of the shell-like eggcase in argonaut octopuses based on comprehensive microstructural observations

1515 Daniel DeMartini

The Unique Mechanics of Octopus Egg Cases

1530-1600 Coffee Break

1600 CLOSURE CEREMONY

1830 Farewell Party

**END of FRIDAY** 

# Saturday, November 1st, 2025

1100 Public Lecture (OIST Audtrium)

Tsunemi Kubodera



# <u>Suponsors</u>











# "with SQUID"

探究と現場をつなぐ、静かな橋渡し。

私たちは、日本の漁業現場と共に、イカと向き合う道具をつくってきました。

釣り具であって、研究素材でもある。 その狭間にこそ、真の価値があると信じています。 「漁師仂学®」── 感性と理性の融合から生まれる、海の知恵。

# 株式会社キーストン

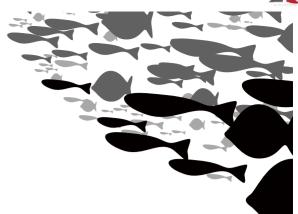
イカ釣りの未来を創造する。 設立26年、純日本製エギにこだわる釣具メーカー。 設計・CAD/CAM・金型・量産・映像制作・小売販売まで一貫して自社完結。 高品質・高性能を追求した唯一無二のエギ・スッテを提供。



https://keystonebrand.jp



# KURA おさかなファーム



養殖から販売まで一気通貫体制の「水産専門会社」が誕生。 KURA おさかなファームでは事業を通じ、「食の安心安全」「漁業創生」 「サステナブルな漁業」の実現に努めてまいります。

**POINT** 

01

# 自社養殖

漁業権を取得し、国内流通・海外輸出も視野に入れた オーガニックフィッシュの養殖・販売。

**POINT** 

02

# 委託養殖

スマート養殖により人手不足と労働環境改善、中長期 契約の全量買取による生産者の安定収入も目指す。

O3

# 卸売り

くら寿司や全国のスーパーでの販売や、将来的には全国の漁協と提携し、生産者様の流通支援として天然魚の販路開拓も予定。



※「オーガニックフィッシュ」の養殖・販売 画像はオーガニックはまち



※ウミトロン株式会社と協業し、同社が開発した AI や IoT 技術を 活用したスマート給餌機「UMITRON CELL」を活用

※写真はイメーシ

# KURA おさかなファーム株式会社

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- 代表者 代表取締役社長 田中信
- ▶ 資本金 1,000万円
- ▶ 出 資 くら寿司株式会社 100%
- ▶ 事業 水産物の生産及び卸売業





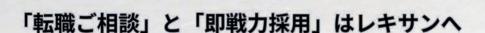
2025 年 7 月作成



# 沖縄で 思い切り働く

企業と、ひとに、最適な出会いを

株式会社レキサンは、沖縄へのUIターンに特化した 転職エージェント(人材紹介会社)です。 みなさまの「暮らしたい場所で、思い切り働く」ことのお手伝いを通して、 「人」と「企業」に最適な出会いを提供し、沖縄が世界に求められる 存在に成長することに貢献していきます。



沖縄出身・沖縄在住で、沖縄の企業文化や地域風土、生活環境などを熟知したUIターン経験のある コンサルタントがあなたの転職を全力でサポートをいたします。

採用をお考えの企業様へは「沖縄に戻りたい・移住したい・働きたい」人材と、地元企業の出会いを支援 します。 経営やビジョンに寄り添い、入社後の活躍まで伴走。 私たちは"沖縄に関わる企業の成長に 貢献したい"という想いで、人材紹介サービスを提供しています。



# Lequison

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設立:2017年4月 / 資本金:500万円 / 代表取締役:島村賢太 【事業内容】

# 人材採用支援事業

- ・転職支援サイト「リージョナルキャリア沖縄」の運営
- ・沖縄へのUIターン転職を中心とした人材紹介、 ヘッドハンティン ティングサービス (厚生労働大臣許可番号47-ユ-300153)

#### インキュベーション事業

・研究開発型スタートアップのインキュベーション支援(営業支援、 採用支援、資金調達支援を中心とした事業立上げ全般の支援)

098-975-9617

【受付時間】9:00~17:00(土日祝日、弊社休業日を除く) Mail: info@lequison.com







# **Lifetime Ventures**

# 



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