FY 2024 Annual Report



Unit Name

Computational Neuroethology Unit

Collaborations

Professor Tom Bourguignon, OIST, Japan, Termite behavior

Professor Greg Stephens, Vrije Universiteit Amsterdam/OIST, Japan, Squid collective behavior

Dr. Rebecka Sepela/Dr. Pablo Villar del Rio, Harvard University, USA, Octopus chemosensation

Professor Nick Bellono, Harvard University, USA, Octopus chemosensation

Dr. Xitong Liang, MPI for Brain Research, Germany, Cuttlefish Camouflage Dynamics

Dr. Dominic Evans, MPI for Brain Research, Germany, Cuttlefish Camouflage Dynamics

Ms. Theodosia Woo, MPI for Brain Research, Germany, Cuttlefish Camouflage Dynamics

Professor Gilles Laurent, MPI for Brain Research, Germany, Cuttlefish Camouflage Dynamics

Professor Vincent Laudet, OIST, Japan, Clownfish behavior

Professor Simone Pigolotti/Dr. Robert Ross, OIST, Japan, Cephalopod skin as growing active matter

Dr. Leenoy Meshulam, University of Washington, USA, Cephalopod Physiology

Dr. Gustavo Sanchez, OIST, Japan, Cephalopod Genetics

Dr. Nobuaki Mizumoto, OIST, Japan, Termite behavior

Professor Dan Rokhsar, OIST, Japan, Cephalopod Genetics

Research Personnel

Dr. Tomoyuki Mano, Postdoctoral Scholar

Dr. Makoto Hiroi, Staff Scientist

Ms. Chie Edwards, RUA

Ms. Van Dinh, Research Unit Technician

Mr. Yutaka Kojima, Research Unit Technician

Dr. Alex Harston, JSPS Postdoctoral Fellow

Dolezalova Lada, OIST Student

Fernandez Olivier, OIST Student

Tsaridis Konstantinos, OIST Student

Pophale Aditi Sunil, OIST Student

Beraud Anouk, OIST Student

Scholarly Contributions and Creative Productions (by Faculty)

Journal Article

1. Reiter, S. A.

Son of a Beach: Coastal Development and the Loss of Natural Beaches over Time (1919 to 2018) on Okinawa Island, Southern Japan.. Marine Pollution Bulletin 2025, 117459.

Presentation at Conference

1. Reiter, S. A.

Cellular Diversity in the Visual Learning and Memory System of Cephalopods. CephNeuro 2024 2024.

2. Reiter, S. A.

Methodologies for Exploring Cephalopod Anatomy and Physiology at Cellular Resolution. CephNeuro 2024 2024.

3. Reiter, S. A.

Internal Models in Sepiotheutis Lessionana during Prey Hunting. CephNeuro 2024 2024.

4. Reiter, S. A.

Revealing the Hierarchical Organization of the Optic Lobe. CephNeuro 2024 2024.

Scholarly Contributions (by Unit Members)

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| Name of Unit Member | Туре | Title | Outlet | Publisher | Year Pub |
| Tomoyuki Mano | Journal Article | The activation of the piriform cortex to lateral septum pathway during chronic social defeat stress is crucial for the induction of behavioral disturbance in mice | | Neuropsychopharmacology | 2024 |
| Tomoyuki Mano | Journal Article | Cortical parvalbumin neurons are responsible for homeostatic sleep rebound through CaMKII activation | Nature | Nature Communications | 2024 |
| Tomoyuki Mano | Poster Presentation at Conference | Revealing the hierarchical organization of the optic lobe | The 47th Annual Meeting of the Japan Neuroscience Society, Fukuoka, Japan | | |
| Tomoyuki Mamo | Presentation at Conference | アオリイカの視葉におけ る階層的視覚情報処理 | Japan Cephalopod Research Workshop, Shimane, Japan (第7 回日本イカタコ研究 会) | | |
| Masucci, Giovanni | Presentation at Conference | On the evolution and ecology of azooxanthellate cave- living Palythoa spp. van den Eeckhout | European Coral Reef Symposium - ECRS 2024 | | |
| Tomoyuki Mamo | Presentation at Conference | アオリイカの視葉におけ る階層的視覚情報処理 | NIPS Extreme Environment Adaptation Workshop, | | |
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| Name of Unit Member | Туре | Title | Outlet | Publisher | Year Pub |
|---------------------------|----------------------------|---|--|-----------|-------------|
| | | | Okazaki (生理学研究 所研究会「極限環境 適応 2024」、岡崎) | | |
| Tomoyuki Mamo | Presentation at Conference | Revealing the hierarchical organization of the optic lobe | The 1st Cephalopod Neuroscience Conference, Woods Hole, United States | | |
| Tomoyuki Mano | Presentation at Conference | Hear the squid neurons sing | 211th WPI-IIIS Seminar, Tsukuba, Japan | | |

Outreach Activities (For Unit Members Only)

| 2024-10-01 | Tomoyuki Mano, "Sekai no Nanda Kore: Mystery" (broadcasted on 2024/10/23), Fuji TV Station |
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| 2024-10-01 | Tomoyuki Mano, Science Tech Festival in Ishigaki (Neuroscience workshop for elementary school children), OIST |
| 2024-10-01 | Tomoyuki Mano, OIST Science Trip in Ishigaki island @Yaeyama High School, OIST |
| 2024-07-01 | Tomoyuki Mano, OIST Marine Day Kids Lecture: Exploring Secrets of Cephalopods, OIST |

Workshops and Seminars (Organized and Hosted by Faculty/Units)

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| Speaker Name(s) | Title | Location | Co-Organizers | Date |
| Dr. Matteo Santon, Research Fellow, University of Bristol | Stealth and deception: motion camouflage in hunting cuttlefish | F01, Lab4, OIST | | 2024- 12-13 |
| Dr. Martin How, Senior Lecturer, School of Biological Sciences, Animal Behavior and Sensory Biology, University of Bristol | Polarization vision in crustaceans and cephalopods | F01, Lab4, OIST | | 2024- 12-13 |
| Dr. Ahmed El Hady, Group Leader, Center for Advanced Study of Collective Behavior and Max Planck Institute | Mechanistic theory of foraging | L5D23 , OIST | OIST's Visiting Program (TSVP) | 2024- 11-27 |
| Selected Speakers | Themed-How brains lean | OIST | | 2024- 10-01 |
| Dr. David L Stern, Senior Group Leader, Janelia Research Campus | Aphid effector proteins in plant gall induction and agriculture | F01, Lab4, OIST | | 2024- 09-02 |
| Jing Cai | Emergent properties: From squid visual systems to human language representation | Seminar Room L4F01, OIST | | 2024- 04-01 |