

## **Unit Name**

Evolutionary Neurobiology Unit  
Associate Professor Hiroshi Watanabe

## **Collaborations**

Mei-Fang Lin, National Sun Yat-Sen University, Taiwan, Genome analysis of Zoantharian species  
Kazuo Inaba, University of Tsukuba, Japan, Gene function analysis in *Bolinopsis mikado*  
Shunsuke Yaguchi, University of Tsukuba, Japan, Peptidomics of a sea urchin species  
Hiroaki Nakano, University of Tsukuba, Japan, Identification of monoamines in placozoa  
Mayuko Hamada, Okayama University, Japan, Peptidomics and metabolomics analyses of *Praesagittifera naikaiensis*  
Shuji Shigenobu, NIBB, Japan, Genome analysis of *Bolinopsis mikado*  
Shin-ichi Higashijima, NIBB, Japan, Gene function analysis in *Bolinopsis mikado*  
Shuichi Shimma, Miruion/The University of Osaka, Japan, Visualization of small molecules in *Nematostella vectensis*  
Luis Alfonso Yanez-Guerra, University of Southampton, UK, Identification of monoamines in placozoa

## **Research Personnel**

Kurato Mohri, Staff Scientist  
Ryotaro Nakamura, Research Unit Technician  
Yayoi Hongo, Research Unit Technician  
Chihiro Kawano, Research Unit Technician  
Christine Joy Guzman, Visiting Researcher  
Hongdi Wang, JSPS Fellow  
Akiko Tanimoto, Research Assistant  
Junko Higuchi, Research Assistant  
Minato Miyake, PhD Student (JSPS fellow)  
Shagufta Qamar, PhD Student  
Aazad Mohamed Mohamed Nazeem, PhD Student  
Liudmila Poliushkevich, PhD Student  
Daniel Alejandro Gonzalez Navarrete, Research Intern

## **Scholarly Contributions and Creative Productions (by Faculty)**

### **Publications**

1. Hongo Y, Fukuyama D, Chen LC, Sekimoto K, Watanabe H. Ghost Peaks of Aromatic Metabolites Induced by Corona Discharge Artifacts in LC-ESI-MS/MS. *Journal of Mass Spectrometry* 2025 60, e5102. doi: 10.1002/jms.5102.

- Hadife S, Wang H, Hongo Y, Watanabe H. Hypoxia-induced gene expression changes in *N. vectensis* embryos. BioRxiv doi: <https://doi.org/10.1101/2025.11.16.688652>

### **Presentation at Conference**

- Hiroshi Watanabe  
神経系はどのような性質を持って何のために生じたのか～原始動物系統の解析から得られた神経系の初期進化に関する最新知見～ Invited Seminar, Juntendo University, 24, April 2025. (oral)
- Hiroshi Watanabe  
Ancestral functions of the key synaptic molecule Neurexins. CNRS international conference “Origin of metazoans”, Roscoff (Bretagne), France, 16-20, June 2025. (oral)

### **Scholarly Contributions (by Unit Members)**

Name of Unit Member	Type	Title	Outlet
Ryotaro Nakamura	Poster Presentation at Conference	Functional Analysis of Neuropeptides in Sea Anemone Larvae : Insights into Conserved Mechanisms of Environmental Response and Behavioral Control in Cnidarians	The Japanese Coral Reef Society
Minato Miyake	Presentation at Conference	Insights into the evolutionary origins of neurons: Lessons from functional analysis of ctenophore transcription factors.	Origin of Metazoans Jacques Monod Conference
Minato Miyake	Presentation at Conference	Functional analysis of ctenophore transcription factors to unravel the evolutionary origin of neurons	International Workshop “From Conservation to Innovation – adaptation insights from basal metazoans”
Hongdi Wang	Poster Presentation at Conference	Evolutionary Implementation of Hypoxic Adaptation in Ancestral Metazoan metabolism by the HIF Pathway.	International Workshop “From Conservation to Innovation – adaptation insights from basal metazoans”
Hongdi Wang	Seminars	Evolutionary implementation of hypoxic adaptation in ancestral metazoan metabolism by the HIF pathway	動物学会 北海道支部 支部講演会第 608 回兼行動神経生物学セミナー
Kurato Mohri	Poster Presentation at Conference	クシクラゲ筋肉の収縮構造構成因子と分化機構の解析から探る筋肉の祖先的形質(Toward Exploring the Ancestral Traits of Muscle : analysis of Contractile Architecture and Differentiation Mechanisms in Ctenophore Muscle).	The96th Annual meeting of the Zoological Society of Japan 2025
Kurato Mohri	Presentation at Conference	Molecular Features of Contractile Structure and Differentiation Mechanisms of Muscles in the Ctenophore <i>Bolinopsis mikado</i> .	International Workshop “From Conservation to Innovation – adaptation insights from basal metazoans”
Kurato Mohri	Presentation at Conference	Exploring the Ancestral Traits of Muscle: Molecular Features and Differentiation Mechanisms of Muscle Cells in the Ctenophore <i>Bolinopsis Mikado</i> .	Joint Meeting of the 58th Japan Society of Developmental Biologists (JSDB) and the 77th Japan Society for Cell Biology (JSCB) 2025.
Yayoi Hongo	Presentation at Conference	De Novo Structural Elucidation of Cnidarian Metabolites by Non-Targeted LC-MS/MS.	10th Asia-Oceania Mass Spectrometry Conference 2025.

### ***Honors, Awards & Fellowships***

2024-2026 JSPS Postdoctoral Fellowships for Research in Japan (Standard): Hongdi Wang

### ***External Service***

Term 1 2025 - Ongoing Editorial board member, Journal of the Mass Spectrometry Society of Japan [Fiscal Year: 2025]

### ***Outreach Activities [For Unit Members Only]***

Term 3 2025 Yayoi Hongo, Teacher, Outreach Section, OIST [Fiscal Year: 2025]

Term 3 2025 Yayoi Hongo, Part-time tutor, Toyohashi University of Technology [Fiscal Year: 2025-05-30]