

The position

The Okinawa Institute of Science and Technology Graduate University (OIST; see www.oist.jp) is a dynamic new graduate university of science and technology in Okinawa Prefecture, Japan. The university is located on 85 hectares of protected forestland overlooking beautiful shoreline and coral reefs. The campus is striking architecturally, and the facilities are outstanding (OIST campus video tour). There are no academic departments, which facilitates multidisciplinary research. Outstanding resources and equipment are provided and managed to encourage easy access and collaboration. English is the official language of the University, and the university research community is fully international, with more than 50 countries represented. OIST is rapidly gaining recognition in the worldwide academic community as a model for excellence in education and research.

The Memory Research Unit at the Okinawa Institute of Science and Technology (OIST) is seeking a highly motivated postdoctoral researcher to investigate the circuit, synaptic, and systems-level mechanisms underlying memory stability, neural state transitions, and network reorganization.

Our research combines systems neuroscience, large-scale *in vivo* recording, imaging, and ultrastructural analysis to understand how brain function and memory are maintained despite dramatic physiological changes and structural remodeling. Current projects include artificial hibernation states, hippocampal memory engrams, neural state transitions, and large-scale synaptic remodeling.

The lab employs a broad range of approaches, including:

- *in vivo* electrophysiology (tetrodes, silicon probes)
- calcium imaging
- mouse behavior
- viral and genetic tools
- advanced light microscopy
- volume electron microscopy
- computational analysis of large-scale neural data

Recent work from the lab has examined how hippocampal memory representations remain stable despite extensive synapse elimination during artificial hibernation states (Lin et al., Science 2026).

What We Are Looking For

We are particularly interested in candidates who demonstrate strong scientific ownership and intellectual independence.

The ideal candidate is not only technically capable, but also actively engaged in:

- reading and integrating literature
- troubleshooting experimental problems
- proposing new ideas and approaches
- independently driving projects forward

- contributing to an intellectually active research environment

We strongly value researchers who view science as a proactive and collaborative process rather than a task-based workflow.

Research Environment

OIST is a highly international and interdisciplinary graduate university where English is the official language. The university provides outstanding core facilities and infrastructure, including advanced microscopy, animal facilities, computational resources, and collaborative opportunities across disciplines.

The Memory Research Unit emphasizes:

- high scientific standards
- close mentorship and intensive training
- open scientific discussion
- collaborative problem solving
- intellectual curiosity and continuous learning

The lab environment is best suited for researchers who are excited by technically and conceptually challenging projects and who are eager to develop as independent scientists.

Responsibilities

The successful candidate is expected to:

1. lead and develop independent research projects
2. design and perform experiments
3. analyze and interpret data
4. participate actively in scientific discussions
5. contribute to manuscript preparation and publication
6. mentor junior trainees when appropriate
7. contribute to the day-to-day operation of the laboratory

Qualifications

Required

- PhD in neuroscience, biology, or related experimental disciplines
- Strong interest in systems neuroscience and neural circuit function
- Fluency in spoken and written English
- Demonstrated research productivity

Preferred

Experience in one or more of the following areas is desirable:

- *in vivo* electrophysiology
- neural data analysis/programming
- calcium imaging
- mouse behavior
- computational neuroscience
- viral/genetic approaches
- advanced microscopy
- molecular and cellular biology, proteomics, and genome editing

Prior experience in all techniques is not required. We value scientific curiosity, learning ability, and ownership mindset more than narrow technical specialization.

Compensation and Benefits

In accordance with the OIST Employee Compensation Regulations

Benefits:

Relocation, housing and commuting allowances

Annual paid leave and summer holidays

Health insurance (Private School Mutual Aid)

Welfare pension insurance (kousei-nenkin)

Worker's accident compensation insurance (roudousha-saigai-hoshou-hoken)

Access to Child Development Center

Access to Schooling Options

Language Education

Resource Center (Daily Life Support in Okinawa)

Submission documents

- Cover letter describing research interests and motivation
- Curriculum vitae including publication list
- PDF of one representative first-author original research article (or bioRxiv preprint), together with a statement of the applicant's specific contributions (up to 300 words)
- Contact information for 2–3 references

* Please be sure to indicate where you first saw the job advertisement.

Starting Date

October 2026 (negotiable)

How to apply

Email to kazumasa.tanaka@oist.jp

Working hours

Discretionary

Application due date

Application will be closed once the position is filled.