

**Call for Joint Research Projects FY 2023**  
**Exploratory Research Center on Life and Living Systems (ExCELLS)**  
**National Institutes of Natural Sciences (NINS)**

1. Joint research projects to be proposed

(1) ExCELLS Project Research [ **Spatiotemporal atlas of dynamic structure and function of organelles** ]

(2) ExCELLS Themed Research (Seeds Discovery)

(3) General joint research

ExCELLS will be participating in the NMR Platform of the Advanced Research Infrastructure Sharing Promotion Project (Advanced Research Equipment Platform Program) since FY 2022, and part of (3) General joint research will be handled as this project.

2. Project term

(1) From 1st April 2023 to 31st March 2025

(2)(3) From 1st April 2023 to 31st March 2024

3. Eligibility

A researcher at a research institution, such as a university or a national or public research institute, or whose research capability is approved as equivalent by the Director of ExCELLS.

Researchers belonging to NIBB, NIPS, IMS, or ExCELLS are not eligible to apply for this project.

4. How to apply

Proposals for joint research projects must be submitted to ExCELLS online via the Natural Science Collaborative Research Management System (NOUS). NOUS can be accessed from the login page (<https://nous.nins.jp/user/signin>). Before submission, every person must consult beforehand with an ExCELLS researcher who is most relevant to the intended research, regarding details such as the research theme, research plan, visit term, travel expenses, etc.

The names of principal investors in research groups, their research themes, and their contact details are as shown on the website of ExCELLS. (<https://www.excells.orion.ac.jp/en>)

5. Deadline for proposals

17:00 Friday, 2nd, December, 2022 (JST)

Even after the deadline, you may apply Proposals for General joint research at any time after April 1, 2023. In this case, the submission should be completed at least one month before the proposed project's scheduled start.

6. Determination of proposal acceptance

The Director of ExCELLS will accept proposals based on reviews by ExCELLS Joint Research Project Committee.

7. Date of decision regarding proposal acceptance

Around March 2023

8. Travel expenses

Travel expenses are reimbursed within the budget according to the NINS Regulations for Travel Expenses.

9. Certificate application for individuals working with radiation

When the project accepted involves an experiment using a radioisotope at ExCELLS, all the persons who work under a radioactive condition are strictly required to be registered at ExCELLS.

#### 10. Gene recombination experiments

When the project accepted involves an experiment using gene recombination or gene editing at ExCELLS, the experiment plan should be reviewed and approved beforehand by the Gene Recombinant Experiments Safety Committee of the Three Okazaki Institutes before starting.

#### 11. Animal experiments

When the project accepted involves an animal experiment at ExCELLS, the experiment plan should be reviewed and approved beforehand by the NINS Animal Experimentation Committee before starting.

#### 12. Any projects involving human subjects or specimens obtained from human bodies

When the project you are planning to submit involves human subjects or specimens obtained from human bodies or related fields, it should be approved by the ethics committee of your institution before submission. After approval by ExCELLS, it should be next approved by the the Ethics Committee for Human Research of National Institutes of Natural Sciences before starting.

When a project is classified as "clinical research" by the Ethical Guidelines for Medical and Health Research Involving Human Subjects issued by the Ministry of Health, Labour, and Welfare of Japan, please consult with an ExCELLS researcher beforehand.

#### 13. Human genome or gene analysis research

When the project accepted involves an experiment on human genome/gene analysis at ExCELLS, the experiment plan should be reviewed and approved by the Ethics Committee for Human Research of National Institutes of Natural Sciences before starting.

#### 14. Submission of the research report

After the research project is finished, the principal investigator must submit a research report to the Director of ExCELLS as soon as possible. The report submitted may potentially appear in printed materials from ExCELLS and/or at the website of ExCELLS.

Please submit your research report using NOUS. More information on the report form and other details are available on the website (<https://www.excells.orion.ac.jp/>).

#### 15. Clarification of supports by ExCELLS

If you publish any outcome of the proposed joint research in academic papers, please be sure to clearly indicate in the Acknowledgments that the work was performed as joint research hosted by ExCELLS.

#### ※Example

This research was supported by Joint Research of the Exploratory Research Center on Life and Living Systems (ExCELLS). (ExCELLS program No.\*\*\*)

\*Please replace \*\*\* with the project number, which will be provided when the project is adopted.

#### 16. Handling of intellectual property rights

Intellectual property rights will be handled pursuant to the stipulations of the NINS Regulations on Inventions by Employees (NINS-Regulations No. 12 of 2004).

When the proposal is adopted as a joint research project, the proposal representative and the joint researcher will be assigned the status of "joint researcher" to research the adopted project, and the intellectual property rights of the research will be handled in the same way as those of the officers and employees in the above regulations. (For specific details, please contact us individually.)

#### 17. Accommodations

We have accommodations for use by researchers who participate in joint research. Researchers who want to use the lodging facilities shall contact an ExCELLS researcher.

#### 18. Childcare support

Depending on availability, researchers who participate in ExCELLS joint research projects can use our onsite childcare facility. Researchers requiring childcare s contact the receptionist (details below) to make a booking at least 6 weeks in advance.

[Contact for childcare booking] NINS Okazaki Administration Center, General Affairs Section  
TEL: +81-564-55-7122

#### 19. Promotion of gender equality

NINS actively promotes gender equality. Please consider this when planning and conducting any collaborative project with us.

#### 20. Personal information

The personal information in your proposal shall be used limitedly for tracking research activities originating from your project or for administrative procedures by NOUS.

Be aware that such information in "open" sections in your research reports, like the name and affiliation of the representative researcher, the project title, or other related data, shall appear at the ExCELLS website and in the ExCELLS publicity materials; information in the "closed" sections shall not.

#### 21. Consultant

< Collaborative Research Promotion Office >

TEL: +81-564-59-5201      E-MAIL: collabo@excels.orion.ac.jp

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#### ACCESS

##### **From areas around Tokyo**

Take JR Shinkansen to Toyohashi Station

Take Meitetsu Nagoya Honsen Line from Toyohashi Station to Higashi-Okazaki Station (about 20 min with a Limited Express train)

##### **From areas around Osaka**

Take JR Shinkansen or Kintetsu Line to Nagoya Station

Take Meitetsu Nagoya Honsen Line from Nagoya Station to Higashi-Okazaki Station (about 30 min with a Limited Express train)

From the south exit of Higashi-Okazaki station,

- By bus: Take Tatsumigaoka-junkan bus that departs from the No.11 bus station, get off at Tatsumi-kita-1chome (about 5 min) and walk east for about 3 min.

- On foot: About 20 min.

For more details, please refer to the ExCELLS website (<http://www.excels.orion.ac.jp/>).

## Details of the Call for Proposals

### 1. ExCELLS Project Research [ Spatiotemporal atlas of dynamic structure and function of organelles ]

#### (1) Outline

The ExCELLS aims to answer the fundamental question common to all humankind, "What is life? ". For this purpose, we have established "the Advanced Co-creation Platform" to develop and promote advanced life science research. As part of this platform, the faculty members affiliated with the center and researchers from external research institutions form a research team to work on a project-oriented collaborative research. We refer to this collaborative research and the team as "the ExCELLS Project Research. "

The ExCELLS project research "Spatiotemporal atlas of dynamic structure and function of organelles" promotes organelle research, which is expanding with the recent identification of membraneless organelles. We aim to elucidate organization of membrane and membraneless organelles, as well as their reorganization, dynamics conversion, and functional regulation by various cues. In particular, it is currently difficult to isolate membraneless organelles that have undergone liquid-liquid phase separation in cells, so new analytical methods are in demand. Such analytical methods are expected to also contribute to new developments in membrane organelle research. We are calling research proposals based on molecular and cellular biology, imaging, spatial omics, etc., aiming at these goals.

We welcome proposals rooted in biological questions and those based on analysis technology. We also welcome research proposals based on own original and novel ideas by young researchers.

#### (2) ExCELLS researcher in charge

When applying, you must choose one ExCELLS researcher that is participating the ExCELLS project research "Spatiotemporal atlas of dynamic structure and function of organelles" as an ExCELLS researcher in charge for facilitating your participation in this ExCELLS project research.

For details of lists for the ExCELLS researchers that are participating the ExCELLS project research, please visit the ExCELLS website. (ExCELLS web site URL) <https://www.excells.orion.ac.jp/list-of-adoption#1-1>

#### (3) Research expenses

Up to 2.0 million yen will be allocated for research expenses during the fiscal year.

### 2. ExCELLS Themed Research (Seeds Discovery)

#### (1) Outline

Collaborative research conducted by researchers at universities and public research institutes in collaboration with two or more research groups from ExCELLS on following research themes related to ExCELLS's goal for understanding the design principles of life.

[Research themes]

1. Research and development of basic technology for creation of artificial cells
  - (1) Theoretical and computational sciences and chemical approach
  - (2) Molecular and cell biology approach
2. Research on artificial creation of cellular networks
3. Research on adaptation of life for extreme environments

For details of the acceptable research groups, please visit the ExCELLS website.  
(ExCELLS web site URL) <http://www.excells.orion.ac.jp/>

#### (2) Continuing research project

You can continue to apply for research project. Judgement is conducted every fiscal year, and it can be continued for up to three years.

#### (3) Research expenses

Up to 2.5 million yen will be allocated for research expenses during the fiscal year.

### **3. General joint research**

#### **(1) Outline**

Joint research projects conducted by researchers from universities/public research institutes in cooperation with faculty members from ExCELLS. We provide opportunities to use state-of-the-art equipment and advanced technical support.

For details of the equipment, please visit the ExCELLS website.

(ExCELLS web site URL) <http://www.excells.orion.ac.jp/en/equipments-for-cooperative-studies>

#### **(2) Continuing research project**

You can continue to apply for research project. Judgment is conducted every fiscal year.

#### **(3) Research and travel expenses**

Based on the visit plan stated in the application form, travel expenses will be allocated within the budget of ExCELLS.

Research expenses will not be allocated.