

# FY2022 Information Technology Center, The University of Tokyo Application Requirements for “Recommendation Program for Young Researchers and Woman Researchers”

## Overview

The Information Technology Center, The University of Tokyo (hereafter, “the Center”) offers a public recruitment program that is open to young researchers (40 years or younger as of April 1, 2022), woman researchers or students to conduct research utilizing large computational resources such as supercomputers and data platforms. The center is calling for research proposals for FY 2022. This program is designed for research themes where a solo researcher executes a project lasting six months to one year. Upon screening by the Center’s faculty members, several dozen outstanding research proposals will be selected during the year. Selected research projects can use the Center’s computational resources at no charge.

The program selects outstanding projects, which fulfill the criteria as Exploratory Joint Research Projects under Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (JHPCN), the Center plans to recommend them to JHPCN as Exploratory Joint Research Projects. If selected as a JHPCN Exploratory Joint Research Project by the JHPCN’s Screening Committee for Joint Research Projects, a presentation opportunity may be provided at the JHPCN annual symposium in July. After completion, we have high expectations that the projects will develop into full-fledged joint research projects (general, international, and industrial theses), which expand on the original exploratory research based on the obtained research achievements.

## FY2022 Dates for open calls

	Application period	Notification of adoption	Period of use*
First half term	Monday, January 24, 2022 9:00 – Monday, February 21, 2022 17:00 (strict deadline)	Mid-March	[six months] Friday, April 1, 2022 – Friday September 30, 2022 [twelve months] Friday, April 1, 2022 – Friday, March 31, 2023
Second half term	Monday, July 25, 2022 9:00 – Monday, August 29, 2022 17:00 (strict deadline)	Mid-September	[six months] Saturday, October 1, 2022 – Friday, March 31, 2023

\* Maintenance may render a computer system inaccessible during the use period.

### **Application eligibility**

The project representative must satisfy criteria 1–3:

1. The project representative must be either a staff, faculty member, researcher, or student (undergraduate or graduate) who belongs to a Japanese university or public organization, or a researcher who belongs to a Japanese private corporation. A student applicant must receive approval from his/her supervisor. A researcher in a corporation must receive approval from his/her supervisor.
2. The project representative must be a young researcher (40 years or younger as of April 1, 2022), a woman researcher (all ages), or a student (all ages).
3. If the project representative is a foreign national, he/she must be a resident as defined by the Foreign Exchange and Foreign Trade Act.

### **Application criteria**

1. Research projects must be for academic purposes and contribute to the field of large-scale high-performance computing or data science/data usage.
2. Projects must be conducted by a solo researcher.
3. Upon completion, based on feedback and the achievements attained, the original exploratory research should develop into a full-fledged joint research project at JHPCN.

### **Available amounts of computational resources**

The computational and other resources for use are listed below. The Center covers all associated fees, including additional disk usage. As for adopted projects, the project representatives can use resources free of charge.

Up to the maximum available tokens (as shown in the table below) can be used in Oakbridge-CX, Wisteria/BDEC-01 Odyssey, and Wisteria/BDEC-01 Aquarius. Please note that the maximum available tokens change based on the usage period. Additional disk capacity can be added to these systems.

The unit for Oakbridge-CX and Wisteria/BDEC-01 Odyssey use is a node. The table below shows the token consumption coefficient for one node. In a system with a token consumption coefficient  $\alpha$  for one node, if  $X$  nodes are used for  $T$  hours, the required number of tokens is  $X * T * \alpha$ .

The unit for Wisteria/BDEC-01 Aquarius use is 1 GPU. The table below shows the token consumption coefficient for 1 GPU. In a system with a token consumption coefficient  $\alpha$  for 1 GPU, if  $X$  GPUs are used for  $T$  hours, the required number of tokens is  $X * T * \alpha$ . If you use one node, the number of tokens must include all GPUs on one node.

As for mdx, ensure that value is below the maximum value for vCPUs, GPUs, virtual disk, and various storages. For mdx, some resources such as disk capacity can be added.

<p>Oakbridge-CX</p>	<p>For six months: equivalent to two sets  Usage fees: equivalent to 100,000 yen  Maximum tokens available: 8,640  Maximum number of parallel execution nodes: 256  Token consumption coefficient: 1.00 (pernode)  Disk capacity: 8 TB</p> <p>For twelve months: equivalent to two sets  Usage fees: equivalent to 200,000 yen  Maximum tokens available: 17,280  Maximum number of parallel execution nodes: 256  Token consumption coefficient: 1.00 (pernode)  Disk capacity: 8 TB</p> <p>○Additional disk capacity  Usage fees: 3,240 yen per 1 TB for 6 months  Usage fees: 6,480 yen per 1TB for 12 months</p> <p>For more details, refer to  <a href="https://www.cc.u-tokyo.ac.jp/supercomputer/obcx/system.php">https://www.cc.u-tokyo.ac.jp/supercomputer/obcx/system.php</a></p>
<p>Wisteria/BDE C-01 Odyssey</p>	<p>For six months: equivalent to two sets  Usage fees: equivalent to 60,000 yen  Maximum tokens available: 8,640  Maximum number of parallel execution nodes: 2,304  Token consumption coefficient: 1.00 (pernode)  Disk capacity: 4 TB</p> <p>For twelve months: equivalent to two sets  Usage fees: equivalent to 120,000 yen  Maximum tokens available: 17,280  Maximum number of parallel execution nodes: 2,304  Token consumption coefficient: 1.00 (pernode)  Disk capacity: 4 TB</p> <p>○ Additional disk capacity  Usage fees: 3,240 yen per 1TB for 6 months  Usage fees: 6,480 yen per 1TB for 12 months  For more details, please refer to  <a href="https://www.cc.u-tokyo.ac.jp/public/pr/pr-wisteria.php">https://www.cc.u-tokyo.ac.jp/public/pr/pr-wisteria.php</a></p>

<p>Wisteria/BDE C-01 Aquarius</p>	<p>For six months: equivalent to three sets Usage fees: equivalent to 90,000 yen Maximum tokens available: 12,960 Maximum number of parallel execution GPUs/nodes: 64 GPUs/8 nodes Token consumption coefficient: 3.00 (per GPU)* Disk capacity: 6 TB</p> <p>For twelve months: equivalent to three sets Usage fees: equivalent to 180,000 yen Maximum tokens available: 25,920 Maximum number of parallel execution GPUs/nodes: 64 GPUs/8 nodes Token consumption coefficient: 3.00 (per GPU)* Disk capacity: 6 TB</p> <p>○ Additional disk capacity Usage fees: 3,240 yen per 1 TB for 6 months Usage fees: 6,480 yen per 1 TB for 12 months For more details, please refer to <a href="https://www.cc.u-tokyo.ac.jp/public/pr/pr-wisteria.php">https://www.cc.u-tokyo.ac.jp/public/pr/pr-wisteria.php</a></p> <p>* 8 GPUs are mounted on one node. If you are using the entire node, count the tokens for all 8 GPUs. Therefore, the token consumption coefficient for one node is 24.0.</p>
---	---

**mdx**

<p>mdx</p>	<p>Applicants can request the following maximum resources per research project. Once selected, requested resources within the range are allocated, and a researcher can freely use allocated resources during the designated research period (half a year or one year).</p> <ul style="list-style-type: none"> <li>▪ 608 vCPUs (equivalent to 4 nodes)</li> <li>▪ 1 GPU</li> <li>▪ 100 GB of virtual disk</li> <li>▪ 1 TiB of high-performance internal storage</li> <li>▪ 2 TiB of high-capacity internal storage</li> <li>▪ 2 TiB of object storage</li> <li>▪ 1 global IP address</li> </ul> <p>For more details about mdx specifications, please refer to <a href="https://mdx.jp/sys_desc/">https://mdx.jp/sys_desc/</a></p> <p>After using the initial allocation, additional resource applications can be made up to the following maximums: 9120 vCPUs, 64 GPUs, 10 TiB of virtual disk, 50 TiB of high-performance internal storage, 500 TiB of high-capacity internal storage, 500 TiB of object storage, and 50 IP addresses. Resources are allocated if there is availability at the time of additional resource applications. If resources become inadequate, the allocated</p>
------------	--

	amount may be reduced.
--	------------------------

### **Reporting research achievements**

1. You must submit a research report within one month of project completion.
2. You must write an article related to the achievements of your research (6 – 8 pages long in an A4 size document) for the Center’s publications such as *Supercomputing News*. The manuscript submission is due approximately three months after project completion. The due date can be extended up to two years after project completion for reasons related to publishing a research paper.
3. Upon completion, you must present your research in a results presentation session, which also acts as a social event among users and between users and the Center. The results presentation session for the projects selected in FY2022 is planned for June 2023. In principle, travel expenses to the presentation venue for one person per project are provided in accordance with the regulations of The University of Tokyo.
4. If the achievements of research conducted under this program are published in an academic journal or other medium, clearly state that the computer system use was provided through the Recommendation Program for Young Researchers and Woman Researchers offered by Information Technology Center, The University of Tokyo. Submit a list of achievements to the Research Support Team.
5. If your project is selected as an Exploratory Joint Research Project by JHPCN, you may be invited to present a poster of your research plans or achievements during the JHPCN symposium held annually in July. Whether research plans or achievements are included in the presentation poster depends on the selection timing of your project. (In such cases, travel expenses are paid.)
6. You may be asked to present in seminars, workshops or other events organized or co-hosted by the Center.

### **Screening projects**

1. Projects are selected by the faculty members of the Center via a document screening.
2. Several dozen outstanding research proposals will be selected during the year.
3. The Center plans to recommend exceptional projects that fulfill the criteria as an Exploratory Joint Research Project under JHPCN to JHPCN as Exploratory Joint Research Projects.

### **Selection criteria**

1. We actively select proposals that are expected to create academically impactful research achievements through the utilization of the computer systems offered by the program.
2. We welcome proposals related to software development that should help improve the usage environment such as that of supercomputers.
3. We welcome proposals that require beyond the present environment and aim to utilize advanced future supercomputer environments.

4. As for the use of mdx, we particularly welcome diverse research in data science and data utilization, including the collection and maintenance of diverse data across science, engineering, humanities, and liberal studies; data sharing and platform maintenance in research communities; and data analysis utilizing advanced methods in data science such as machine learning.

### **Application method**

\* Please adhere to the application steps to ensure submission via the website.

\* Please use the latest version of the application.

<Application steps>

1. Obtain an application number from the website.

- i. The application is accessible at the following URL:

- \* Application number page for “Recommendation Program for Young Researchers and Woman Researchers”.

- [https://regist.cc.u-tokyo.ac.jp/webform/wakate/issue\\_form.php](https://regist.cc.u-tokyo.ac.jp/webform/wakate/issue_form.php)

- ii. Enter all necessary information and click the “Get an application number” button.

- iii. The application number will be sent to the provided email address.

- \* Please retain the application number as it is used for further processing.

2. Complete application form B.

- i. Download application form B (Word file).

- ii. Complete application form B and save as a PDF file.

- (Application form B requires you to enter details such as the purpose and plans for use)

3. Apply through the website.

- i. Access the following URL to complete the application.

- \* Application page for “Recommendation Program for Young Researchers and Woman Researchers”.

- [https://regist.cc.u-tokyo.ac.jp/webform/wakate/application\\_form.php](https://regist.cc.u-tokyo.ac.jp/webform/wakate/application_form.php)

- (The application requires details such as project representative information and an abstract of a research project.)

- ii. Submit your application along with the application form B (PDF file).

- iii. An automated reply will be generated to confirm receipt of your application.

- (For your reference, a copy of your application forms A and B are attached.)

- \* The use of supercomputers and data platforms requires approval from your supervisor, which is a supervisor for students or your direct supervisor for those belonging to a corporation. Upon submission of your application, an approval confirmation email is sent to your supervisor’s email address listed in the application. The application process is complete once your supervisor provides approval.

### **Inquiry**

Research Support Team, Information Strategy Group, Information Systems Department, The University of Tokyo

E-mail: [koubo@cc.u-tokyo.ac.jp](mailto:koubo@cc.u-tokyo.ac.jp) (Please write “young/woman” in the subject line.)