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## Overview of Application Status for the Periodic Call for Research Projects Using HPCI System Including the Supercomputer Fugaku in FY 2023 (First of Two Calls per Year)

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**On November 2, 2022, the periodic call for research projects using the supercomputer Fugaku and HPCI shared computational resources (Period-A: the first of two calls per year) was closed. For this call, 178 proposals were submitted. For both Fugaku and HPCI shared resources, the number of proposals has increased by 1.2 times in comparison with FY2022 Period-A, while the total requesting amount of resources has increased by 1.3 times.**

Research Organization for Information Science and Technology (RIST, President: Dr. Yasuhide Tajima), as the Registered Institution for Facilities Use Promotion, opened the call for proposals for FY 2023 Period-A projects using the HPCI<sup>(\*)1</sup> system including the supercomputer Fugaku<sup>(\*)2</sup> between September 1, 2022 and November 2, 2022. The periodic call for Fugaku projects open twice per year, and the Period-A call is the first of the two calls.

As a result of the call, 178 proposals were submitted. Of them, 99 proposals were submitted for Fugaku projects. For HPCI shared computational resources, we have received 79 proposals. Compared with FY 2022 Period-A call, the number of proposals was 1.2 greater for both Fugaku and HPCI shared computational resources.

Furthermore, the total requesting amount of resource was 1.3 times greater for both Fugaku and HPCI shared computational resources. The requesting amount of resource per project also increased, and proposals from projects requiring large-scale computational resources are expected to continue at similar levels.

In line with this and continuing from calls in FY 2021 and FY 2022, three priority areas<sup>(\*)3</sup> for promotion were set for Fugaku General Access Projects based on Japanese government policy, with 15 proposals submitted. The number of proposals for each area is indicated in square brackets.

- (i) Research and development of infectious disease control. [5]
- (ii) Research and development that contributes to solving scientific and social issues through the use of AI and data science. [7]
- (iii) Basic research and development that contributes to next generation computing. [3]

The priority area (ii) "Research and development that contributes to solving scientific and social issues through the use of AI and data science" was newly created on this occasion, and with seven proposals submitted, research promotion is anticipated in the relevant areas.

Going forward, the proposed projects will be peer-reviewed and assessed by experts in their respective scientific areas, and evaluated by the Project Screening Committee and the Selection Committee. Awards will be made after this selection process and the results are expected to be announced in February.

Other than periodic calls, RIST calls for year-round opening calls<sup>(\*)4</sup>.

## <Proposals submitted in FY 2023 Period-A>

Project Categories	FY 2023 Period-A			(Ref.) FY 2022 Period-A		
	Fugaku	HPCI	Total	Fugaku	HPCI	Total
Fugaku General Access	<b>64 (15)</b> (Note)	<b>58</b>	<b>122</b>	52 (11) (Note)	48	100
Fugaku Junior Researchers	<b>13</b>	<b>20</b>	<b>33</b>	14	15	29
Fugaku Industrial Access	<b>22</b>	<b>1</b>	<b>23</b>	17	3	20
Total	<b>99</b>	<b>79</b>	<b>178</b>	83	66	149

(Note: The figures in brackets indicate the number of proposals (included in the total) for priority areas.)

### (\*1) HPCI (innovative High-Performance Computing Infrastructure)

Established by the Ministry of Education, Culture, Sports, Science and Technology, HPCI is a powerful research platform of which Japan can be proud. It connects supercomputers (HPCI shared computational resources) such as RIKEN's Fugaku, which are installed at national universities and research institutions, via a high-speed network, providing a shared computational environment that accommodates the diverse needs of users. For details, please see the HPCI portal site: <https://www.hpci-office.jp/en>

### (\*2) The supercomputer Fugaku

Fugaku was developed and established in a collaboration between Riken and Fujitsu as a successor to the K computer. It contributes to growth in Japan by solving social and scientific issues, and with the aim of producing world-leading results, it is one of the world's foremost supercomputers in terms of its ability to combine efficient electrical consumption, computational performance, user-friendliness, the generation of groundbreaking achievements, and functions to accelerate big data and AI.

Fugaku is fitted with 158,976 central processing units (CPUs), and can perform approximately 442.01 quadrillion calculations per second (44.2 petaFLOPS).

In the November 2022 world supercomputer rankings, the supercomputer Fugaku was in 1st place for the sixth time in succession in HPCG (High Performance Conjugate Gradient) and Graph500, in 2nd place in TOP500, and in 3rd place in HPL-AI. For more details, please refer to the following Riken press release: <https://www.r-ccs.riken.jp/en/outreach/topics/20221117-1/>

### (\*3) Priority areas

Priority areas are decided each fiscal year based on Japanese government policies. Proposals that are judged to fit these areas will be given preference in the selection process.

### (\*4) Year-round opening calls

Calls for the following projects are open throughout the year. For details of each project call, please see the HPCI portal site: <https://www.hpci-office.jp/en>

- Fugaku
  - Small-Scale Projects (General / Junior Researchers / Industrial)
  - Trial Access Projects (General / Industrial) (including first-touch option)
  - Fee-based / Fee-based Trial Access Projects (General / Industrial)
- HPCI systems other than Fugaku
  - HPCI Industrial Trial Access Projects
  - HPCI Industrial Fee-based Access Projects (Proprietary Use)
  - HPCI Shared Storage Projects (Sharing Use)
  - HPCI Infectious Diseases including COVID-19 Research Access Projects

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