The 54th Kurata Grants (FY 2022)
Application Guidelines for the Natural Science and Engineering Research Fields

The Hitachi Global Foundation supports creative and pioneering research by young researchers, in the fields of natural sciences and engineering that contributes to solving social challenges from an international perspective.

1. Eligibility

（1） Researchers who belong to universities and their attached research facilities, research institutions, and technical colleges in Japan (excluding researchers affiliated with corporations). Graduate students are eligible to apply.

（2） A letter of recommendation from the head of the institution of affiliation (Chancellor, President, Dean of graduate school, Dean of faculty, Director, Research Institute Head, immediate superior, etc.) is required. There is no limitation on the number of recommendations.

（3） There are no restrictions regarding nationality. However, grants are limited to researchers who reside in Japan and are expected to have a research base in Japan continuously until the end of the research period.

（4） Applicant (research representative) must be 45 years old or younger as of April 1, 2022.

2. Eligible Research Areas

The following three areas are eligible for support. Interdisciplinary research from the perspective of natural science and engineering research is also eligible.

I. Energy and the Environment   **II.** Urban Development and Transportation   **III.** Healthcare

*Please refer to the category table on page five of these guidelines for specific research areas for each category.

3. Grant amounts and number of projects to be selected
・One-year research period: Maximum of 1,000,000 JPY per grant, approx. 30 grants
・Two-year research period: Maximum of 3,000,000 JPY per grant, approx. 5 grants

4. Research periods and expiration dates
Please select one of the following when applying
・One-Year Research Period: March 1, 2023 - March 31, 2024
・Two-Year Research Period: March 1, 2023 - March 31, 2025

5. Expenses Covered by Grant
Direct expenses for achieving a research objective. However, the following expenses are excluded.
・Indirect expenses for maintaining the general research environment of the affiliated institution
・Personnel costs corresponding to the wages of the principal and collaborating researchers

6. Obligation to report

・ After the grant period ends, recipients will be requested to submit a research report and an accounting report.

・ If the research period is two years, recipients will be requested to submit an interim report at the end of the first year.

・ Submitted research reports will be published as "The Kurata Grant Research Reports" and published on The Hitachi Global Foundation's website.

・ Research results may be presented at events The Hitachi Global Foundation holds, etc.

7. Presentation of Research Outcomes

If a recipient publishes the outcomes of research carried out after receiving this grant, a note to the effect that this grant was received shall be added using the name below.

Japanese: 公益財団法人日立財団　倉田奨励金
English:　The Kurata Grants by The Hitachi Global Foundation

8. Selection Process

A selection committee consisting of the following six members will be established to select the grant recipients.

Selection Committee Chair
　　Hanaki Keisuke　　　Professor, School of Information Networking for Innovation and Design, Toyo University
Selection Committee Members　(in alphabetical order)
　　Ishida Haruo　　　Professor Emeritus, University of Tsukuba
　　Kobayashi Tetsuhiko　President Dr, Osaka Research Institute of Industrial Science and Technology
　　Nagamune Teruyuki　Coordinator, Foundation for the Promotion of Engineering Research, Emeritus Professor, The University of Tokyo
　　Matsumoto Takeo　　Professor, Graduate School of Engineering, Nagoya University
　　Yamada Shinji　　　Senior Chief Expert, Research & Development Group, Hitachi, Ltd.

(Selection Process)
Grant recipients will be determined by consultation among the selection committee based on individual evaluations of the following evaluation items by selection committee members.

(Evaluation Criteria)
　　a) Social importance of the research theme
　　b) Originality and innovativeness
　　c) Academic significance
　　d) Feasibility of the research plan
　　e) Suitability of expenses

9. How to apply

Application is public offering and application can only be made online.

The application forms can be downloaded from The Hitachi Global Foundation's website and the applicant shall register and apply from the designated application registration page.

[Application documents]

      (1) Application form (research plan)

      (2) Recommendation letter

      (3) Published articles by the applicant that will serve as a reference for the review process
         (maximum three)

[Application process]

> **Step 1** Obtain the application guidelines and application documents (1) and (2)
> (Download from The Kurata Grants application method page)
> (Application method page)
> https://www.hitachi-zaidan.org/activities/kurata/application-method.html

> **Step 2** Enter your name and e-mail address on the registration form and send it.
> We will notify you of your reception number and the application page URL by return e-mail.
> (Registration form: There is an entry button on the application method page.)
> https://kurata-srv.hitachi-zaidan.org/TheKurataGrants/TheKurataGrants/registrationForm.aspx

> **Step 3** Preparation of the application documents
> Please prepare the following documents. The file size of documents 1 to 5 **must be less than 10 MB in total**.

Document	Content	Format
1. Application form **(mandatory)**	• Items A to P must not exceed four pages in total. • There is no limit on the number of pages for the publication list of Item Q. If you wish to attach an existing list, please combine it into one file with the application form.	PDF or Word
2. Recommendation letter **(mandatory)**	Submit as data, signed and sealed.	PDF
3. Reference article 1 **(optional)**	A published article by the applicant that will serve as a reference for the review process	PDF
4. Reference article 2 **(optional)**	A published article by the applicant that will serve as a reference for the review process	PDF
5. Reference article 3 **(optional)**	A published article by the applicant that will serve as a reference for the review process	PDF

> **Step 4** Complete the required items on the application form you are notified of in the return e-mail of Step 2, attach and send the set of application documents.

*After completing the registration form and application form, you will be sent an automatic reply e-mail to the e-mail address you entered. If you do not receive an e-mail, please check your spam folder. If you do not receive an automatic reply e-mail after half a day, there may be an error in the address you entered. We are sorry for any trouble, but in this case, please register again or contact our office.

10. Deadline

<u>Midnight, September 15, 2022 (the online application system's closing time)</u>

The system may be congested close to the deadline and you may not be able to complete the submission so please send your application with time to spare.

11. Grant determination

January 2023

12. Presentation Ceremony

Date   Thursday, March 2, 2023

Venue   "Kyōsō-no-Mori"

（The Central Research Laboratory of Hitachi, Ltd. in Kokubunji, Tokyo.）

13. Grant transfer

In principle, the foundation will transfer the grant to your institution as a research grant.

14. Measures against violations

If any of the following applies or if such fact is discovered, the decision to award the grant may be cancelled, the grant may be discontinued, or the foundation may demand the return of all or part of a grant already provided.

(1) If a false application or report is submitted

(2) If the continuation of subject research activities, etc., becomes impossible
(Exclusion from affiliation with a domestic research institution, etc. A transfer of affiliation in Japan is possible.)

(3) If an accounting report is not submitted by the due date

(4) If there is a balance of 10% or more of the grant remaining at the end of the research period

(5) If the President otherwise recognizes that the grant is not suitable in light of the purpose of the grant

15. Applications from anti-social forces

We do not accept applications from anti-social forces, and individuals or groups related to anti-social forces.

16. Other

- We are unable to respond to inquiries regarding the process, content and results of selections.
- The affiliation, name, photograph, research theme and research summary of people determined to receive a grant will be published on the foundation's website, social media, public relations magazines, etc.

* Handling of personal information

We use the personal information we receive from applicants only for the general procedures related to The Kurata Grants (selection, notification of results and presentation of grants). We never disclose personal information to third parties or use personal information for any other purpose without consent.

[Contact Regarding Applications]

Kurata Grants Office, The Hitachi Global Foundation

e-mail: kurata@hdq.hitachi.co.jp

The Kurata Grants Application Guidelines: Classification of Scientific Fields

The table below describes the content of each field. It will help applicants decide the field best suited to their research projects. Yet this table does not exhaustively describe the research fields The Kurata Grants are aimed at. If your research project does not fall exactly under a specific field in the table below, please choose a field from the table that is relatively close to the field in which you will do your project research.

Research area	Keyword	Example Research Topics
Energy and the Environment	Connection with society	Ecosystem services and biodiversity, etc.
	Energy systems, Energy network	Solar batteries, artificial photosynthesis, fuel cells, thermoelectric conversion, electrical storage devices, power semiconductor devices, green catalysts, etc.
		Distributed power, renewable energy and fusion systems, energy network technology, etc.
		High efficiency energy services, supply and demand management systems that utilize consumer resources, etc.
	Production and consumption	Green technology (zero carbon, hydrogen energy), recycling technology for developing countries (small-scale bio-gas equipment), etc.
		Bioplastic, Measures to microplastics
	ICT	Links between the energy, environment and ICT platforms (AI, Internet of Things, big data, robotics)
		Social impact of ICT advancements (Include an environmental impact assessment), risk management
	Observation and measurement	Environmental monitoring on a global scale (remote monitoring surveys), etc.
Urban Development and Transportation	Connection with society	Disaster prevention, disaster reduction (urbanization and damage minimization in large-scale disasters, disaster surveillance satellites, etc.)
		Compact cities, area management, sustainable living, etc.
	Social Infrastructure	National, urban and regional planning (land use, infrastructure development, etc.)
		Transportation engineering, urban engineering, civil engineering, hydroengineering, infrastructure, etc.
		Safe water supply systems, drainage and other water treatment systems, membranes, ingredients, etc.
		Service management, transportation supply management, etc.
	Next generation mobility technology	Next-generation urban transportation systems (autonomous cruising systems, mobility services, etc.)
		Security and safety, social impact and risk management
	ICT	HMI (voice recognition, image recognition, etc.)
		Developing technologies for using GNSS and GIS for cities and transportation, etc.
		Specific of data coordination (Ecosystems in data platforms, etc.)
Healthcare	Connection with society	Ethical, legal, and social issues accompanying regenerative medical science; medical care enhancement, etc.
		Regulatory science, individualized treatments (order-made treatment), medical examinations, heath management, etc.
	Next generation basic technology	Organism imaging, trans-omics (integrated omics analysis), microbiomes, big data in the field of life sciences, etc.
	Nanotechnology, materials	Medical biomaterials, nanomedicine delivery systems, nano measuring, diagnostic devices, nano imaging, etc.
	Regenerative medicine	Materials for regenerative medicine, etc.
	Medical engineering	Medical equipment, medical imaging, medical robots, assistive products, etc.
	ICT	Life, health and medical informatics, practical use of ICT platforms in medical treatment (AI, Internet of Things, big data robotics)