

Inter-University
Research Institute Corporation

Research Organization of Information and Systems

2023 / 2024

National Institute of Polar Research

National Institute of Informatics

The Institute of Statistical Mathematics

National Institute of Genetics

Joint Support-Center for Data Science Research

Leveraging ROIS' unrivaled digital and statistical prowess to take on challenges

We have entered a highly uncertain, unpredictable age beset by natural disasters and wars around the world as well as global-scale pandemics. However, we must not despair at this state of affairs and simply wait in hope of better circumstances. Rather, we must move forward with an eye to the future.

The Research Organization of Information and Systems (ROIS), consisting of four distinguished research institutes, aims to solve complex phenomena and issues relating to life, the earth, the natural environment, and human society by reframing these issues from the perspective of information and systems while advancing data science to conduct integrated research that transcends disciplinary boundaries. In line with its mission to support resource-sharing and joint research among all universities, ROIS promotes cutting-edge research in specialized fields through joint research that transcends university boundaries by providing researchers nationwide with access to large-scale, state-of-the-art equipment and facilities, big data, valuable materials, and analytical methods. Unparalleled in the world, ROIS is a unique Japanese research organization that drives contributions to the field of education through the cultivation of data scientists and the advancement of digital transformation in education.

The National Institute of Polar Research (NIPR) contributes to international efforts such as the Intergovernmental Panel on Climate Change (IPCC) by conducting detailed analyses of ice cores in order to elucidate climate change over the past several hundred thousand years. Preparations are currently underway for new drilling to excavate even older ice cores dating back over 1 million years. NIPR communicates the importance of observational activities by broadcasting

images of the area near Syowa Station, despite the harsh communications environment of the high latitudes of Antarctica. NIPR further contributes to the development of future researchers by facilitating an online "Antarctic Class" conducted by wintering party members as well as content for Japan's GIGA School Program.

In April 2022, the National Institute of Informatics replaced the previous Science Information NETWORK (SINET) with the world's fastest ultra-high-speed network infrastructure, SINET6, which provides transmission speeds of up to 400 Gbps. In addition to the over 1,000 institutions and universities currently being served, the network will soon be offered to elementary, junior high, and high schools as well. SINET is also expected to make substantial contributions to industry and continuing education. The full rollout of the GakuNin RDM research data management platform not only provides data management support for individual researchers but also supports the development of open science by providing a platform for the proper release of research data.

The Institute of Statistical Mathematics (ISM) successfully developed and released RadonPy, the world's first software that fully automates polymer physical property calculations using all-atom classical molecular dynamics simulations. In addition, it is working on the unprecedented challenge of developing a polymer physical-property database containing more than 100,000 types of polymer materials, using computational resources such as the supercomputer Fugaku. That research project is considered a global-scale challenge in the domain of materials science. The Data Assimilation Supercomputer at ISM, which has the world's largest memory, serves as a platform for instantaneously



Masaru Kitsuregawa

President of the Research Organization of Information and Systems

estimating and simulating extremely large, complex models in the fields of natural and social sciences.

The National Institute of Genetics (NIG) is deepening our understanding of marine ecosystems, which are critical to the resolution of global issues such as global warming and biodiversity loss, by elucidating the genomes of sharks and other marine vertebrates, which are evolutionarily distantly related to humans, based on the concept of “blue carbon” (i.e., mitigation approaches aimed at storing carbon dioxide in marine ecosystem), which has received increasing attention in recent years. In addition, NIG is promoting the application of green biotechnology using microalgae that can be cultivated under high temperature, strong acidity, and high salt concentration, which is expected to be used for various applications such as functional feeds and protein resources. The institute is not only promoting activities for social implementation with domestic companies but is also contributing to the elucidation of changes in the global environment and ecosystems through genetics-based research.

It is in this manner that ROIS is able to bring together its four constituent institutes—including two discipline-specific institutions that study complex phenomena and two institutes responsible for basic and applied research in informatics as well as statistical and mathematical sciences, which are commonly needed by all disciplines—in various combinations to carry out complex science and to further develop data science based on this collaboration. Furthermore, through the Joint Support-Center for Data Science Research (ROIS-DS) established in 2016 that connects the research domains of the four institutes, ROIS is able to actively promote interdisciplinary activities, pioneer

new research fields, and promote open science initiatives to return the results of its research to society in order to bring innovation to society through data-driven science.

The third AI boom that started in the 2000s and has continued up to the present as well as the much-discussed emergence of ChatGPT are expected to bring about myriad innovations in a range of fields and services. Along with the anticipated potential to improve wellbeing, the fact that the authenticity and accuracy of the information provided by AI is not checked means that users will need to develop the ability and literacy to evaluate the veracity of this information for themselves. Although the advance of AI into all areas of society promises to improve the quality of daily life, it is also true that we will face new problems that could not have been foreseen in the past. ROIS will continue its efforts to solve both domestic and global issues by leveraging the organization’s digital and statistical prowess, while keeping an eye on the interests of society and economic security as well as the relationship between services and the law.

Founded in 2004, ROIS is a relatively new organization that may be unfamiliar to many, especially those in the industrial world. We seek to manage the organization in a way that maximizes returns to our stakeholders by leveraging the advantages of scale while building on the strengths of our four long-standing research institutes.

The Research Organization of Information and Systems looks forward to your continued support and encouragement.

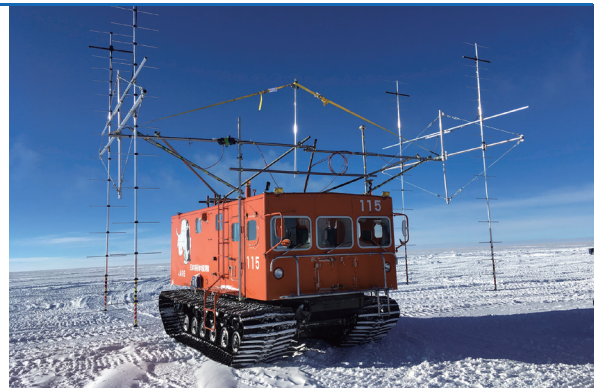
May 2023



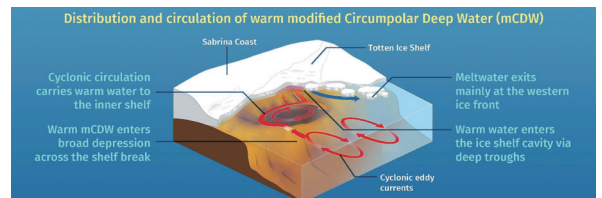
National Institute of Polar Research

Japan's Core Institution for Polar Research and Observation

The Arctic and Antarctic respond sensitively to shifts in the global environment, resulting in changes that, in turn, can dramatically impact the future of humanity. NIPR promotes cutting-edge research from the standpoints of earth and planetary sciences and the life sciences based on observational data obtained through field research and other means in the Arctic and the Antarctic. This research not only yields scholarly knowledge but also contributes to tackling global challenges. NIPR also contributes to achieving the UN Sustainable Development Goals (SDGs) through its promotion of research and observation relating to the protection of marine resources and coastal ecosystems. In addition, as the implementing agency for the Japanese Antarctic Research Expedition and the Arctic Challenge for Sustainability II (ArCS II) project, which aims to accelerate Arctic research, NIPR provides various platforms—including observational stations, equipment, facilities, and ships—to researchers nationwide in Japan.



Radar-based survey of the topography underlying the icesheet around Dome Fuji, Antarctica. The information obtained is essential for drilling ice cores dating back over one million years.



East Antarctica has also been a major contributor to the global sea-level rise, and the greatest ice discharge from the East Antarctic Ice Sheet occurs via the Totten Glacier. Researchers revealed ocean heat transport pathways toward the cavity of the Totten Glacier, providing fundamental insights into the physical processes that control the melt rate of the glacier.

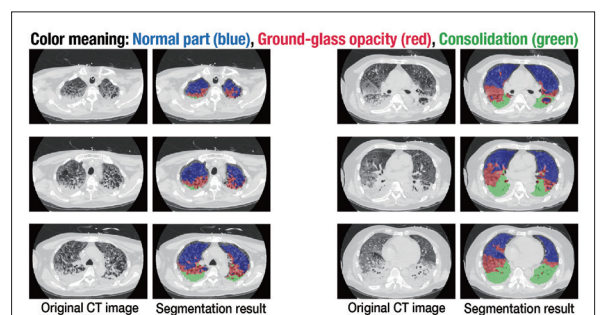
NII National Institute of Informatics

Weaving Information into Knowledge and Creating Future Value

NII promotes research in all areas of informatics — from theoretical computer science to such cutting-edge topics as artificial intelligence, big data, IoT (Internet of Things), and cybersecurity — to build the way for “future value creation” in this new study field as Japan’s only academic informatics research center. NII also operates SINET6, which serves as a platform for scientific research, and the NII Research Data Cloud, which serves as a platform for managing, publishing, and discovering research data. In addition, NII supports national universities through the operation of NII Security Operation Collaboration Services (NII-SOCS), a set of information security services based on inter-university collaboration. NII also focuses on collaboration with domestic and overseas universities, research institutions, and companies.



SINET6 covering almost all of Japan with a maximum speed of 400 Gbps supports open science.



Example of AI-based automated diagnosis of COVID-19 pneumonia from research on AI-based automated diagnosis using medical big data.

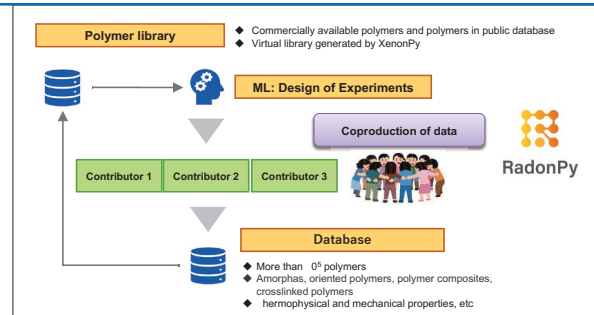
Cutting-Edge Research



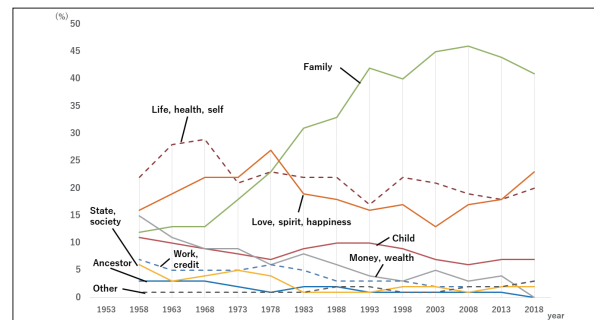
The Institute of Statistical Mathematics

Multidisciplinary Research in Statistical and Mathematical Sciences and Professional Development in Statistics

As Japan's core research institute for statistical and mathematical sciences based on large-scale and complex data, the Institute of Statistical Mathematics (ISM) promotes cutting-edge research and conducts world-class research in a manner that is both sustainable and innovative. In addition to maintaining and providing a broad array of data infrastructure and software on its shared-use supercomputers, ISM engages in various industry-government-academia collaborations through its NOE (Network Of Excellence) Project to address concerns of the community and societal goals such as achieving the SDGs and mitigating environmental impacts. Furthermore, ISM offers various educational programs for people engaged in statistical thinking at various levels. ISM also contributes to the development of human resources with expertise in medical statistics as well as the rapidly expanding field of data science at universities nationwide by focusing on fostering young statistical experts to serve as the next generation of statistics educators and researchers.



RadonPy, software for automatically calculating polymer properties developed by ISM and creating a large physical property database of polymer materials by industry-academia consortium.



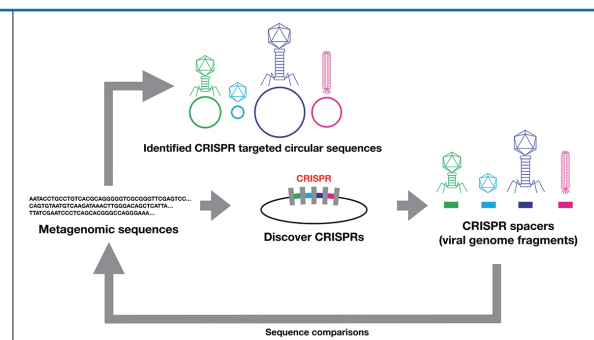
ISM has conducted and analyzed "Japanese National Character Survey" every 5 years since 1953. This graph indicates the particulars of the change in "The most important thing in life (1958-2018)".



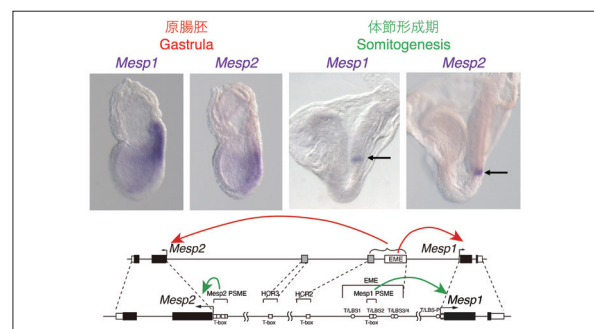
National Institute of Genetics

Activity of Biological Organisms Is Based on Genetic Information

Genetic information is the source of life, which evolves as it is passed on to the next generation. Genetics aims to unravel the mystery of life from the perspective of genetic information. NIG conducts state-of-the-art research on cell function, development/differentiation, evolution/biodiversity, and genome/bio information; simultaneously, it pioneers new research in the life sciences. Furthermore, NIG, as an inter-university research institute, operates research infrastructure projects: the BioResource Project, Advanced Genomics Project, Bioinformation and DNA Data Bank (DDB) Project, and Phenotype Research Promotion Project. Through these efforts, NIG provides academic and industrial communities engaged in the life sciences with access to research infrastructures and opportunities for joint research in genetics. Furthermore, NIG has, in collaboration with NII and the Joint Support-Center for Data Science Research (ROIS-DS), launched the BioData Science Initiative (BSI) designed to serve as a hub for activities nationwide.



Comprehensive search of viral genomes using the immunological memory of prokaryotes.



Elucidation of the regulatory mechanisms for expression of transcription factors that control mesoderm formation.

Research Institutes in Pursuit of Scientific Principles and Cutting-Edge Research



Joint Support-Center for Data Science Research

Cultivation of New Knowledge through Data Science

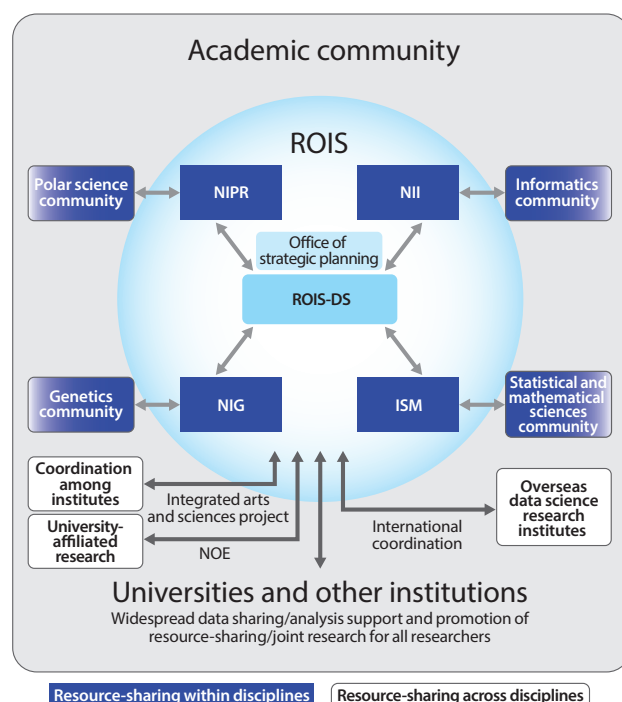
Joint Support-Center for Data Science Research (ROIS-DS) is the newest organization of ROIS established in 2016. The mission of ROIS-DS is to support a variety of researchers to conduct projects on the subjects of data-driven or data-oriented sciences using technologies for big-data analysis, for example, through collaborations with the members of our centers. ROIS-DS works jointly with the four institutes constituting ROIS as well as other inter-university research institute corporations to conduct innovative interdisciplinary research and to pioneer new research areas that bring together disciplines in both the natural sciences (life sciences, earth and planetary sciences, etc.) and the social sciences (sociology, humanities, etc.). In addition, ROIS-DS promotes scientific advancement and social innovation through its various initiatives to support data sharing, data analysis, human resource development, and open-call research collaboration.



The edomi website, a data portal for the history of Edo.
<http://codh.rois.ac.jp/edomi/>

Relationship between Research Institutes and ROIS-DS

Based on ROIS' philosophy of the organization, as a center to focus on promoting integrated research alongside the four research institutes (NIPR, NII, ISM, NIG), ROIS established ROIS-DS, a new type of research organization. Efforts led by ROIS-DS in coordination with other inter-university research institutes are underway to further strengthen coordination and cooperation with universities and other research institutes both in Japan and abroad with the goal of contributing to scientific advances and social innovation. As of 2022, ROIS-DS comprises six research centers: Database Center for Life Science (DBCLS), Polar Environment Data Science Center (PEDSC), Center for Social Data Structuring (CSDS), Center for Open Data in the Humanities (CODH), Center for Genome Informatics (CGI), and Center for Data Assimilation Research and Applications (CARA).



Resource-Sharing and Joint Research to Satisfy the Increasing Sophistication of Diverse Needs

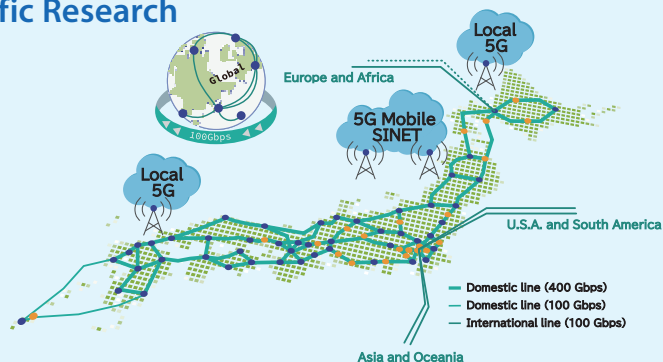
NII SINET6: The World's Fastest Network Infrastructure Supporting Scientific Research

A novel platform with an eye toward Society 5.0

Advances in network technology and IT are driving the rapid development of AI and the IoT. We are in the process of transitioning to Society 5.0, which is defined as a data-driven society in which all types of data obtained in the real world are analyzed in cyberspace and used to optimize and improve everyday life. In addition to fulfilling its various other functions, SINET is expected to serve as a foundation for promoting Society 5.0.

NII's upgraded network platform: SINET6

To deal with the ever-increasing volume of research data, NII has upgraded its previous high-speed SINET5 network (maximum speed: 100 Gbps) to SINET6 with a maximum speed of 400 Gbps, making it the world's fastest network. SINET6 also provides a revolutionary new secure environment for ultra-high-speed wireless and wired communications through the adoption of high-speed 5G mobile access technologies capable of supporting wide-ranging IoT-based research and diverse virtual private network (VPN) technologies that can be tailored to specific research activities. To support the efforts of large-scale research institutions and universities that handle big data, NII is also



A wide range of research platforms are expected to be built based on the SINET6 network.

increasing the number of domestic access points and strengthening international linkages with overseas research networks.

Continued support for an ever-changing research environment

To further enhance functionality of its Scientific Research Digital Platform, NII has integrated the SINET and NII RDC with the goal of providing comprehensive support for the full range of research activities at all steps of the research cycle. SINET will continue to support the ever-changing research environment.



Machine Learning to Predict Chemical Compositions That Form Quasicrystals

Current status and challenges in quasicrystal research

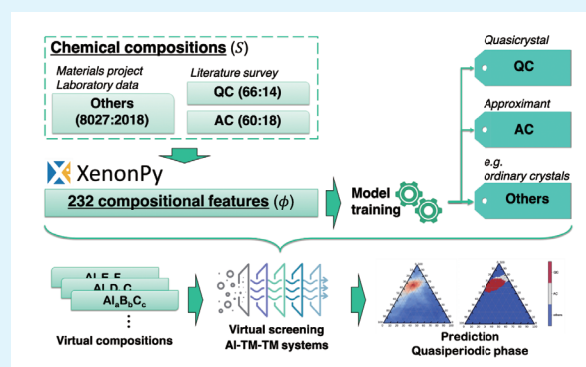
Quasicrystals are solid materials that lack the translational symmetry of ordinary periodic crystals, but are nonetheless highly ordered. Since their discovery in 1984, approximately 100 thermodynamically stable quasicrystals have been identified. However, the pace of discovery of new quasicrystals has slowed dramatically in recent years. This is because the stabilizing mechanisms and rules governing quasicrystal formation are largely unknown.

Development of data-driven approaches in quasicrystal research

The data-driven approaches being implemented in quasicrystal research represent largely unexplored territory. ISM conducts research aimed at accelerating the pace of new quasicrystal discovery and understanding the rules governing quasicrystal formation using analytical tools from data science.

Accelerating the pace of quasicrystal discovery using the tools of data science

This research has yielded a machine learning algorithm for predicting chemical compositions that form quasicrystals with extremely high accuracy, enabling the actual synthesis of several new quasicrystals.



Machine learning workflow. A model was created using a random forest classifier that predicts the class label of a given chemical composition as quasicrystal (QC), approximant (AC), or "others".

This research has also elucidated five rules governing quasicrystal formation through the extraction of input-output rules inherent in the "black box" of the machine learning model. Numerous researchers are currently using this method to investigate new materials (e.g., semiconducting, superconducting, and ferromagnetic quasicrystals) with novel properties.

Resource-Sharing and Joint Research to Satisfy the Increasing

NIPR

Providing Specimens and Facilities for Polar Research

NIPR offers a wide range of support for researchers on polar science, including curating of Antarctic rocks, minerals, meteorites, ice cores and biological specimens; sharing of data from these specimens and large-scale atmospheric radars installed in the Arctic and Antarctic; use of research instruments such as the SHRIMP (Sensitive High-Resolution Ion Microprobe) secondary ion mass spectrometer to analyze the formation period of minerals, ice core drilling equipment and its support, and the Polar Science Computer System.



Ice core drilled at the Dome Fuji station in the Antarctica.

NIG

Support for Sequencing and Analyzing Genetic Information

The Advanced Genomics Center offers the latest sequencing technology and genomic research tools to the research community. Nucleotide sequence data from genomic analyses are archived at the Bioinformation and DDBJ Center and provided to researchers worldwide as open data. In addition, NIG provides supercomputer system services optimized for information analysis in life science.



ROIS-DS

(On-line) Report Meeting for Research Results of ROIS-DS-JOINT

These meetings are held to disseminate the results of open-call research collaboration. The third meeting held in 2022 was hosted online (videos of presentations can be found on the ROIS-DS website). The meeting comprised three sessions—keynote speeches by invited speakers, reports on each centers' activities, and poster presentations using video chat tools—and resulted in lively discussion on the accomplishments of joint research.



Use of an online tool (SpatialChat Ltd.) to allow visitors to freely move around the poster area.

NIG

Bioresource Initiatives and Phenotype Research

The Genetic Resource Center develops and analyzes model organism strains that are important for life science research. Working with the National BioResource Project (NBRP), the center not only maintains and distributes these strains, but also compiles and provides databases of genetic resource information on these strains. The Phenotype Research Center provides genetic research tools and resources developed by NIG and the use of NIG facilities as a beneficiary-paid service.



Sophistication of Diverse Needs

ISM

Supercomputer Systems and Information Resources

ISM provides resources/environments for collaborative research to the domestic and international research communities through Supercomputer System for Statistical Science and Communal Cloud Computing System. Replacement of the Supercomputer System for Data Assimilation was completed in March of 2023. As Japan's only library dedicated to statistical science, ISM Library maintains a large collection of relevant journals and books both in print and digital formats.

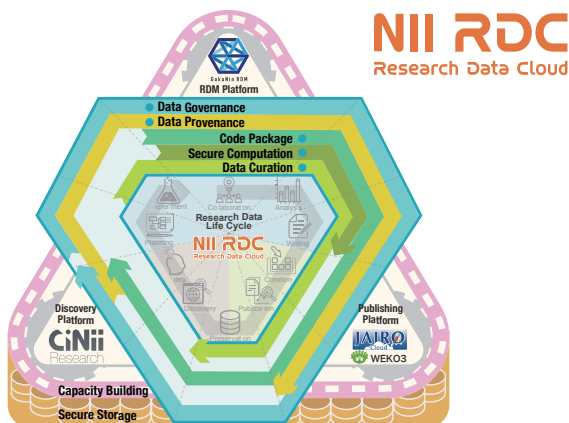


Supercomputer System for Statistical Science (top left), Communal Cloud Computing System (top right) and Supercomputer System for Data Assimilation (bottom right)

NII

NII Research Data Cloud

Operation of the NII Research Data Cloud (NII RDC), which was developed to promote data-driven and open science, was launched in 2021. Numerous universities and research institutions have begun using the system in conjunction with formulating policies on research data. Through the steady expansion of its functionality, the NII RDC continues to evolve as the leading platform for Japan's data strategy.



Overview of the NII Research Data Cloud.

ROIS-DS

Data Science Collaboration Program "ROIS-DS-JOINT"

The major aim of ROIS-DS-JOINT, applications for Joint Research Program, is to conduct collaboration-based research projects on the subjects of data-driven sciences with the variety of university researchers. The number of participating institutions has increased every year along with a steady expansion of the range of support provided for data-driven research. There are two types of ROIS-DS-JOINT programs: Joint Research Program and Joint Research Meetings Program. We are pleased very much to announce that ROIS-DS-JOINT is open to the wide range of researchers including ones from foreign universities/non-profit institutes.

| Centers | Program | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total | Sum Total |
|--|--------------------------------|--------|--------|--------|-------|-------|--------|--------|-----------|
| DBCLS | Joint Research Program | 3 | 7 | 8 | 7 | 7 | 8 | 40 | 53 |
| | Joint Research Meeting Program | 4 | 4 | 4 | 0 | 0 | 1 | 13 | |
| PEDSC | Joint Research Program | 3 | 7 | 8 | 7 | 8 | 12 | 45 | 48 |
| | Joint Research Meeting Program | 0 | 1 | 1 | 0 | 0 | 1 | 3 | |
| CSDS | Joint Research Program | 5 | 7 | 10 | 7 | 8 | 8 | 45 | 47 |
| | Joint Research Meeting Program | 2 | 0 | 0 | 0 | 0 | 0 | 2 | |
| CODH | Joint Research Program | 2 | 4 | 3 | 4 | 4 | 6 | 23 | 26 |
| | Joint Research Meeting Program | 0 | 3 | 0 | 0 | 0 | 0 | 3 | |
| CGI | Joint Research Program | 3 | 1 | 3 | 2 | 4 | 4 | 17 | 17 |
| | Joint Research Meeting Program | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| CARA | Joint Research Program | 4 | 4 | 5 | 6 | 6 | 8 | 33 | 37 |
| | Joint Research Meeting Program | 2 | 1 | 1 | 0 | 0 | 0 | 4 | |
| Number of accepted projects/ acceptance rate | Joint Research Program | 20 | 30 | 37 | 33 | 37 | 48 | 205 | 230 |
| | Acceptance Rate | 95.2% | 90.9% | 100.0% | 91.7% | 94.9% | 96.0% | 94.9% | |
| | Joint Research Meeting Program | 8 | 9 | 6 | 0 | 0 | 2 | 25 | |
| Number of applications | Acceptance Rate | 100.0% | 100.0% | 100.0% | | | 100.0% | 100.0% | 95.4% |
| | Total Acceptance Rate | 96.6% | 92.9% | 100.0% | 91.7% | 94.9% | 96.2% | | |
| | Joint Research Program | 21 | 33 | 37 | 36 | 39 | 50 | 216 | 241 |
| Number of participating institutions* | Joint Research Meeting Program | 8 | 9 | 6 | 0 | 0 | 2 | 25 | |
| | Joint Research Program | 43 | 70 | 74 | 66 | 77 | 77 | 407 | 407 |
| Newly participating institutions | Joint Research Program | 43 | 42 | 33 | 16 | 16 | 9 | 159 | 159 |
| | Number of participants** | 88 | 130 | 135 | 123 | 145 | 170 | 791 | 791 |

Track record of activities related to open-call collaborative research *at the time of acceptance **at the time of acceptance, cumulative

NIPR

Progress of Large-Scale Arctic Research

As Japan's representative in the Arctic Challenge for Sustainability II (ArCS II), NIPR engages in cutting-edge, interdisciplinary research on the Arctic and shares the findings of this research with the public through the dissemination of Arctic sea-ice forecasts and other related information. NIPR also participates in the Next-Generation IS Radar Project for Atmospheric and Geospace Science (EISCAT_3D) project and manages the Ny-Ålesund NIPR Observatory.



Ny-Ålesund, Svalbard

Expansion of Joint Research Activities with Other Institutes Based on Open-Call Joint Research

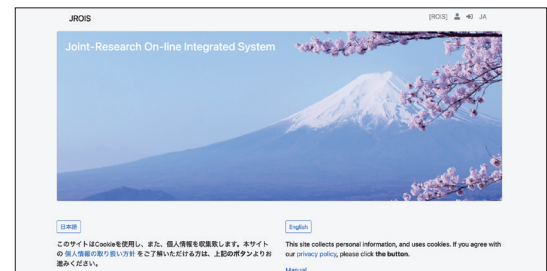
In addition to conducting cutting-edge research and pioneering new research areas in their respective domains, inter-university research institute corporations provide resource-sharing use and joint research platforms that transcend the boundaries of individual universities.

Every year, ROIS hosts over 2,000 researchers as part of open-call joint research that involves the research resources and personnel of ROIS's four institutes and ROIS-DS.

Individuals interested in participating in open-call joint research that makes ROIS research facilities available to universities and other research institutions, technical colleges, and companies can apply by using the Joint-Research On-line Integrated System (JROIS) or contacting the open-call joint research desk of the individual ROIS institutes. Applicants who are accepted will be able to conduct joint research and participate in joint research meetings together with ROIS researchers.

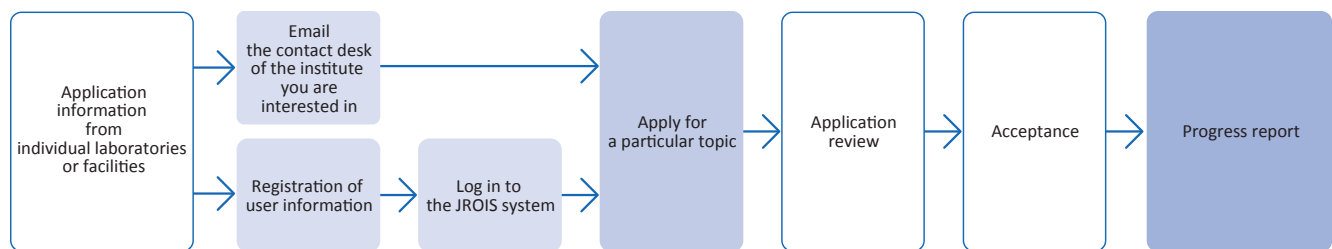
The eligibility requirements and content of open-call joint research vary by laboratory or facility. As such, please visit individual websites for detailed information.

JROIS (each institute has its own)



<https://jrois2.rois.ac.jp/>

The process for participation in open-call joint research



Inquiries Related to Resource-Sharing and Joint Research



NIPR

<https://www.nipr.ac.jp/research/> (Japanese)

Phone: +81-50-5533-8644 E-mail: kyodo-nipr@t.rois.ac.jp



NII

<https://www.nii.ac.jp/research/collaboration/koubo/> (Japanese)

E-mail: kyoudou@nii.ac.jp



ISM

https://www.ism.ac.jp/kyodo/index_j.html (Japanese)

Phone: +81-50-5533-8513 E-mail: kyodo-ism@t.rois.ac.jp



NIG

<https://www.nig.ac.jp/nig/ja/research-infrastructure-collaboration/nig-collaboration-grant>

E-mail: kyodo-mail@nig.ac.jp



ROIS-DS

<https://ds.rois.ac.jp/crp/calling/>

Phone: +81-42-512-9254 E-mail: ds_suishin@ois.ac.jp

- For general inquiries related to resource-sharing and joint research, please contact the ROIS head office (see below).

<https://www.rois.ac.jp/en/research/coop.html>

Liaison and Planning Division Phone: +81-3-6402-6211 E-mail: kenkyo@ois.ac.jp

Information Dissemination/Data Types

Exhibits

The NIG Genetics Museum features displays of various historical documents that show the development of genetics and life sciences, including a first edition of Darwin's *Origin of Species*.

The ISM Historical Computers Exhibit Hall features displays of many rare instruments, including a hardware random number generator that has been designated as an information processing heritage object by the Information Processing Society of Japan.



The NIG Genetics Museum

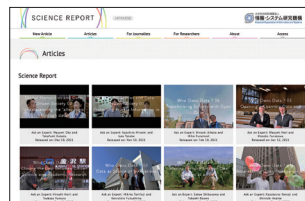


The ISM Historical Computers Exhibit Hall

Science Report

ROIS head office maintains a Science Report website that provides easy-to-understand reports on ongoing research activities.

The Japanese website of ROIS is currently running a series called "100 News Stories!" that features videos of research accomplishments and provides teaching materials. Some of them are also available in English. <https://www.rois.ac.jp/contents/theme.html>



<https://sr.rois.ac.jp/en/article/index.html>



<https://www.rois.ac.jp/en/index.html>

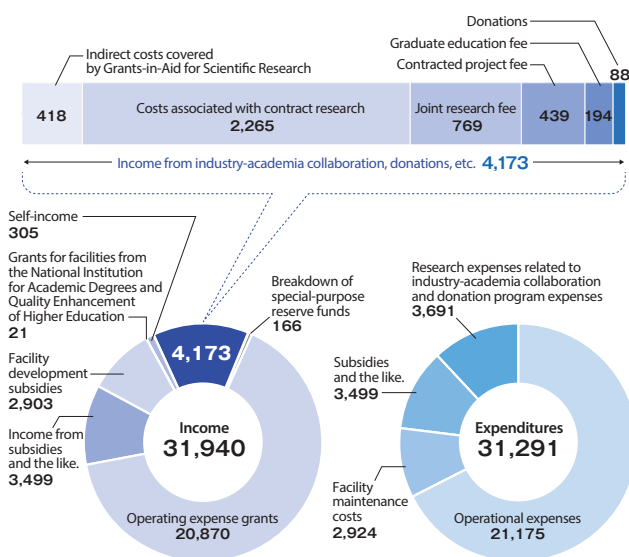
Polar Science Museum

Located next to NIPR, the Polar Science Museum is home to the Aurora Theatre, which offers visitors the opportunity to experience full-dome aurora films, Antarctic meteorites, and mounted specimens (polar bears, penguins, etc.), and to learn about polar research and observation.



Income and Expenditures (FY2021)

Unit: JPY 1 million (truncation)



Number of Institutions and Joint Researchers Enrolled in Joint Research Project (FY2021)

| | Number of institutions | Number of joint researchers | Breakdown of organizations to which joint researchers belong | | | | | Foreign Organizations |
|--------------|------------------------|-----------------------------|--|----------------------|--------------------------------------|---------------------|-----------------------------------|-----------------------|
| | | | National and Public Universities | Private Universities | Inter-University Research Institutes | Public Institutions | Private Institutions and the like | |
| Head Office | 7 | 8 | 1 | 1 | 2 | 0 | 0 | 4 |
| NIPR | 191 | 1,144 | 726 | 112 | 33 | 182 | 58 | 33 |
| NII | 93 | 383 | 272 | 79 | 10 | 13 | 4 | 5 |
| ISM | 274 | 938 | 473 | 270 | 10 | 115 | 61 | 9 |
| NIG | 105 | 371 | 219 | 77 | 8 | 20 | 7 | 40 |
| ROIS-DS | 75 | 133 | 63 | 33 | 1 | 15 | 8 | 13 |
| Total | 474* | 2,977 | 1,754 | 572 | 64 | 345 | 138 | 104 |

* Duplicates are excluded.

Students at SOKENDAI, the Graduate University for Advanced Studies (FY2021)

| Schools | Departments | Parent Institutes | Number of students | | Number of academic degrees granted |
|--------------------------------------|---------------------|-------------------|--------------------|-------------|------------------------------------|
| School of Multidisciplinary Sciences | Polar Science | NIPR | 19 | (1) | 2 |
| | Informatics | NII | 97 | (53) | 16 |
| | Statistical Science | ISM | 39 | (2) | 7 |
| School of Life Science | Genetics | NIG | 39 | (22) | 3 |
| Total | | | 194 | (78) | 28 |

※ The number of students as of May 1.

※ The number in brackets is the number of international students.

**1 Inter-University Research Institute Corporation
Research Organization of Information and Systems**

ROIS Head Office
Hulic Kamiyacho Bldg. 2F, 4-3-13, Toranomom, Minato-ku,
Tokyo 105-0001, Japan
<https://www.rois.ac.jp/en/>

2 National Institute of Polar Research

10-3, Midori-cho, Tachikawa, Tokyo 190-8518, Japan
<https://www.nipr.ac.jp/english/>

3 National Institute of Informatics

2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8430, Japan
<https://www.nii.ac.jp/en/>

4 The Institute of Statistical Mathematics

10-3 Midori-cho, Tachikawa, Tokyo 190-8562, Japan
https://www.ism.ac.jp/index_e.html

5 National Institute of Genetics

1111 Yata, Mishima, Shizuoka 411-8540, Japan
<https://www.nig.ac.jp/nig/>

6 Joint Support-Center for Data Science Research

Data Science Building, 10-3 Midori-cho, Tachikawa,
Tokyo 190-0014, Japan
<https://ds.rois.ac.jp/en/>

