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<tr>
<th>Content</th>
<th>Contacts</th>
<th>E-mail</th>
<th>TEL</th>
<th>FAX</th>
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<tr>
<td>KakenHI Colaborative Research Promotion (P.36)</td>
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<td><a href="mailto:kaken@ni.ac.jp">kaken@ni.ac.jp</a></td>
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<td>03-4212-2120</td>
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<tr>
<td>Intellectual Property (P.31)</td>
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<tr>
<td>TopSE (P.39)</td>
<td>GRACE Center</td>
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<td>03-4212-2123</td>
<td>03-4212-2120</td>
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<tr>
<td>International Exchange (MOJ) (P.24)/ NII International Internship Program (P.25)</td>
<td>Planning Division, International Affairs and Education Support Team</td>
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<td>03-4212-2120</td>
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<tr>
<td>International Exchange (NII Shonan Meeting) (P.16)</td>
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<td><a href="mailto:shonan@nii.ac.jp">shonan@nii.ac.jp</a></td>
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<td>International Exchange (DDAI/FLII) (P.37)</td>
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<td>Graduate Education (P.38)</td>
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<td>Science Information Network (P.39)</td>
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<td>03-4212-2269</td>
<td>03-4212-2270</td>
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<tr>
<td>Supporting the Introduction of Cloud Computing (P.39)</td>
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<td>03-4212-2212</td>
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<tr>
<td>Authentication Infrastructure (P.36)</td>
<td>Academic Infrastructure Division, Academic Authentication Systems Office</td>
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<td>03-4212-2215</td>
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<td>Support of Inter-University Collaboration based Information Security Framework (P.37)</td>
<td>Academic Infrastructure Division, NII ID, ACE Team</td>
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<td>03-4212-2238</td>
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<td>CINI (P.30)</td>
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<tr>
<td>Institutional Repositories (P.38)</td>
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<tr>
<td>Creating Information Service (NAGISA-CATILL) (P.40)</td>
<td>Scholarly and Academic Information Division, CATILL Desk</td>
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<td>03-4212-2210</td>
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<td>SPARC Japan (P.41)</td>
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<td>03-4212-2261</td>
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<td>Education and Training Service (P.41)</td>
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<td>Open Source (P.43)</td>
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<td>NII Library (P.45)</td>
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<tr>
<td>Public Relations (P.46)</td>
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<tr>
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<tr>
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Top Message

Masaru Kitsuregawa
Director General, National Institute of Informatics
Research Organization of Information and Systems

As Japan’s only general academic research institution focusing on informatics, the National Institute of Informatics (NII) is advancing a full spectrum of research with a long-term view in mind, ranging from basic research to practical, hands-on research on the ‘Age of Data’. At the same time, as an inter-university research institute, we are working to develop and provide a state-of-the-art academic-information infrastructure, as well as academic content and services that are critical to the research and educational activities of the academic community as a whole.

As we engage in activities that embrace both research and business, one of the most revolutionary innovations that NII has introduced is the Science Information NETwork (SINET), a network that links universities and research institutes from all over Japan in the form of SINETS, which achieves a speed of 100 gigabits per second (Gbps). Our accomplishments in creating a network that connects every single one of Japan’s prefectures at a speed of 100 Gbps, forming one of the most powerful networks anywhere in the world, carries deep significance for Japan’s academic community. After getting the network was up and running, we put another two years into making SINETS even more robust, and in fiscal 2018, we will be boosting our network lines in Europe to 100 Gbps in response to strong hopes for this improvement. At the same time, we plan to strengthen and Augment our US network lines from the Atlantic Ocean. Other plans include expanding from fixed networks to mobile networks, a move aimed at providing support for the development and expansion of diverse research in IT.

In fiscal 2017, with support from the Japan Agency for Medical Research and Development (AMED), we worked together with the Japan Gastroenterological Endoscopy Society, the Japan Society of Pathology, the Japan Radiological Society, and the Japanese Ophthalmological Society to build a cloud infrastructure for medical image big data, and established the Research Center for Medical Bigdata in order to promote the development of AI technology capable of image recognition, that will support medical care. The expectation is that medical images will continue to grow in volume in the future, and it goes without saying that a super-high-speed network capable of 100 Gbps will play a vital role in compiling data for these images.

The trend towards open science is also accelerating, and the spotlight is focused on the handling of research data, in particular, Studies by the Cabinet Office, the Ministry of Education, Culture, Sports, Science and Technology, and the Science Council of Japan have proceeded to the point where the NII is now ready to take over and shift from the study stage to the realization of outcomes. With that aim in mind, we are now promoting international partnerships and reconstructions international projects to further reinforce those efforts.

With more and more networks being created, obviously the foremost issue is security. At NII, we have been working since fiscal 2017 on a project to build an infrastructure for an information security system based on university partnerships. Over time, the effectiveness of the project has become increasingly visible, because networks are constantly under attack, attackers need to be able to respond with lightning-fast speed, and we will continue to work on improvements in conjunction with our university partners.

At NII are also putting much effort into research with industrial and academic partnerships. In 2016, we launched the Research Center for Financial Smart Data with support from Sumitomo Mitsui Asset Management Company, Limited. We also established our Cognitive Innovation Center with support from IBM Japan, Ltd. In fiscal 2018, we established our new Research Center for Robust Intelligence and Social Technology, in partnership with IDEE Corporation. We will continue to promote industrial and academic partnerships, and to engage in research and development aimed at finding diverse solutions, hand in hand with industry, as AI enters a new stage.

Along with projects such as SINET, NII also carries out practical, hands-on research that we hope to actually implement in society, with the aim of contributing to basic research in informatics and to the growth and development of society, making us a unique organization from a global standpoint. Naturally, the ‘by IT’ component is important, but we also want to build a robust, flexible research system that maintains a balance between the ‘by IT’ side and basic research in IT itself, as of ‘IT’ can include any field. In fiscal 2017, with Associate Professor Ichiro Hayashi heading the ERATO project for the Japan Science and Technology Agency (JST), we established our Global Research Center for Systems Design and Mathematics, and through the Center, NII has been supporting basic research in software to promote the ERATO project. In the future, we intend to continue making basic research a focal point of our endeavors.

We are moving back to the basics and rebuilding our efforts under the banner of ‘Think Together, Create Together’. We hope that you will kindly read the report of NII’s research and business endeavors and give us various feedback and opinions. We sincerely ask for and appreciate your continued support of our activities.
Weaving Information Informatics to Create Future Value on into Knowledge the Wheels of "Research" and "Service"

The National Institute of Informatics (NII) is Japan’s only general academic research institution devoted to creating future intelligence, Big Data, the Internet of Things (IoT), and information security. NII pushes forward with fundamental NII is building and operating essential research and education infrastructure for Japan’s academic community, content and service platform. We are also offering services that utilize state-of-the-art technology by providing mutual NII uses these activities in its efforts to train talent and contribute to society at large, while also administering vital collaboration. The National Institute of Informatics also is committed to providing graduate education that promotes creative, value in the new discipline of informatics. From the basic methodology of informatics to cutting-edge themes such as artificial research valued from a long-term view as well as practical studies aimed at resolving current social problems. The Institute is committed to prioritizing education and research, effectively nurturing next generation researchers. NII advances the integration of research. We are also using our strengths even in graduate education to foster new leaders of an advanced information society.

Integrated Research from Basic Methodology to State of the Art

"Informatics" combines not only technologies like computer science and information/communications engineering but also the humanities, social studies, and the life sciences. This new academic domain involves every aspect of society. NII has established four basic Research Divisions—namely, Principles of Informatics, Information Systems Architecture Science, Digital Content and Media Sciences, and Information and Society, itself, plus 16 Research Centers charged with systematically accomplishing specific tasks. From the basic methodology of informatics to state-of-the-art artificial intelligence, Big Data, the Internet of Things (IoT), and information security, NII advances the integration of research. We are also using our strengths even in graduate education to foster new leaders of an advanced information society.

Fostering New Leaders of an Advanced Information Society

Graduate education at the National Institute of Informatics involves (1) participation in courses at SOKENDAI (The Graduate University for Advanced Studies), (2) cooperation with other graduate schools, or (3) acceptance of special joint research fellows. SOKENDAI is the first graduate university in Japan established to push ahead world-class research beyond the borders of conventional disciplines and to open up new paths of scientific inquiry. The National Institute of Informatics (NII) offers 3-year and 5-year Ph.D. courses with SOKENDAI, in which it constitutes the Department of Informatics. Six areas of instruction are covered: fundamentals of information science, information infrastructure science, software science, information media science, intelligent systems science, and information environment science. These areas break out into more than 70 sub subjects. The department is pleased to accept talented people from overseas by offering courses such as many English-language lectures as well as scholarship programs aimed to each major. Working students account for around 25 percent of registered students.

Services to Support Research Infrastructure and Education

NII coordinates with academic institutions and the research community. For starters, it builds and now operates the Science Information Network (NINJAX), the world’s most advanced, high-speed network linked to domestic and international sites. NII furthered the construction and provision of academic authentication infrastructure, Adoption and Support for Use of Cloud Systems, development of Research Data management platform, development of academic contents platforms in addition to the advancement of other online platforms. Security Systems. Based on Inter-University Collaboration, we also contribute to the building of systems to enable national universities and other academic institutions to respond quickly to security incidents. In addition, NII strives to contribute to improving the international competitiveness of education research, accelerating studies on leading-edge topics, developing interdisciplinary programs, promoting more efficient research, and enhancing the functions of universities.

Collaboration with Industry, Government, and Academia

While engaged in pragmatic research and development aimed at resolving social problems, NII promotes collaboration with industrial, governmental, and academic entities to find ways of implementing the fruits of research. Public approach go out to universities, private sector institutions and municipalities for investigative partnerships. NII’s efforts include cultivating cybersecurity talent, advising academia via researchers (consulting), and supporting cooperative supplementary schools that encourage the collaborative approach by providing information gathered on the frontiers of research.

International Exchange

At NII, Global Liaison Office (GLO) was established to systematically promote international research exchange activities with foreign universities and research institutes. Its main roles are such as a facilitator of international Memoranda of Understanding (MoU), enforcement of MoU Grant (Research Exchange Grant Program), and NII International Internship Program. NII also holds “Shonan Meetings”, where the world’s top-class researchers get together to have intensive discussions on the field of informatics by staying in a training-camp style. NII is actively accepting researchers through German Academic Exchange Service (DAAD) and Japanese-French Laboratory for Informatics (JFLI) as well.
Research

Research Divisions

NIL advances research in the wide-ranging discipline of Informatics through four core research divisions, which are the Principles of Informatics Research Division, the Information Systems Architecture Science Research Division, the Digital Content and Media Sciences Research Division and the Information and Society Research Division. Each conducts research ranging from basic to applied in its particular area.

Principles of Informatics Research Division
Senior Researcher: Takeaki Uno
We explore new principles and theories relevant to informatics, including artificial intelligence, machine learning, deep learning, big-data analysis, data mining, mathematical modeling, numerical analysis, computing science, Web informatics, neuroscience, quantum informatics, and cyber-physical research with potential to discover new principles and theories at the frontiers of these areas or to create new applications.

Information Systems Architecture Science Research Division
Senior Researcher: Zhenjiang Hu
Conducts research on software and hardware architecture ranging from establishing innovative technologies to implementing practical systems, with the aim of improving the performance, quality, and sophistication of the computers and networks that form the basic components of society.

Digital Content and Media Sciences Research Division
Senior Researcher: Atsuhiro Takasu
Conducts research on the analysis and creation of content and media, including multimedia and social interaction, social networking, and media technology for storing, retrieving, and organizing content, and the analysis of social media and interaction focusing on people and information.

Information and Society Research Division
Senior Researcher: Isao Echizen
Conducts interdisciplinary research combining information and communication systems technology with human and social sciences for logical decision making based on scientific data in a "cyber-physical integrated society", where the information world is integrated and linked with the real world.

Research Centers

To respond quickly to important social issues, NIL has removed boundaries in our research system and established 16 research centers, building a system that enables researchers that have different specialties to focus research in specific fields with collaboration across fields.

Research and Development Center for Academic Networks
https://www.at.niit.ac.jp/en/research/networkcenter/
This center develops and delivers new services and functions to enhance the capabilities and efficiency of the Science Information Network (SINET); a crucial backbone network for more than 600 universities and research institutions in Japan. 
Dilector: Shigesuke Ueshiba, Deputy Director: General Director, Graduate School of Interdisciplinary Informatics, National Institute of Informatics.

Center for Global Research in Advanced Software and Engineering
http://opencore.src.jp/en/
This center is dedicated to the integration of research, implementation, and education aimed at developing interoperability software infrastructure, through collaboration with both Japanese and international research institutions, as well as through industry-academic collaboration, it also aims to cultivate workforce researchers and technologists to serve as a nucleus for Next-generation efforts in this field.
Director: Shinya Handa, NIL President

Center for Cloud Research and Development
http://www.at.niit.ac.jp/research/cloudcenter/
This center promotes research and education utilizing IT by promoting R&D in collaboration with universities and other research institutions, aimed at providing state-of-the-art academic information infrastructure utilizing cloud technologies on the Science Information Network (SINET-6),
Director: Kenji Fuku, Professor, Information Systems Architecture Science Research Division

Center for Cybersecurity Research and Development
http://www.at.niit.ac.jp/research/securitycenter/
Through R&D that leverages knowledge acquired from the creation and operation of Information Infrastructure, this center helps to ensure the security and operational efficiency of information research environments in cyberspace and to cultivate human resources in collaboration with universities.
Director: Hiroki Takahashi, Professor, Material Systems Architecture Science Research Division

Research Center for Knowledge Media and Content Science
https://www.at.niit.ac.jp/en/research/knowledgecenter/
This center pursues advanced research on the analysis and extraction of knowledge from academic papers and other academic content, as well as empirical R&D for promoting the distribution of academic knowledge.
Director: Atsuo Azuma, NIL Acting Director General Director: General Director, Graduate School of Interdisciplinary Informatics, National Institute of Informatics.

Research Center for Community Knowledge
https://www.at.niit.ac.jp/en/research/communitycenter/
This center conducts practical R&D promoting next-generation information sharing, including activities focusing and analyzing processes that form shared knowledge between people and people or machines, and that disseminate research results.
Director: Noriko Aoki, Professor, Information and Society Research Division

Center for Dataset Sharing and Collaborative Research
https://www.at.niit.ac.jp/en/research/datasetcenter/
This center develops useful datasets for informatics research and makes them available to researchers. In addition, it conducts R&D on the creation of databases and on systems for their utilization, and promotes joint use and usage research and information.
Director: Akira Goto, Professor, Digital Content and Media Sciences Research Division

Research Center for Open Science and Data Platform
https://www.at.niit.ac.jp/en/research/opencenter/
This center conducts R&D on an infrastructure which allows researchers to manage, publish and search research data. The R&D is conducted in collaboration with universities and research institutions in Japan and serves the paradigm shift to Open Science Japan.
Director: Kazutaka Yoneda, Professor, Digital Content and Media Sciences Research Division

Big Research Projects

Global Research Center for Quantum Informatics Science
https://www.at.niit.ac.jp/en/gcqi
As an international hub for advanced research on quantum informatics science and technology, the center promotes quantum information science and explores the potential of quantum information technology. It also educates international students who will lead medium-to-long-term research focused on specific goals.
Director: Koji Mima, Professor, Principles of Informatics Research Division

Global Research Center for Cyber-Physical Systems
https://www.at.niit.ac.jp/en/gc CPS
In collaboration with industry, government, and academia, this center researches and develops cyber-physical systems (CPS) aimed at creating new value and addressing social issues by linking the real world with cyber space.
Director: Jun Addi, NIL Deputy Director General Director, Graduate School of Interdisciplinary Informatics, National Institute of Informatics.

Global Research Center for Systems Design and Mathematical Sciences
https://www.at.niit.ac.jp/en/gcsd
This research center focuses on ε and suggests a new design method for systems that is applicable to solving problems in a wide range of fields. It will utilize mathematical and computational modeling for system design.
Director: Hisashi Hashimoto, Associate Professor, Information Systems Architecture Science Research Division

Global Research Center for Medical Big Data
https://www.at.niit.ac.jp/en/gcbd
This research center is building the construction of a cloud platform for big data of medical imaging that will utilize the OMEGON Information Network System and operated by NIL as well as the development of Artificial Intelligence (AI) that helps doctors diagnose by analyzing the large amount of medical images with the help of experts from medical academic fields.
Director: Shinzou Nakatani, Professor, Digital Content and Media Sciences Research Division

Industry-Academia Collaborations

Research Center for Financial Smart Data
https://www.at.niit.ac.jp/en/research/financialcenter/
This center pursues the development of technology for financial information analysis by turning big data into “smart data”, and through statistical analysis and modeling of economic and social phenomena, to enable more precise predictions of the future, natural language processing, and machine learning.
Director: Masato Hibi, Professor, Material System

Cognitive Innovation Center
This center strives to generate innovations to solve global and future cognitive technologies incorporating artificial intelligence technologies to new businesses and services in society and industry. It also works at raising awareness to promote social implementation of such technology.
Director: Takehiro Hata, NIL President

Research Center for Robust Intelligence and Social Technology
https://www.at.niit.ac.jp/en/research/robustcenter/
This center researches and develops technology to address social problems such as disaster prevention, education, and disadvantaged support, by focusing on empowering social and technological solutions with an individual process developed in unforeseen responses to ever-changing real-world issues.
Director: Hiroki Tsuji, Professor, General Director, Graduate School of Interdisciplinary Informatics, National Institute of Informatics.
Principles of Informatics Research Division

**Mathematical Informatics**

**Assistant Professor: Yoichi Iwata**
Ph.D. (Information Science and Technology)

**Specialist:** Fixed point problems, parallel algorithms, and computational complexity. Research interests include cryptography, network flows, and combinatorial optimization.

**Assistant Professor: Takeaki Uno**
Ph.D. (Science)

**Specialist:** Algorithms for distributed systems and computer networks. Research interests include distributed computing, network flows, and algorithm design.

**Assistant Professor: Ken-ichi Kabasawa**
Ph.D. (Science)

**Specialist:** Graph theory and its applications, especially in computer science and operations research. Research interests include algorithm design, graph theory, and computational complexity.

**Associate Professor: Masahiko Kishida**
Ph.D.

**Specialist:** Graph theory and its applications, especially in computer science and operations research. Research interests include algorithm design, graph theory, and computational complexity.

**Mathematical Logic**

**Professor: Ken Hayashi**
Ph.D. (Engineering)

**Specialist:** Mathematical logic and its applications. Research interests include model theory, proof theory, and computability theory.

**Mathematics**

**Assistant Professor: Yuji rakahui**
Ph.D. (Science)

**Specialist:** Mathematical logic and its applications. Research interests include model theory, proof theory, and computability theory.

**Assistant Professor: Yuki Nakasuda**
Ph.D. (Science)

**Specialist:** Mathematical logic and its applications. Research interests include model theory, proof theory, and computability theory.

**Quantum Information**

**Professor: Kenta Kanemoto**
Ph.D. (Science)

**Specialist:** Quantum information and computation. Research interests include quantum computing, quantum algorithms, and quantum cryptography.

**Associate Professor: Keiji Matsumoto**
Ph.D. (Mathematical Science)

**Specialist:** Quantum information and computation. Research interests include quantum computing, quantum algorithms, and quantum cryptography.

**Intelligent Informatics**

**Associate Professor: Ryutaro Ishii**
Ph.D. (Engineering)

**Specialist:** Artificial intelligence, machine learning, and computer vision. Research interests include deep learning, computer vision, and robotics.

**Associate Professor: Tetsunari Inamura**
Ph.D. (Engineering)

**Specialist:** Artificial intelligence, machine learning, and computer vision. Research interests include deep learning, computer vision, and robotics.

**Professor: Hideaki Kakeda**
Ph.D. (Engineering)

**Specialist:** Artificial intelligence, machine learning, and computer vision. Research interests include deep learning, computer vision, and robotics.
List of Researchers

Information Systems Architecture Science Research Division

- Network Architecture -
  Associate Professor: Shinji Abe
  Ph.D. (Engineering)
  Specialization: Performance analysis and quality of service in networks, communication network measurement, communication performance improvement, network architecture

  Associate Professor: Kensuke Fukuda
  Ph.D. (Engineering)
  Specialization: Measurement and analysis of communication traffic, network science, Research Themes: The Internet as an autonomous distributed system. The overall volume of communication traffic is measured. It increases and decreases, fluctuating even against a 1-st order. Estimating the size of information transmitted by understanding this mechanism.

  Professor: Takashi Kurimoto
  Ph.D. (Engineering)
  Specialization: Network system architecture, network protocols, Research Themes: New network services using IPv6, SDN and other technologies with the goal of increasing reliability and visibility while reducing costs. Also, making safe and high-speeded network services in cooperation with INET.

- Information Network -
  Professor: Shigeki Urushidani
  Ph.D. (Engineering)
  Specialization: Dynamic resource allocation, clustering and computer networks, Research Themes: The Internet as an autonomous distributed system. The overall volume of communication traffic is measured. It increases and decreases, fluctuating even against a 1-st order. Estimating the size of information transmitted by understanding this mechanism.

  Professor: Yusheng Ji
  Ph.D. (Engineering)
  Specialization: Network architecture, resource management, Research Themes: Communication service quality control, Convergence of information and communication services, which are infrastructure for many advanced activities in society, and its importance, Implementing high-quality, and sustainable wireless access services supporting the demands of future mobile communication services.

- Computer Architecture -
  Professor: Kento Aida
  Ph.D. (Engineering)
  Specialization: Parallel computing, distributed computing, Cloud computing, Research Themes: Parallelization, distribution, cloud computing, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

  Associate Professor: Atsuko Takefuji
  Ph.D. (Engineering)
  Specialization: Parallel distributed processing, Cloud infrastructural technologies, Information technologies, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

- Software Infrastructure -
  Associate Professor: Hironori Kato
  Ph.D. (Engineering)
  Specialization: Security, software engineering, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

  Associate Professor: Kazunori Iwata
  Ph.D. (Engineering)
  Specialization: Computer system networks, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

  Professor: Hiroshi Akiyama
  Ph.D. (Engineering)
  Specialization: Computer system networks, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

- Software Engineering -
  Associate Professor: Teruhiro Saito
  Ph.D. (Engineering)
  Specialization: Network architecture, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.

  Professor: Tomohide Mori
  Ph.D. (Engineering)
  Specialization: Network architecture, Research Themes: Building a new information platform that will essentially integrate the Cloud, Software and embedded systems networks internationally. Creating new applications using Cloud computing services, and the Cloud.
Digital Content and Media Sciences Research Division

**Foundations of Content Management:**

Associate Professor: Norio Kajitaya
Ph.D. (Engineering)

**Specialty:** Data management technology for video/conjunctive analysis

Research theme: High-speed efficient analysis of multimedia databases storing large amounts of video data, focusing on grid and SPAR as key technologies, and developing databases and algorithms for them.

Assistant Professor: Yusuke Komiyama
Ph.D. (Lecture)

**Specialty:** Open science: Research data management infrastructure, Semantiks Wide, Linked Data, Bioinformatics

Research theme: Contribution of the open science platform for long-term storage and sharing of research data from academia and research labs, as an urgent issue in the academic information field. Provision of a safe, convenient data management infrastructure service using SWEAT, Comets, the Cloud and other sources.

Professor: Atsushi Takino
Ph.D. (Science)

**Specialty:** Research on interactive systems for open data management and large-scale data management services

Research theme: Establishment of an open data platform for long-term storage and sharing of research data from academia and research labs, as an urgent issue in the academic information field. Provision of a safe, convenient data management infrastructure service using SWEAT, Comets, the Cloud and other sources.

**Text and Language Media:**

Professor: Kazutoshi Yamaji
Ph.D. (Science)

**Specialty:** Research data sharing and management: Platform system for activating the research community

Research theme: Development of technology supporting Open Science, for publishing and sharing research results such as papers and research data. Devising a world-leading research data infrastructure adapted to research work in Japan and providing services to universities and research facilities in Japan.

Assistant Professor: Atsushi Saito
Ph.D. (Engineering)

**Specialty:** Natural language understanding and analysis of written language

Research theme: Methods for analyzing natural language text using computers and their application to real-world problems.

Assistant Professor: Shin-Ichi Saloh
Ph.D. (Engineering)

**Specialty:** Video analysis, retrieval and knowledge discovery based on broadcast video archives

Research theme: Building visual systems able to understand meaning in video similarly to how humans do. Technologies to automate extraction of non-visible events from broadcast video archives, establishing visual technologies for events and events portrayed in video. Participating in overseas HDMI projects and related technologies.

Assistant Professor: Akira Sugimoto
Ph.D. (Engineering)

**Specialty:** Sensory and understanding human activities in daily life

Research theme: Building visual systems able to understand meaning in video similarly to how humans do. Technologies to automate extraction of non-visible events from broadcast video archives, establishing visual technologies for events and events portrayed in video. Participating in overseas HDMI projects and related technologies.

Assistant Professor: Kanji Yamauchi
Ph.D. (Engineering)

**Specialty:** Computer graphics: User interface, geometric modeling

Research theme: Interactive interfaces for interaction 3D modeling. Mainly modeling technologies for the surface conditions and interior structure of 3D objects, and representing ideal shapes into high-quality meshes.

Assistant Professor: Yuzo Kondo
Ph.D. (Engineering)

**Specialty:** Computer graphics: Geometric modeling

Research theme: Interactive interfaces for interaction 3D modeling. Mainly modeling technologies for the surface conditions and interior structure of 3D objects, and representing ideal shapes into high-quality meshes.

Assistant Professor: Satoshi Kihara
Ph.D. (Engineering)

**Specialty:** Computer graphics: Geometric modeling

Research theme: Interactive interfaces for interaction 3D modeling. Mainly modeling technologies for the surface conditions and interior structure of 3D objects, and representing ideal shapes into high-quality meshes.

Assistant Professor: Hiroshi Mo
Ph.D. (Engineering)

**Specialty:** Computer graphics: User interface

Research theme: Development of essential technologies for active selection of broadcast programs, such as on-demand viewing, broadcasting and implementing schemes to enjoy video content in the same way and at the same time. Mainly focusing on user interface, building 3D models and using video as knowledge.
**Digital Content and Media Sciences Research Division**

**Human and Knowledge Media**

**Associate Professor:** Kenko Aihara
Ph.D. (Engineering)
Specialty: Content analysis for cognitive systems, Planning support for Biking in the city in the future

Research Themes: Content analysis platform technology, analysis and exploration of behavior data, Finding interconnections between text and images, Understanding the structure of the web, and Developing new video capture and analysis technologies.

**Researcher:**

**Information Use**

**Professor:** Noriko Arai
Ph.D. (Science)
Specialty: Information sharing, social media, and media systems R&D. Artificial intelligence, Multimedia data management, Big data

Research Themes: Social media information, Media systems R&D. Artificial intelligence, Multimedia data management, Big data

Researcher:**

**Society Research Division**

**Information and**

**Professor:** Naoko Kando
Ph.D. (Library and Information Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Researcher:**

**Assistant Professor:** Hiromu Goshita
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Masaki Nishizawa
Ph.D. (Science)
Specialty: Quantitative analysis of social networks and user behavior, Development of various forms of media such as video, audio, and text

Research Themes: Quantitative analysis of social networks and user behavior, Development of various forms of media such as video, audio, and text

Assistant Professor:**

**Assistant Professor:** Masashi Oda
Ph.D. (Engineering)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Hiroshi Okada
Ph.D. (International Public Policy)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Daisuke Ishizaki
Ph.D. (Engineering)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Takayuki Mizuno
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Tsuyoshi Ito
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Shinya Kato
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Yuya Nishiyama
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Ryo Kanda
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Hiroshi Kondo
Ph.D. (Science)
Specialty: Development of next-generation media systems

Research Themes: Development of media systems

Assistant Professor:**

**Assistant Professor:** Masaki Nishizawa
Ph.D. (Science)
Specialty: Quantitative analysis of social networks and user behavior, Development of various forms of media such as video, audio, and text

Research Themes: Quantitative analysis of social networks and user behavior, Development of various forms of media such as video, audio, and text
Large-scale Project Involvement

AMED ICT Infrastructure Establishment and Implementation of Artificial Intelligence for Clinical and Medical Research

In cooperation with medical academic associations supported by Japan Agency for Medical Research and Development (AMED), this research center is promoting research to establish ICT infrastructures, including clinical and medical research with emphasis on leading-edge information and communication technologies relevant to clinical and medical research, to provide evidence necessary for clinical development of medical technologies originating in Japan, which leads to the improvements of the medical quality in Japan and the heightening of accessibility (equalization) to receive general medical treatment throughout the country.

New Support for Medical Care Using IT

NI Research Supervisor: Shin'ichi Satoh, Professor, Digital Content and Media Sciences Research Division/Director, Research Center for Medical Bigdata

In collaboration with medical academic associations supported by Japan Agency for Medical Research and Development (AMED), this research center is promoting research to establish ICT infrastructures, including clinical and medical research with emphasis on leading-edge information and communication technologies relevant to clinical and medical research, to provide evidence necessary for clinical development of medical technologies originating in Japan, which leads to the improvements of the medical quality in Japan and the heightening of accessibility (equalization) to receive general medical treatment throughout the country.

HASUO Metamathematics for Systems Design Project

Research Director: Hisao Hasuo, Associate Professor, Information Systems Architecture Science Research Division/Director, Global Research Center for Systems Design and Mathematics

In the manufacturing industry today, progress is being made towards fundamentally changing the way manufacturing processes—from design to production—are carried out by introducing automation and software support based on advanced information processing technologies. In light of this, the HASUO Metamathematics for Systems Design Project aims to introduce results from the field of software science into traditional manufacturing technologies and build software tools for supporting various aspects of manufactured product development—from specification development to design, implementation, and maintenance. HASUO established the Global Research Center for Systems Design and Mathematics in November 2017 as a research base.

Leveraging Formal Methods in Manufacturing

Specifically, by incorporating mathematically based system design techniques used in software science known as "formal methods", the project will explore methodologies for software support covering quality assurance and efficiency in "cyber-physical systems", such as cars and other manufactured products. Up until now, formal methods have dealt with "discrete elements" involving calculation by computer, but in order to apply formal methods to physical information systems, they must be extended to encompass "continuous elements" of physical systems such as continuous dynamics, probability, and time (Figure 1). This presents a unique approach to this theoretically difficult problem. Is to analyze mathematically the extension processes themselves and acquire universal knowledge by constructing higher-order (meta-level) theories that will allow formal methods to be extended simultaneously (Figure 2). This meta-level approach is a very theoretical one that employs various abstract mathematical techniques, such as logic and category theory. At the same time, a hallmark of this project is its focus on applying these theoretical results to real problems faced by industry.

Application for On-site Manufacturing Needs

The project includes two approaches to application. The first is to support real-world product design processes using formal methods in collaboration with domestic and foreign companies. Rather than trying to reform entire design processes, this will involve specific, practical efforts, such as reducing the time required for a certain test from three days to half a day. This will be made possible by formulating based on a theoretical approach and a flexible response to problems. The use of theoretical results will facilitate matching with specific industry needs. The second approach to application is to investigate the role of formal methods in pioneering software-based product design processes. Here, in collaboration with researchers developing the autonomous driving system Autonomous at the University of Waterloo in Canada, the project conducts groundbreaking research on industry application of formal methods using Autonomous as a testbed.
Large-scale Project Involvement

JST CREST

Core Research for Evolutionary Science and Technology (CREST). This program promotes original basic research in a high, international standard, toward achieving certain national strategic goals, and team-based research oriented to producing excellent results that will contribute greatly to scientific and technical innovation in the future.

[Advanced Core Technologies for Big Data Integration]

Researcher: Makoto Kitagawara, NII Director General Research Area Advisors: Mitsuhiro Hidaka, NII Project Professor

As the amount and diversity of data in various fields is increasing exponentially, to realize integrated analysis of big data spanning these fields, and to create, enhance and systematize next-generation infrastructure technologies, two NII researchers are representing work on their respective research issues under guidance from Research Supervisor and NII Director General Makoto Kitagawara, and Domain Advisor, Special Appointment Professor Mitsuhiro Hidaka.

Data Partitionization for Next Generation Data Mining

Research Director: Takeaki Uno, Professor, Principles of Informatics Research Division

With the arrival of the Big Data age, it has become possible to use various data from the physical and social sciences, economics and other fields. Analyzing diverse and noise-filled data to find meaning and hidden properties can lead to new scientific discoveries, more detailed understanding of social structures, and development of new products and customer services. What is important here is to extract the part of the data related to the meaning or property of interest. Data mining is the technology for finding this part of the data, but it is difficult to find the appropriate structures at an appropriate computational cost. In this project, we have defined this partial data using a structure called a cluster, and developed a technology called data publishing, which can extract meaning from the data relatively easily. This research is expected to greatly improve the efficiency and accuracy of large-scale, variable data applications. We have already applied these technologies to machine learning data in many enterprises, including Internet advertising, newspaper articles, purchase data and intestinal bacteria data, and produced a range of knowledge.

Research on Application-centric Overlay Cloud Technology Utilizing Inter-cloud

Research Director: Kento Kida, Professor, Information Systems Architecture Science Research Division

As the number of supercomputers, clouds, and networks that connect them has increased, the inter-cloud, which connects multiple clouds through high-speed networks, is being built. However, with current technology, users must configure computers and networks individually to build a computing platform for processing data, which creates significant technical and time barriers. The objective of this research is to develop infrastructure technology for quickly and automatically building large scale data processing platforms optimized for each application utilizing multiple clouds connected by networks. The results of this research will enable high-performance, easy processing of large-scale data using clouds. We intend to collaborate with researchers in the fields of genome analysis and fluid acoustic analysis to develop applications for these fields, and also to build and operate infrastructure together with researchers in information infrastructure centers in universities and other institutions. This research is being done in collaboration with researchers at Hokkaido University, the National Institute of Genetics, the Tokyo Institute of Technology, and Kyushu University.

[Development and Integration of Artificial Intelligence Technologies for Innovation Acceleration]

Experience and Action Sensing of Media Consumers based on Unknown Target Retrieval and Recognition Framework

Research Director: Shin’ichi Satoh, Professor, Digital Content and Media Science Research Division

The ways that people access information have changed in recent years, with SNS such as Twitter and Instagram becoming major sources of information in addition to broadcast television and other conventional media. These are being used by an increasing number of people when forming opinions and purchasing behaviors. Many people are also recording and publishing their own activities using SNS and blogs. Thus, it has become possible to observe the experiences and behaviors of those media consumers through appropriate analysis of media such as broadcast TV, SNS, and blogs. This research will first establish an unknown target retrieval and recognition platform to detect significant changes and major trends in dynamically changing media such as broadcast TV, SNS, and blogs. Based on the technology suite, we will build a framework to sense how people obtain information from broadcast TV and SNS and how people react following the obtained information. The framework will enable early detection of new trends such as brand new products, analysis of effective marketing strategies, raising buying behavior, analysis of mechanism driving people for humanitarian behavior, and so on.

NTSBR

The NII Testbeds and Community for Information access Research (NTSBR) is a project to enhance information access technologies. NTSBR provides common evaluation infrastructure in and outside of Japan to support the understanding and use of information by offering access information from a large amount of information. This is an international project established for a mutual learning forum by advancing, verifying and comparatively evaluating a variety of research through this common infrastructure.

Supporting Smooth Access to Desired Information and Informational Use

General Director: Noriko Kanda, Professor, Information and Society Research Division

The development of information access technologies with technology, such as information searching, natural language processing and databases at the core, is growing in importance for the use of big data obtained from access to the web, text data, and various sensors. Evaluations based on a test collection, which is a testing data set with correct data, is a result of collaborative work with researchers in the evaluation of information access technology. NTSBR started this project in 1997 and has contributed to the evolution of initiatives and technologies for over 20 years in the form of the evaluation infrastructure. Thanks to collaboration with a multitude of researchers, NTSBR has received a total of 107 tasks with a total of 188 groups worldwide participating in these tasks. Furthermore, 4,146 research groups are currently using the NTSBR test collection for research purposes. NTSBR generally selects several tasks in each year and-half cycle to build a data set for effective validation and benchmarks of new methods as research platforms with the cooperation of roughly 150 research institutes and associations in Japan and overseas. A conference is held as an international meeting at the end of each cycle.
**Research**

**Large-scale Project Involvement**

**IMPACT**

Research and Development Project: Basic Sub-Project: Support System for Future Energy Research

With the advent of supercomputing, there is increasing demand for technical support to enable people to continue working while preserving their health and safety. NII has participated in IMPACT to realize an early diagnosis of disease, and to improve the infrastructure of healthcare facilities, with advances in photo-acoustic imaging, which permits real-time 3D visualization of diseases and functions inside human bodies and substances, non-invasively and non-destructively. The photo-acoustic system is a promising new technology that integrates state-of-the-art laser and ultrasound technologies, where 3D structures of objects can be reconstructed by emitting intense ultrasound from the objects that absorb non-invasive illumination. It enables to improve the side of the human body and objects whose modes are not visible, non-invasively and non-destructively. In this research, we are developing computer-vision technologies to detect their image and extract feature images to support a diagnosis. For example, we propose a registration method to generate high-quality 3D volumes in which vessels become clearly visible by aligning photo-acoustic images that are obtained by body techniques. We are also developing a technology that automatically models vascular structures, which helps in understanding blood vessel conditions related to diseases.

**Research**

**Innovative Visualization Technology to Lead to Creation of a New Growth Industry**

**Project with NII researchers participating: Demonstration of value**

Research and Development Project: Basic Sub-Project: Support System for Future Energy Research

NII is collaborating with universities and industrial partners to conduct research on computational physics (CPH) using an aspectual scale since 2011. CPH aims to integrate physical systems functioning in the real world with information systems that collect and analyze data obtained from the real world through various sensors. Based on the data, researchers can make various diagnoses in the real world. This active cycle of data collection, analysis, and intelligent feedback, CPH is expected to continue to create new values as well as to enhance the efficiency of subsystems. With the CPH concept, NII has been working since 2014 in a 4-P program titled "Innovative Infrastructure Maintenance, Renovation, and Management," aiming to improve existing infrastructure maintenance processes through information technologies by designing an integrated data management platform for sensing bridges and other types of infrastructure.

**Grants-in-Aid for Scientific Research**

**Kakenhi**

Kakenhi provides broad support for academic research based on the facts of the researchers themselves, over a wide range of fields and spanning from basic to applied research. Each teaching and research personnel actively applies for Kakenhi, and many are accepted. Awarded Kakenhi can also be distributed to researchers at other research institutions (co-investigators) based on collaboration in the research. Similarly, many NII researchers are participating as co-investigators in projects funded by Kakenhi acquired by researchers at other institutions.

**Grants-in-Aid for Scientific Research (S)**

**Software Foundations for Interoperability of Autonomous Distributed Data Based on Bidirectional Transformations**

**Principal Investigator:** Masakazu Inoue, Professor, Graduate School of Information Science

The study of bidirectional transformations originates from the longstanding problem of view updating in databases, and has been a topic of interest in bidirectional languages with new programming models tailored for data synchronization. Despite the potential in solving practical synchronization problems including data interoperability, bidirectional technologies are not widely employed yet, and most applications of bidirectional transformations remain proof of concept. In this research, we aim to further develop bidirectional technologies to make them more reliable, scalable, and efficient, so as to establish solid foundations for integration, sharing, and interoperability of autonomous distributed big data. Research specifically has the following three objectives to achieve these goals.

**Goal 1:** To further develop bidirectional transformation technologies, to enable modular development, stable analysis and automatic verification, strong debugging mechanisms, and learning support for development of large-scale and reliable bidirectional transformations.

**Goal 2:** To build a new software foundation with bidirectional transformations, which will feature a novel view-passing model that can achieve efficient asynchronous data processing and facilitate interoperability of autonomous distributed data.

**Goal 3:** To construct practical applications of bidirectional transformations, solving real-world problems using the view-passing model.

**Advanced Reasoning Support for Judicial Judgment by Artificial Intelligence**

**Principal Investigator:** Ken Sakihara, Professor, Graduate School of Information Science

In the trial process, the intellectual tasks that the judges are carrying out are roughly divided into the fact finding process, the substantiation process, and the judgement process. The fact finding process is a process of recognizing facts actually occurred in the case from evidence, the substantiation process is a process of making the facts correspond to legal concepts, and the judgement process is a process of making a judgment according to the legal concepts corresponding the facts based on legal rules. Furthermore, in court cases, there are conflicting situations of plaintiffs and defendants, and procedures and an accused. Therefore, in the trial process, various complicated high-order inferences are executed, and more accurate and prompt high-order inference should be realized by support artificial intelligence. For this research, we aim to develop a system that supports the rules in the judgment and can be used by the judges. This system will be utilized in the trial process, supporting evidence by using the following fundamental technologies and a system that analyzes arguments in each process (Figure).

1. Fact finding process support system using evidence reasoning based on Bayesian network
2. Substantiation process support system by acquiring substantiation rules based on natural language processing
3. Judgment process support system by extending the existing node reasoning system PROLOG to handle criminal cases and administrative cases
4. Argumentation analysis system based on argumentation theory
Collaborative Research Promotion

NiI is actively conducting research in collaboration with private facilities and utilizing external funding through means such as contracted research. Also, in order to produce mutual value for people and society as never before with new theories and methodologies, and expanded applications (future values), as is demanded of informatics, we are promoting informatics research by seeking and performing public collaborative research and cultivating research through collaboration with other academic fields.

[Various joint research performed with enterprises of different types]

Joint research with private facilities
https://www.nii.ac.jp/english/research/collaboration/

NiI invites the following joint research, receiving research staff and expenses from private and other external facilities. In principle, projects last one year, but there are also multiple-year contracts.

1. Receiving funding only
We receive funding required for collaborative research from private institutions and other external bodies. Cooperative researchers then work from their respective locations.

2. Taking on researchers
We take on researchers from private institutions and other external bodies to carry out collaborative research at NiI while continuing with their regular job. Essential overhead expenses are covered under our research costs, up to a certain limit.

3. Taking on researchers and receiving funding
We take on researchers and receive funding to carry out collaborative research.

[Paving the way for wide-ranging collaboration with researchers and conducting research aimed at creating value]

NiI open collaborative research
https://www.nii.ac.jp/english/research/collaboration/

We accept proposals for collaborative research, with NiI staff acting in a liaison capacity. We accept proposals every year for the following three types of open collaborative research.

- Strategic research proposals based on strategic themes set out by NiI
- Proposals for research planning meetings aimed at paving the way for new collaboration or furthering existing research, through meetings at International Seminar Houses for Advanced Studies in Katsuzaka.
- Open subject proposals in which the applicant is free to set their own research subject.

Researchers affiliated with a wide range of domestic institutions are eligible to apply for open collaborative research. This includes the option for staff members and graduate students to become collaborative researchers, as well as staff from private companies, universities, and technical colleges (although the applicant may not be a graduate student). We are particularly interested in proposals for research planning meetings, so please collaborate with us in taking things to the next level.

Research

Intellectual Property

NiI creates, acquires, and manages intellectual property, and promotes the use of this intellectual property in industry-academia-government collaborations that contribute to society.

Number of Invention Reports, Applications for Patents, and Registrations (total numbers since FY2004)

(as of the end of March 2018)

<table>
<thead>
<tr>
<th>List of Japanese patents owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of invention</td>
</tr>
</tbody>
</table>
| Intraocular lens 

type for eye surgery | Y. Komatsushita, K. Ono, T. Tanaka | Filed in 2006, 2007 |
| Improved process for producing 
| New compounds for treating 
cancer | Y. Inoue, M. Ohkouchi, K. Matsumoto | Filed in 2015, 2016 |

List of registered trademarks

(as of the end of March 2018)

<table>
<thead>
<tr>
<th>Trademark mode</th>
<th>Registered trademark</th>
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<tbody>
<tr>
<td>NiI</td>
<td>Y. Nomura, M. Sato</td>
</tr>
<tr>
<td>Net Communics</td>
<td>R. Matsumoto, K. Inoue</td>
</tr>
<tr>
<td>Mobile The BEST</td>
<td>Y. Miyazaki, T. Tanaka</td>
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<tr>
<td>Takara</td>
<td>Y. Yoshida, T. Tanaka</td>
</tr>
<tr>
<td>WebEJS</td>
<td>M. Ishii, Y. Inoue</td>
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<tr>
<td>Net Communics</td>
<td>S. Nakamura, K. Inoue</td>
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</table>
Industry-Government-Academia Collaboration (Practical R&D and Industry-Government-Academia Collaborative Activities)

NII conducts research in the field of informatics and engages in information infrastructure projects with the aim of fostering practical R&D that will help solve various problems facing society. Collaborations between industry, government, and academia are vital in achieving these goals. In order to further strengthen such collaborations, NII promotes activities that help ensure that we meet the requirements of companies, local authorities, and others.

- **Formal Joint Research Projects**
  - Industry-government-academia networking events
  - Industry-government-academia collaboration seminars
  - Industry-government-academia collaborative IT research

- **Technical Discussions**
  - Industry-government-academia collaborative IT research

- **Decision-making support at research conception stage**
  - To keep abreast of worldwide research and technology trends, and information of related companies, research institutions and researchers based on these trends.

- **Outsourcing to promote research**
  - To organize exchange of research personnel who will supplement the system for promoting the research. To make use of external research capabilities for research skills and knowledge that cannot be created within the company.

- **Multidisciplinary cooperation**
  - To be involved in multidisciplinary cooperation regarding research challenges faced in the broad and diverse field of informatics.

- **Development of personnel who contribute to business**
  - To acquire advanced technical skills required in future projects and address personnel shortages in driving business.

**NII Industry - government – academia collaborative activities**

- NII-ShonanMeetings
  - Proposal of research themes by corporate organizations

- Industry-government-academia networking events
  - Networking/exchange of views based on advanced research themes

- Industry-government-academia collaboration seminars
  - Focusing a collaborative mindset through introduction of cutting-edge research

- Academic guidance (by researchers)
  - Problem-solving through technical guidance and advice

- NII open collaborative research
  - Searching for appropriate partners in academia according to research theme

- Collaborative research (including hosting of researchers)
  - Problem-solving by bringing research resources together

- Commissioned research
  - Providing services from research commissioned by corporations and other companies

- TopSE Education Program
  - Developing top-level IT personnel

**Research Services and Support**

- **Consulting Service**
  - Consulting on use of cutting-edge technologies in development

- **Academic Guidance**
  - Consulting on use of cutting-edge technologies in development

**Research Guidance (Consulting) by Researchers**

<table>
<thead>
<tr>
<th>NII Academic Guidance</th>
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<tbody>
<tr>
<td>Researchers’ knowledge</td>
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<tr>
<td>Offerings from NII</td>
</tr>
<tr>
<td>Researchers’ knowledge</td>
</tr>
<tr>
<td>Advice by way of lectures and group meetings</td>
</tr>
<tr>
<td>Offerings from NII</td>
</tr>
<tr>
<td>Guidance on policy-making under short-term contracts</td>
</tr>
<tr>
<td>Offerings from NII</td>
</tr>
<tr>
<td>Group guidance by multiple staff in different fields is also available</td>
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<tr>
<td>Offerings from NII</td>
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</table>
International Exchange

Research

International Exchange Agreements (MOU)

MOUs for research cooperation in 29 countries and regions: 163 institutes

Country/Region | Names of universities | Number of MOU
--- | --- | ---
China | Tsinghua University, Shanghai Jiao Tong University, Peking University, University of Science and Technology of China | 8

France | The University of Grenoble, Université Paris-Diderot, Université de Lille, Université de Lyon | 4

India | Indian Institute of Technology (IIT) Delhi, IIT Madras, IIT Kharagpur | 3

Japan | University of Tokyo, University of Tokyo, University of Tokyo | 2

Korea | Korea University, Seoul National University, Seoul National University | 2

Singapore | National University of Singapore, Nanyang Technological University | 2

United Kingdom | University of Oxford, University College London, University of Cambridge | 2

USA | Massachusetts Institute of Technology, Stanford University, University of California | 2

Japan | University of Tokyo, University of Tokyo, University of Tokyo | 2

Indian Institute of Technology (IIT) Delhi, IIT Madras, IIT Kharagpur | 3

Korea | Korea University, Seoul National University, Seoul National University | 2

Singapore | National University of Singapore, Nanyang Technological University | 2

United Kingdom | University of Oxford, University College London, University of Cambridge | 2

USA | Massachusetts Institute of Technology, Stanford University, University of California | 2

Japan | University of Tokyo, University of Tokyo, University of Tokyo | 2

Indian Institute of Technology (IIT) Delhi, IIT Madras, IIT Kharagpur | 3

Korea | Korea University, Seoul National University, Seoul National University | 2

Singapore | National University of Singapore, Nanyang Technological University | 2

United Kingdom | University of Oxford, University College London, University of Cambridge | 2

USA | Massachusetts Institute of Technology, Stanford University, University of California | 2

International Internship Program

Research at NII

Application

Graduate students from NII institutes (master's and PhD students)

Research period

2 months to 6 months (180 days)

Paid expenses

Accommodation expenses: ¥5,000/day

Selection

The program recruits students working on research topics proposed by NII faculty. Students are selected through a review of their research proposal and a selection process conducted by NII faculty.

Application

The program is open to students from NII institutes. Students must submit an application through the NII website.

Non-MOU Grant

MOU Grant was established in 2005 and Non-MOU Grant was established in 2006 as a system of financial support for the research exchange with our partner institutions and non-partner institutions. MOU Grant is provided to fund research collaboration with institutions in the European Union, and Non-MOU Grant is provided to fund research collaboration with institutions in other regions.

For both, travel expenses are covered. There are two calls per year, and applications are reviewed and selected by the GLO to pursue further research collaborations with foreign research institutes.
Nil Shonan Meetings

In February 2011, Nil hosted the Nil Shonan Meetings, the first Dagstuhl Style seminar in Asia. The purpose of the Nil Shonan Meetings is to lead researchers all over the world to gather together and to tackle to solve difficult issues in informatics through the intensive discussions. The meeting is hosted by Nil in collaboration with Kanagawa Prefecture based on a partnership agreement. The meeting's venue, Shonan Village Center, is easily accessible from Narita Airport, offering an environment full of nature where participants can focus on their research activities. 108 seminars have been held so far, and August 2014 saw the launch of the Nil Shonan School, intended primarily for promising students and young researchers in the field of informatics.

Dagstuhl Seminar: A renowned seminar series in the field of informatics, held about every week in Dagstuhl, Germany. It is famous for the style which obliges participants at the venue for one week to have intensive discussions on the topics of informatics.

Support by the office and venue

On behalf of organizers, the office of Nil Shonan Meeting and Shonan Village Center support administrative arrangements such as coordinating seminar dates and booking venues, sending invitations, providing lodging information for participants and preparing the venue on the meeting day. The program also includes events like a historical tour of Kamakura to cultivate personal exchanges among participants.

Administrative structure

We welcome proposals of Shonan Meeting seminars throughout the year. There are deadlines for submission twice a year, June 15 and December 15. Following the reviewed proposal by the Academic Committee in Nil, organizers will be notified as to whether or not their proposal has been accepted.

Contact: The Office of Nil Shonan Meetings, shonan@nil.ac.jp

Nil Shonan Meeting Memorial Lectures

The Nil Shonan Meeting Memorial Lectures are annually held and co-hosted by Nil and Kanagawa Prefecture and researchers related to Nil or the Nil Shonan Meetings give lectures on the latest research topics of the informatics that are open to the public.

Agreement with German Academic Exchange Service (DAAD)

Nil has a special agreement with the German Academic Exchange Service (DAAD) that allows German postdoctoral researchers to stay at Nil to conduct their research projects under the supervision of Nil researchers. In the frame of the agreement, researchers can stay at Nil for maximum three months (six months is recommended) up to two years supported by DAAD. During that period, they implement their own projects in connection with Nil supervision. The postdocs have the possibility to recuit Master/PhD students or engineers to help their researches during their stay. Since Nil is an international university organisation, researchers can visit its partner universities and research institutions in Japan to strengthen their networks in Japan.

Japanese-French Laboratory for Informatics (JFLI)

Pierre and Marie Curie University (UPMC, University of Paris VI), The University of Tokyo (Graduate School of Information Science and Technology), Keio University, and Nil joined the National Center for Scientific Research (CNRS) to establish the Japanese-French Laboratory for Informatics (JFLI) in 2006 as a base for informatics research exchange between France and Japan. The JFLI has been entrusted with organizing research exchange since 2013 by promoting the International Joint Unit (IJU) International research organization of the CNRS. The Japanese-French Laboratory for Informatics promotes collaborative research by emphasizing important and challenging fields in informatics with the primary research themes of (1) neuromorphic network, (2) high-performance computing, (3) software programming models and methods, (4) virtual reality and multimedia, and (5) quantum computing. Up until now, joint research has been promoted at each institution, including the acceptance of researchers and graduate students from French research institutes. Research presentations are also regularly held as workshops to enhance collaborative research as well as venues for graduate students to present their research. The JFLI Seminar is another regular activity. Many networks of researchers have formed recently around the JFLI thanks to the conduct of activities up until now. A JFLI side workshop was held at Nil by inviting outside researchers involved with JFLI in March 2016. In addition, JFLI is also planning joint workshops with universities and other outside institutions. JFLI also now plans to collaborate with UMI that have similar research themes even at the UMI international research organizations of CNRS spread widely throughout Asia.

JFLI will promote informatics research by working together with each university in Japan while also putting its effort into collaborative research between two countries in the future.

Active Research Exchanged-Certified by JFLI

https://jfl-i.org/JFLI
The Department of Informatics, SOKENDAI (The Graduate University for Advanced Studies)

Establishment of graduate school

The National Institute of Informatics joined SOKENDAI (The Graduate University for Advanced Studies) and opened the Department of Informatics (three-year doctoral program) in April 2002, seeing its first students graduate in March 2005. A five-year doctoral program was launched in 2006. The first graduate university in Japan, SOKENDAI has focused on gathering researchers, engineers, who will play key roles in an international level in the 21st century. By inviting renowned researchers and engineers from around the world, Iranian researchers and highly specialized professionals in the field of information and systems who will take the lead in academic research and address various important issues relating to changes in human society in the 21st Century. The School, consisting of the Department of Statistical Science, the Department of Public Policy, and the Department of Informatics, has been involved in multidisciplinary research fields from the beginning. In addition, the school further strives to enhance its research and education by promoting close collaboration between the Departments by, for example, setting common subjects in curricula. The school also endeavors to disseminate research results to students, thereby engaging in multidisciplinary science research approaches, and methodologies as an essential part of the school's research and education activities. The Department of Statistical Science and the Department of Informatics seek to determine the common probability or complex among various phenomena by statistical mathematics and data analysis. The Department of Public Policy studies the geopolitical and the biological complex system in the global regions of the East and approaches its subject from the viewpoint of multidisciplinary science. By continuing to explore new research fields, including advanced and leading research fields, and systematizing them through such activities, the school strives for further development of the multidisciplinary sciences.

Message from a Current Student

NGUYEN, Phi Le
3508 Graduate School of Frontier Sciences Ph.D. Course, The University of Tokyo
2016: Entered the Department of Informatics Three-year Ph.D. Course, SOKENDAI (The Graduate University for Advanced Studies)
Main Supervisor: Professor Yoshua B.

My research addresses the issue of packet forwarding in wireless sensor networks with the occurrence of obstacles. In order to bypass the obstacles, the traditional approach is to forward packets along the obstacle boundaries. However, this approach leads to two serious problems: traffic concentration around the obstacle boundaries and routing path enlargement. In my research, we propose a novel approach which can balance the traffic over the network while ensuring the constant stretch property of routing paths. Our main idea is to let the forwarder node nodes early enough about the occurrence of the obstacles in the direction to the destination. Hence, each "band" the packet around the obstacles in a smart and efficient manner.

Student data (as of April 2016)

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Students</th>
<th>Numbers of foreign students by country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>5</td>
<td>100% (5)</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>100% (2)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2</td>
<td>100% (2)</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
<td>100% (1)</td>
</tr>
<tr>
<td>Argentina</td>
<td>1</td>
<td>100% (1)</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>Total: 9</td>
</tr>
</tbody>
</table>

Career paths of students after completion of doctoral program

<table>
<thead>
<tr>
<th>Year of completion</th>
<th>University/Research Institute</th>
<th>Company</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2017</td>
<td>5 (4)</td>
<td>2 (1)</td>
<td>9 (0)</td>
<td>16 (5)</td>
</tr>
<tr>
<td>FY2016</td>
<td>9 (6)</td>
<td>6 (4)</td>
<td>3 (0)</td>
<td>18 (13)</td>
</tr>
<tr>
<td>FY2015</td>
<td>9 (6)</td>
<td>5 (3)</td>
<td>3 (0)</td>
<td>17 (9)</td>
</tr>
</tbody>
</table>
The Department of Informatics provides research instruction and guidance by top-level researchers within the advanced environment and international atmosphere of the National Institute of Informatics.

A broad range of academic fields are offered from fundamental disciplines such as mathematics, to the basics of computer architecture and networks, and extending to software and media engineering, artificial intelligence, informatics, and informatics for research. Ever since the Department was first established, lectures and research guidance have been given in small groups, meaning that the system of education is flexible to suit the individual students. Advanced research instruction and guidance are given on a daily basis to develop people capable of working at the forefront of informatics. The academic year consists of two semesters: the first semester runs from April to September, and the second semester runs from October to March. In order to complete the course, students are required to acquire a certain number of credits. To carry out research under appropriate guidance, and to pass the doctoral dissertation review of their research results, the minimum number of credits required is 10 for the three-year doctoral program and 40 for the five-year doctoral program. The duration of the program is flexible and may be shortened for students with excellent research results. If a student enrolled in the five-year doctoral program has to withdraw before graduation, they may also be awarded a master's degree as long as certain requirements are met.

Special Collaboration with Research Students

As an inter-university research institute, the National Institute of Informatics accepts graduate students from other universities in Japan and overseas as research students in special collaborative projects. Special research with research students receives guidance from faculty of the National Institute of Informatics according to the research subjects.

Universities to which research students for special collaborative belong

<table>
<thead>
<tr>
<th>Institution</th>
<th>University</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osaka University</td>
<td>Osaka</td>
<td>Osaka</td>
</tr>
<tr>
<td>Tohoku University</td>
<td>Sendai</td>
<td>Sendai</td>
</tr>
<tr>
<td>Kyoto University</td>
<td>Kyoto</td>
<td>Kyoto</td>
</tr>
<tr>
<td>Hokkaido University</td>
<td>Sapporo</td>
<td>Sapporo</td>
</tr>
<tr>
<td>Waseda University</td>
<td>Tokyo</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Keio University</td>
<td>Yokohama</td>
<td>Kanagawa</td>
</tr>
<tr>
<td>Meiji University</td>
<td>Chofu</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Asahikawa University</td>
<td>Asahikawa</td>
<td>Hokkaido</td>
</tr>
<tr>
<td>Keio University</td>
<td>Tokyo</td>
<td>Tokyo</td>
</tr>
<tr>
<td>Tokyo University</td>
<td>Tokyo</td>
<td>Tokyo</td>
</tr>
<tr>
<td>University of Tokyo</td>
<td>Tokyo</td>
<td>Tokyo</td>
</tr>
<tr>
<td>National Institute of Informatics</td>
<td>Tokyo</td>
<td>Tokyo</td>
</tr>
</tbody>
</table>

Number of students accepted through both systems of collaboration with graduate schools and research students

<table>
<thead>
<tr>
<th>System</th>
<th>Master's Program</th>
<th>Doctoral Program</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In</td>
<td>74</td>
<td>54</td>
<td>128</td>
</tr>
</tbody>
</table>
**Service**

**SINET5 (Science Information NETwork): Providing Ultrahigh-Speed and Low Latency Throughout Japan**

100Gbps, full-mesh network opens up new possibilities

The Science Information NETwork (SINET5, Science Information NETwork 5) is an information communication network built and operated as an academic information infrastructure for universities and research institutions throughout Japan. The network has nodes (network connection points) nationwide, and it is designed to promote research and education as well as the circulation of scientific information among universities, research institutions, and similar entities. In addition, SINET5 is also interconnected with many overseas research networks, such as Internet in the U.S. and GÉANT in Europe, to facilitate the circulation of research information across borders, which is necessary in advanced international research projects.

The previous SINET was upgraded to SINET5, and full-scale operation of the upgraded network began in April 2016. SINET5 provides cloud computing, security and high-level academic information infrastructures to more than 850 universities and other institutions to organically share academic contents via a 100 Gbps network throughout Japan.

In the second half of FY2018, we plan to upgrade the Japan–Europe line, Japan–New York line (via Los Angeles), and Japan–Singapore line to 100Gbps in order to further enhance the strength of international competitiveness and cooperation. We are also planning to put in place platform functionality that directly connects SINET and the middle network for data collection analysis that utilizes the mobile network as a way to foster flexible use of university analysis resources as well as arbitrary cloud resources.

<table>
<thead>
<tr>
<th>Number of institutions participating in SINET</th>
<th>100Gbps network connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>National universities</td>
<td>86</td>
</tr>
<tr>
<td>Municipal universities</td>
<td>80</td>
</tr>
<tr>
<td>Private universities</td>
<td>386</td>
</tr>
<tr>
<td>Junior colleges</td>
<td>77</td>
</tr>
<tr>
<td>Technical colleges</td>
<td>56</td>
</tr>
<tr>
<td>Inter-university research institutes</td>
<td>16</td>
</tr>
<tr>
<td>Others</td>
<td>188</td>
</tr>
<tr>
<td>Total</td>
<td>889</td>
</tr>
</tbody>
</table>

SINET5 provides ultrahigh-speed interfaces, such as 100GGE and 40GGE. Along with expanding the network service features, more universal services such as university LAN virtualization and L2 on-demand are added to the service menu to allow secure, advanced research environments to be built in universities and research institutions.

Interconnection with overseas research networks

& The figure only includes 100 Gbps lines of each nation.

**SINET5 Services**

- **100Gbps, full-mesh network**: Provides high-speed connectivity for universities and research institutions throughout Japan.
- **Cloud computing**: Offers scalable computing resources.
- **Security**: Provides enhanced security measures for data transmission.
- **High-speed academic network**: Supports high-speed data transfer for research purposes.

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**Service menu**

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L3 services</td>
<td>Internet connection (IP/IPv6)</td>
</tr>
<tr>
<td>L2 services</td>
<td>L2VPNSPPLS (vLSD)</td>
</tr>
<tr>
<td>L1 services</td>
<td>JAPAN-LEASIX Line</td>
</tr>
</tbody>
</table>

**Enhanced transfer performance**

- Performance measurement
- High-speed data transfer services (up to 10Gbps)
- Provision of some functions directly
Concept and Characteristics of SINETS

Five Major Concepts of SINETS

1. Advanced Infrastructure
   - Adapting the latest technologies to minimize delays in communication
   - SINETS introduces a state-of-the-art optical network with optical transmission technologies and adopts the latest technologies over the full-routing topology to minimize transmission delays between DCs in each prefecture.

2. Ultra High Speed
   - Realizes 100 Gbps high-speed networks throughout Japan
   - SINETS realizes an ultra-high-speed network oriented for plane expansion up to 100 Gbps line bandwidth that connects between DCs.

3. High Reliability
   - Realizes a highly reliable and robust network without interruptions or failures
   - SINETS realizes and provides a highly reliable and robust network by adopting and coexisting (combining) a redundancy function/method in each network layer to avoid and bypass blockages in the latest standardized network architecture (optical network layer, MPLS-TP network layer, and IPv4/IPv6 network layer).

Characteristics of SINETS

SINETS has been built and operated as a platform for benefits such as (1) collaborative use including large laboratories, (2) strengthening cooperative capabilities in each research field, (3) international collaboration between nations worldwide, (4) distribution of academic information and sharing of big data, and (5) higher quality educational facilities.

Support for Cloud Utilization by Universities and Research Institutes

With the aim of establishing an academic information infrastructure, NII supports cloud use for a variety of applications. This support includes a service for support of adoption and procurement of cloud services (Sakura cloud adoption support), services to support cloud use (SINETS cloud connection service, Cloud gateway service, and On-demand cloud configuration).

GakuNin Cloud Adoption Support

NII’s GakuNin Cloud Adoption Support is a center for preparing, distributing, and sharing information about the required standards when a university or research institute adopts cloud services. It supports cloud service adoption by providing a checklist of items that must be addressed when a university or research institute adopts the cloud. The checklist provides the results of the responses by cloud service providers to this checklist, and providing the results to universities and research institutes. Institutions can develop a specification for cloud service procurement as well as compare multiple cloud services using the same indicators so that they can adopt and use a cloud system appropriate for their needs. In addition, NII conducts individual consultations of cloud adoption, holds seminars on cloud services for universities and research institutes, and provides cloud startup guides as well as cloud usage examples.

Cloud Gateway Service

The Cloud Gateway Service provides portal functionality to access all of the online services from one place, such as the various cloud services necessary for research and educational activities as well as electronic journals.

On-demand Cloud Configuration Service (Release Planned for the Second Half of 2018)

The on-demand cloud configuration service is a service that provides cloud services to academic institutions so that users can easily perform software installation and setup in the cloud system. In addition, this service supports the last and secure network provided by SINETS. An intercloud environment consisting of multiple computers connected by SINETS, e.g., computers in clouds, universities, and research institutions, can be built on-demand and used for research, education, and IT system operation. This service is scheduled to be released in the second half of 2018.

SINETS Cloud Connection Service

The SINETS cloud connection service allows cloud service providers to be connected directly to SINETS to provide cloud services to academic institutions so that upper-layer services (email, storage, etc.) can be used securely. SINETS members can configure networks, such as secure private networks, more inexpensively by using this service.
Establishment of Authentication Infrastructure

Academic Access Management Federation in Japan "GakuNin"

The Academic Access Management Federation (GakuNin) is a structure that utilizes university's authentication infrastructures not only for internal services but also for university collaboration and commercial services including the cloud, thus facilitating the safe and secure use of academic services on the Internet by collaborative utilization of identity information. With Single Sign-On, users can seamlessly and automatically log into multiple internal and external services with a single login procedure. For universities, building an authentication infrastructure with GakuNin raises the baseline of security measures and reduces the cost of ID management.

Participants (as of the end of March 2016)
- Number of organizations (IP: Identity Provider): 210
- Number of services (SP: Service Provider): 162

[Features]
- Single Sign-On (SSO) by authentication only once with one ID/password to use various services.
- Accessible anywhere in the world without VPN or other complicated technologies (remote access).
- Only a web browser is required.
- Ease to improve security level with client certificate authentication and/or multi-factor authentication.

GakuNin strives to maintain reliability by annual assessment of the IDPs operated by universities and institutions. GakuNin also provides LoA1 (Level of Assurance 1) service certification specified in the trust framework of the Federal Identity, Credential, and Access Management (FICAM) in the United States. Universities that have been certified for LoA1 are able to use the US government services, including the databases of the National Institutes of Health (NIH).

Digital certificates: UPKI Digital Certificate Issuance Service

NIL started the UPKI Digital Certificate Issuance Service, a business issuing digital certificates aimed at universities and research institutions, in January 2015. In addition to the server certificates provided in advance, NIL now also issues client certificates and code signing certificates. As before, the server certificates issued by NIL are highly secure and conform to the unified international Web Trust for CA (WTCa) standard. The use of server certificates improves web security by proving that the provider of a web server (domain name and organization name) is legitimate and, for example, making it easy to distinguish from phishing websites. NIL also issues client certificates to members of institutions for authentication, and these can be applied for security purposes such as multi-factor authentication and preventing identity theft. Additionally, signing software with code signing certificates confirms the existence of a developer and guarantees that the software is authentic. This gives users peace of mind when using the software.

By providing these certificates, the UPKI Digital Certificate Issuance Service improves the security of universities and research institutions across the board.

Institutions using UPKI Digital Certificate Issuance Service
- Number of target institutions for issuance: 219
- Number of targeted domains: 427

eduroam: International Academic Wireless LAN Roaming Platform

eduroam is an international wireless LAN roaming platform developed by GENIET (formally TERAENA) in Europe. It realizes wireless LAN service that is mutually interoperable between campuses of universities and research institutes. In 2006, eduroam was introduced in Japan as part of NIL's nationwide Common University Authentication Platform Consortium Project. "eduroam JP" is being jointly operated, supported, and developed in Japan by NIL and Tohoku University. Based on the IEEE802.1X industrial standard, eduroam provides a secure and highly convenient wireless LAN environment.

eduroam JP participants (as of the end of March 2016)
- Number of organizations in Japan: 211

Support of Inter-university Collaboration-based Information Security Framework

NIL established the Center for Cybersecurity Research and Development in FY2016, to support system configuration which can rapidly respond to the incidents and accidents at national universities and other institutions under cyber attacks. The NIL Security Operation Collaborative Services (NIL-SOCS) began operation in FY2017.

By cultivating personnel based on inter-university collaboration while applying appropriately the research results of attack detection and defense capability, the quality of cyber security infrastructure of national universities and other institutions is improved. In addition, extensive research and development activities are committed to facilitating cybersecurity research and providing secure environments for the research and education in all scientific research fields.

Organization for Science Network Operations and Coordination

The science information network is operated by collaboration and cooperation with partners that include centers for informational infrastructure at universities and research institutions and three research and development centers of National Institute of Informatics (NII) under the supervision of the Organization for Science Network Operations and Coordination, which is a part of the leadership of the universities and research institutions as well as the National Institute of Informatics.
Publishing and Communicating Academic Information

NI aligns and structures the education and research results produced at universities and research institutions, and provides access through a user-friendly interface.

**CiNii**
https://ci.nii.ac.jp

This is a database service that can be exhaustively searched for academic information such as articles, books, journals, and doctoral dissertations. NII is expanding the pool of data available and improving text hit rates by linking various database services. In addition, NII is promoting interoperability with university libraries and other facilities by providing search APIs (application program interfaces) such as OpenSearch. The service also offers a dedicated smartphone app so that the database can be searched with ease using a smartphone.

**CiNii Articles: Searching for Japanese research papers**
http://ci.nii.ac.jp

Contains more than 20 million information items on Japanese academic articles including academic society publications, research bulletins, and the Japanese Periodical Index of the National Diet Library.

<table>
<thead>
<tr>
<th>Collection status (as of the end of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of article information items</td>
</tr>
<tr>
<td>20.53 million</td>
</tr>
</tbody>
</table>

**CiNii Books: Searching for books in university libraries**
http://ci.nii.ac.jp

This service allows searching for books and journals held by university libraries in Japan. Contains more than approximately 12 million bibliographic records of books and authors held by university libraries nationwide accumulated through the Catalog Information Service (NACCSI-CAI) operated by NII.

<table>
<thead>
<tr>
<th>Collection status (as of the end of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of bibliographic records</td>
</tr>
<tr>
<td>12.41 million</td>
</tr>
<tr>
<td>Number of holding records</td>
</tr>
<tr>
<td>140 million</td>
</tr>
<tr>
<td>Number of participating libraries</td>
</tr>
<tr>
<td>2,904</td>
</tr>
</tbody>
</table>

**CiNii Dissertations: Searching for Japanese doctoral dissertations**
http://ci.nii.ac.jp

Allows comprehensive, centralized searching of Japanese doctoral dissertations. In addition to dissertation texts digitized by the National Diet Library, it is also possible to search and view dissertation texts published in the institutional repositories of universities and research institutes.

<table>
<thead>
<tr>
<th>Collection status (as of the end of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of doctoral dissertations</td>
</tr>
<tr>
<td>638 thousand</td>
</tr>
<tr>
<td>Number of full texts</td>
</tr>
<tr>
<td>Approx. 244 thousand</td>
</tr>
</tbody>
</table>

Support for Construction and Linkage of Institutional Repositories (JAIRO Cloud)

https://www.ciaro.jp/

To contribute to the establishment of next-generation academic content platforms, NII supports the construction and linkage of institutional repositories to communicate university education/research results and promotes open access. NII has so far supported content enrichment, system linkage, and community formation at academic institutions in Japan, and institutional repositories have been built and are in operation at more than 750 institutions.

**JAIRO Cloud (shared repository service)**
http://jiro.nii.ac.jp/

For institutions that find it difficult to independently build and operate their own repositories, NII provides a shared repository system environment in the form of a cloud service based on our institutional repository software WEKO (http://weko.nii.ac.jp).

<table>
<thead>
<tr>
<th>Collection status (as of the end of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutions using the service</td>
</tr>
<tr>
<td>486</td>
</tr>
</tbody>
</table>

Crossover Searches of Academic Information Accumulated in Institutional Repositories in Japan

**JAIROn**
http://jiro.nii.ac.jp

This portal enables crossover searches of education/research results of university and research institution (journal articles, dissertations, research bulletins, research papers, teaching materials, etc.) accumulated in institutional repositories in Japan. Users are able to access full texts available in each institutional repository, as well as linking to CiNii.

<table>
<thead>
<tr>
<th>Collection status (as of the end of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutional repositories</td>
</tr>
<tr>
<td>675</td>
</tr>
<tr>
<td>Number of contents</td>
</tr>
<tr>
<td>2.79 million</td>
</tr>
</tbody>
</table>

Japan Consortium for Open Access Repository

**JPCOR**
http://jcor.nii.ac.jp

JPCOR is a joint community of institutions where universities and other research institutes engage as a way to more effectively promote their efforts for the purposes of spreading the dissemination of research results and enhancing the benefits of building and operating institutional repositories. The consortium also works in efforts that include improvements to the distribution of open science and other academic information as well as the joint operation of system infrastructure for an institutional repository (JAIROn).

NII supports these activities as well as JPCOR by providing assistance such as physical support for collaboration with university libraries.

JPCOR General Assembly (March 14, 2016)
**Database of Grants-in-Aid for Scientific Research**

KAKEN (Database of Grants-in-Aid for Scientific Research) [https://kaken.kaken.go.jp/](https://kaken.kaken.go.jp/)

This database allows users to browse adopted projects and research results (reports, summaries, etc.) funded by Grants-in-Aid for Scientific Research from the Ministry of Education, Culture, Sports, Science and Technology and the Japan Society for the Promotion of Science. It provides access to the latest research information in Japan in a wide variety of fields. This system developed by KAKEN is also used in the JST Project Database [https://projectdb.jst.go.jp/](https://projectdb.jst.go.jp/), which contains research projects funded by the Japan Science and Technology Agency (JST).

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of adopted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>(as of March 2018)</td>
<td>105,000</td>
</tr>
</tbody>
</table>

**Catalog Information Service**

[https://www.nic.br/CAT4LL/en/](https://www.nic.br/CAT4LL/en/)

The Catalog Information Service consists of the Cataloging System (NACSIS-CAT) and the Interlibrary Loan System (NACSIS-ILL).

**Cataloging System (NACSIS-CAT)**

NACSIS-CAT is a system for building comprehensive catalog databases designed to provide at-a-glance information on academic literature (books, journals) archived at university libraries and other such institutions throughout Japan. To improve efficiency, the system provides the capability to refer to standard cataloging data (MARC), and university libraries and other institutions nationwide share the work of inputting records online.

<table>
<thead>
<tr>
<th>Collection and usage status</th>
<th>Number of NACSIS-CAT participating institutions</th>
<th>Cumulative no. of registered records</th>
<th>Number of NACSIS-ILL participating institutions</th>
<th>Number of NACSIS-ILL copies*</th>
<th>Number of NACSIS-ILL loans*</th>
</tr>
</thead>
<tbody>
<tr>
<td>(as of March 2018, indicator FY2017 (one year’s value))</td>
<td>1,334</td>
<td>135,320,000</td>
<td>1,103</td>
<td>50,000</td>
<td>86,000</td>
</tr>
</tbody>
</table>

**Interlibrary Loan System (NACSIS-ILL)**

NACSIS-ILL makes use of the comprehensive catalog databases constructed using NACSIS-CAT to support the exchange of books and journal articles between libraries and so facilitate the provision of academic literature to researchers at universities and other institutions. As well as supporting interlibrary loan services with university libraries overseas by linking to systems such as KERS in South Korea, NACSIS-ILL promotes the efficiency of library work through an offisteering service for IL document copying and other charges.

**Electronic Resources Data Sharing Service**

[https://erdbs-jp.ac.jp/](https://erdbs-jp.ac.jp/)

ERDB-JP (Electronic Resources Database-JAPAN) is a service that develops and shares knowledge databases of electronic resources, such as e-journals and e-books, published in Japan. It is operated by NII and the “Electronic Resources Data Sharing Task Force,” made up of staff responsible for managing e-resources at each university. Content metadata is collected and updated by partners consisting of universities, publishers, and knowledgebase vendors. The accumulated metadata of contents is provided under the CCO license. They can be exported and used for creating lists of e-resource titles, for OPAC provided by universities, and for discovery services.

**Partner participation**

<table>
<thead>
<tr>
<th>(as of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities (national)</td>
</tr>
<tr>
<td>Partner A</td>
</tr>
<tr>
<td>Partner B</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

**Data registrations**

<table>
<thead>
<tr>
<th>(as of March 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number registered</td>
</tr>
<tr>
<td>18,446</td>
</tr>
</tbody>
</table>

**Electronic Archives**


NII carries out the following activities to store and provide electronic academic information on a permanent basis.

**NII-REO (NII Electronic Resource Archives)**

Back issues of international electronic journals (approx. 3.34 million records) and an electronic collection of humanities and social science materials (approx. 620,000 items) are saved on NII servers and provided to universities in Japan. Electronic resources archived in NII-REO are maintained in collaboration with the Japan Alliance of University Libraries for E-Resources (JAUSTRIC).

**Archived contents**

<table>
<thead>
<tr>
<th>OLAM-archived archive</th>
<th>Archived Years</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Springer Online Journal Archive</td>
<td>1990–1998</td>
<td>Titles: Approx. 1,100 Number of records: Approx. 2 mln</td>
</tr>
<tr>
<td>Springer Lecture Note in Computer Science</td>
<td>1997–1999</td>
<td>Titles: 1,101 Number of records: Approx. 440,000</td>
</tr>
<tr>
<td>Oxford Journals Collection</td>
<td>1948–2003</td>
<td>Titles: Approx. 302 Number of records: Approx. 400,000</td>
</tr>
<tr>
<td>WILEY Online Library (WOL)</td>
<td>1948–2003</td>
<td>Titles: Approx. 302 Number of records: Approx. 400,000</td>
</tr>
<tr>
<td>CSS Computer Science Digital Library (CSDL)</td>
<td>1994–2011</td>
<td>Titles: 10 Number of records: Approx. 305,000</td>
</tr>
<tr>
<td>IIEE Transactions on Electronic Systems</td>
<td>Annually</td>
<td>Number of items: Approx. 100,000</td>
</tr>
<tr>
<td>Javascript/Java Experience Program (JEP)</td>
<td>1997–2004</td>
<td>Number of records: Approx. 100,000, 500,000</td>
</tr>
<tr>
<td>Eighteenth Century House of Commissions Parliamentary Papers (18C HCAPP &amp; 18C HCPPP)</td>
<td>1885–1894</td>
<td>Number of records: Approx. 300,000</td>
</tr>
<tr>
<td>The Making of the Modern World: Global Humanities Library (E1901)</td>
<td>1945–2015</td>
<td>Number of records: Approx. 100,000 books, 400 journals</td>
</tr>
<tr>
<td>The Making of the Modern World: Part II (MMPH IV)</td>
<td>1945–1984</td>
<td>Number of records: Approx. 60,000</td>
</tr>
<tr>
<td>Early English Books Online</td>
<td>1987–2002</td>
<td>Number of records: Approx. 180,000</td>
</tr>
<tr>
<td>Early English Books Online</td>
<td>1987–2002</td>
<td>Number of records: Approx. 180,000</td>
</tr>
</tbody>
</table>

**International Scholarly Communication Initiative**


**SPARC Japan**

The Scholarly Communication Initiative started working with SPARC (USA) and SPARC Europe in FY2003 and has conducted services with the collaboration of academic societies and university libraries for the purpose of promoting greater dissemination of results from scientific and academic information research in Japan, while promoting digitalization and internationalization of academic magazines published by organizations, such as academic societies in Japan, and promoting improvements to international standards for the distribution of academic information.

In particular, the SPARC Japan Seminar covers the latest challenges of distributing academic information as a place for exchange between academic information stakeholders.

**Education and Training Service**


We offer education and training services such as those below to develop human resources, such as university staff who support academic information infrastructures in Japan.

- Training course (NACSIS-CAT LL self-learning)
- Specialized training course (bibliography creation training for catalog systems/ information processing technology seminar)
- Comprehensive training (training held by the National Institute of Information and comprehensive academic information systems workshops), etc.
**Collaboration with University Libraries**

The National Institute of Informatics (NII) entered into an agreement with the Japanese Coordination Committee for University Libraries in order to promote projects in cooperation with university libraries. Based on this agreement, NII established the Council for Promotion of Cooperation Between University Libraries and the National Institute of Informatics. This Council and the committees established beneath it (including the Japan Alliance of University Library Consortia for E-Resources and Future Scholarly Information Systems Committees) promote collaborative projects concerning electronic materials and the distribution of academic information. NII has also partnered with the Japan Consortium for Open Access Repository for services related to institutional repositories.

**Japan Alliance of University Library Consortia for E-Resources**

*JUSTICE: Japan Alliance of University Library Consortia for E-Resources*

Aiming to implement a range of activities to provide stable and continuous access to academic information, including e-journals, JUSTICE is one of the world’s largest consortia with over 500 participating national, public, and private university libraries.

To support the activities of JUSTICE, NII has established the Library Liaison Cooperation Office, which functions as the JUSTICE secretariat and is staffed from university libraries.

**Future Scholarly Information Systems Committee**

The Future Scholarly Information Systems Committee was established for the purpose of further promoting activities related to the construction, management, sharing and provision of infrastructures for academic information resources. This committee is made up of university librarians recommended by each national, public and private university library association and council, experts as well as NII faculty.

In addition to organizing the challenges in realizing the ideal form of future academic information systems, the committee examines the ideal form of the community for examination and operation in the future and measures to realize that ideal form.

NII participates as a member and supports activities such as the rule entitled to the secretariat.

**Working Group for eResource Data Sharing**

This working group strives to (1) build management infrastructure and workflows for electronic resources, (2) systematically prepare electronic books and other metadata, and (3) establish a maintenance management system for the Electronic Resources Database-JAPAN (ERDB-JP), and (4) forge international partnerships for sharing sustainable electronic resource management and the provision infrastructure for the purpose of creating electronic resource management and provision infrastructure able to realize a comprehensive discovery environment. The working group is made up of members such as university librarians in charge of the context, management and provision of electronic resources.

**Open Science**

Open Science, which promotes open access and open research data over the Internet, is gaining traction as a new way of conducting research. The three platforms deployed using the research workflow allow researchers to manage, publish and search various types of research outputs in the respective workflow, NII Research Data Cloud—deployed and enhanced by the collaboration of NII, Japanese universities, and research centers—contributes to accelerating Open Science in Japan.

**Research Data Management Platform (GakuNin RDM)**

GakuNin RDM is a platform which allows individual researchers or research groups to manage their research data and relevant digital materials in the active research process. Universities can connect a variety of cloud storages in addition to the institutional storage. Major research tools can also be used on GakuNin RDM. Basic functions, such as the viewer, access, and version control, enhance collaborative work between researchers. For ensuring research integrity and for protecting researchers, modifications of files are recorded by applying time-stamping technology.

**Publication Platform (WEKO3)**

WEKO3 is a platform where research data and other resources, which researchers have decided to make open-accessible, are stored and published. WEKO3 is connected to GakuNin RDM, allowing researchers to publish research outputs through a simple action. The new publication platform is provided through JAIRO Cloud, which is a cloud service for hosting institutional repositories. Digital object identifier (DOI) are assigned and linking information between contents—such as between a journal article and its evidence data—as is provided, making the published research outputs more reusable. This next-generation repository system offers enough flexibility and expandability, allowing WEKO3 to be used not only as institutional repositories but also as subject-based repositories.

**Discovery Platform (CiNii Research)**

CiNii Research is a discovery platform for finding research outputs published through institutional repositories and other domain-specific databases. This next-generation search engine can shed new light in the research discovery process. Large-scale academic knowledge graph is core to providing such a new experience. After aggregating metadata from various databases, the knowledge graph is generated by analyzing relationships between different types of scholarly contents, researchers, research projects, and institutions, enabling users to gain a great panorama of research activities.

*Publication of works is not to start in FY2028.*
Operation and Maintenance of Authentication Infrastructure for High Performance Computing Infrastructure (HPCI)

HPCI is implementing a revolutionary computing environment that meets the needs of various users, including the industrial sector, by linking the K computer in Kobe and other supercomputers and storage installed at universities and research institutes in Japan. It began service in the second-stage project of FY2017. HPCI has a single sign-on authentication mechanism that allows users to gain access to any computing resource by using a common login account to improve usability. As the first-stage project, NII is continuing to operate and maintain the authentication system, including the certificate authority and a certificate issuing system, which are the core of this single sign-on authentication mechanism. In collaboration with the K computer and universities, the authentication system takes advantage of a highly secure framework that uses certificates for HPCI users to ensure security in communication and data. It also provides a single sign-on environment that enables users to seamlessly use the HPCI supercomputer and storage resources.

In addition, the Science Information NETwork (SINET5), has been given the role of a high-speed network infrastructure for linking to supercomputers remotely and sharing large-scale test data as well as calculation results.
Dissemination of Research Results

NII holds public lectures and publishes information with the aim of sharing its latest research findings on informatics widely with the general public and society at large and deepening understanding of its services. NII also delivers timely information via digital media such as the NII website, NII e-newsletter, and social media (Twitter, Facebook).

NII Open House

NII holds an annual Open House to present its various research projects and results to a broad audience including the general public, researchers, and PD-Lab candidates. Besides “NII Research 100,” a program where ten NII researchers each introduce ten research projects for a total of 100 presentations, and demonstrations and poster exhibits, workshops for elementary and junior high school students were also held.

Public Lectures

The National Institute of Informatics holds free public lectures from time to time.

National Institute of Informatics Public Lectures: The Foremost of Informatics

In these free lectures, researchers at the National Institute of Informatics explain various subjects at the forefront of Informatics-related fields to the general public. There are generally six lectures per year held at the National Center of Sciences (Kobadai, Chiba Ward, Tokyo). Images and videos from past lectures are available on the Institute’s website.

Exhibitions

NII participates in various exhibitions to introduce its research findings, operations, and services. In FY2017, NII had exhibitions at various venues, including the ICTEX JAPAN 2017, 19th Library Fair, and the Inter-University Research Institute Symposium 2017.

Publications

A new commercial e-book publication system (Mynote Library) that introduces and explains the contents of NII research to the general public in an easy-to-understand way using familiar topics. The newest edition, Everything You Want to Know About Big Data and AI, was released in July 2018.

Public Information Materials

- NII Today (Japanese/English)
- Catalogs of National Institute of Informatics (Japanese/English)
- Outlines of National Institute of Informatics (Japanese/English)
- NII Website (NII Info Bag Day)” (Kaneshiro)"
- Annual Report of National Institute of Informatics (Japanese/English)
- NII EIZO2
- Twitter
- Cybersecurity website (Japanese)
- Official NII account (Twitter)
- Toshiki Nishiyama (Researcher)
- Toshiki Nishiyama (Researcher)
- Facebook
- National Institute of Informatics

Digital Media

- NII website: https://www.nii.ac.jp/en/
- Visit the NII website for details about events and publications.
- NII YouTube Channel: https://www.youtube.com/user/niiysukai
- Watch videos of NII lectures and research presentations.
- Email newsletter: https://www.nih.go.jp/
- Twitter
- Official NII account: @NII_Futuristic
- Toshiki Nishiyama (Researcher)
- Twitter: @ToshikiNII
- Facebook: https://www.facebook.com/NII.Org/
*Silicon Valley Office (JETRO Joint Project)*

The Silicon Valley Office of the Japan External Trade Organization (JETRO) established an office in Silicon Valley in May 2017. This new base is expected to further expand its research results overseas by understanding and investigating international needs to help with their research activities and communication in the United States, especially on the west coast, based on the information that is collected. The Silicon Valley Office is also involved in activities that include the execution of joint research contracts with foreign companies, universities, research groups and other organizations in addition to providing administrative support to neighboring international societies and exhibitions.

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**Organization**

Director General

Deputy Director General

Research Strategy Office (incl. URA)

Gender Equality Promotion Office

Silicon Valley Office (JETRO Joint Project)

Research Divisions
- Principles of Informatics Research Division
- Information Systems Architecture Science Research Division
- Digital Content and Media Science Research Division
- Information and Society Research Division

Services and Operations
- Research and Development Center for Academic Networks
- Research Center for Knowledge Media and Content Science
- Center for Global Research in Advanced Software Science and Engineering
- Research Center for Knowledge
- Research Center for Cloud Research and Development
- Center for Database Sharing and Collaborative Research
- Center for Cybersecurity Research and Development
- Research Center for Open Science and Data Platforms

Major Research Projects
- Global Research Center for Quantum Information Science
- Global Research Center for Cyber-Physical Systems
- Global Research Center for Big Data Mathematics
- Global Research Center for System Design and Mathematics (est. Nov. 2017)
- Research Center for Medical Big Data (est. Nov. 2017)
- Research Center for Financial Smart Data
- Cognitive Innovation Center
- Center for Robust Intelligence and Social Technology (est. Apr. 2015)

Organization for Research and Development

Organization for Science, Information Technology and Coordination

Cyber Science Infrastructure Development Department
- Academic Infrastructure Division
- Scholarly and Academic Information Division
- Library of the Silicon Valley Office
- Advanced IT Center
- Library Liaison Office

General Affairs Department
- Planning Division
- General Affairs Division
- Budget and Accounts Division
- NII Library

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**Executives**

- Director General: Masaru Kitsuregawa
- Acting Director General: Akiko Aizawa
- Deputy Director General: Ichiro Satoh
- Deputy Director General: Shigeo Urushidani
- Deputy Director General: Isao Echizen
- Deputy Director General: Jun Adachi
- Advisor to the Director General: Zhenliang Hu
- Advisor to the Director General: Ken-ichi Kawarabayashi

**Cyber Science Infrastructure Development Department**
- Director: Shigeo Urushidani
- Deputy Director: Kazuko Egawa
- Senior Coordinator: Toyomi Takekawa
- Director: Hideki Higuchi
- Director: Wataru Ono
- Director: Yoshiro Hirata
- Director: Shunjie Abe

**General Affairs Department**
- Director: Hirokazu Mizoguchi
- Director: Masako Suzuki
- Director: Yukio Yanagihashi
- Director: Niro Kanomata

**NII Library**
- Head: Ikki Ohmuikai

**Staff Numbers**

- Full-time employees: 157
- Adjunct professors, etc.: 45
- Special and contract staff: 215

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**Budget**

- Income: 12,267,552 yen
- Expenditure: 12,267,552 yen
- General education and research expenditure: 3,336,926 yen
- Special education and research expenditure: 7,699,429 yen
- Operating expenditure: 9,638,658 yen
Inter-University Research Institute Corporations

The National Institute of Informatics is one institute operating under the auspices of the Research Organization of Information and Systems (ROIS), which itself is one of the Inter-University Research Institute Corporations. It is one of the "corporations" that make it possible for Japan's universities to share the utilization of facilities for every field of study, including larger types of leading-edge equipment that individual institutions would have a hard time installing and maintaining on their own. Providing original, collaborative research that exceeds the purview of individual universities, the corporations provide, as a service to researchers nationwide, volumes of scientific data, access to evaluable materials, and other recommended analytical methods.

The aim of ROIS is to carry out integrative studies beyond the boundaries of traditional disciplines by framing complex phenomena concerning life, Earth, the natural environment, and human society in the 21st century from the information and systems perspective.

Scientific Research Institute Corporation

Research Organization of Information and Systems

National Institute for the Humanities
National Institutes of Natural Sciences
High Energy Accelerator Research Organization

Research Institutions

National Institute of Informatics
National Institute of Polar Research
National Institute of Technologies
National Institute of Genetics
Joint Support Center for Data Science Research (JDC)

Inter-University Research Institute Corporation

Researcher Information Systems (NACSIS)

Name | Award date
--- | ---
Takamatsu Seiwa | 1 April 2002
Enomoto Kito | 1 July 2002
Mitsubishim Hachiro | 19 November 2004
Kato Kyo | 19 November 2004
Tanaka Daisuke | 1 April 2005
Yoshida Suguha | 1 April 2007
Katsuyuki Nishiyama | 1 April 2010
Masahiro Naka | 1 April 2010
Kazuki Miura | 1 April 2011

Name | Award date
--- | ---
Yasunori Sakauchi | 1 April 2013
Shinobu Asano | 1 April 2013
Takayoshi Koyama | 1 April 2015
Aiba Miyazawa | 1 April 2015
Shigeki Yamada | 1 April 2015
Yoshinori Yamashita | 1 April 2015
Noboru Sonehara | 1 April 2017
Jun Adachi | 1 April 2018
Shinjiro Torizuka | 1 April 2018

Inter-University Research Institute Corporation

Research Organization of Information and Systems

National Institute for the Humanities
National Institutes of Natural Sciences
High Energy Accelerator Research Organization

Research Institutions

National Institute of Informatics
National Institute of Polar Research
The Institute of Statistical Mathematics
National Institute of Genetics
Joint Support Center for Data Science Research (JDC)
Facilities / Locations

National Center of Sciences (Chiyoda Ward, Tokyo)

The National Center of Sciences was established as a center for research in fields such as informatics, academic exchange, dissemination of scientific information, and social collaboration, with the aim of improving and strengthening Japan’s academic research infrastructure. Construction was completed in December 1993. The high-rise wing consists primarily of three organizations: NIL, Hitotsubashi University Graduate School of International Corporate Strategy, and part of the National Institute for Academic Degrees and Quality Enhancement of Higher Education. The Center aims to provide an advanced base for intellectual creativity through comprehensive application of the academic functions of each institute. Conference facilities such as Hitotsubashi Hall are located in the low-rise wing, and these accommodate activities such as international conferences, lectures, and academic meetings organized by national university corporations and other institutions.

National Institute of Informatics
National Center of Sciences Bldg.
2-1-2 Hongo, Chiyoda-ku, Tokyo 101-8430
Tel: +81-3-5273-9000

- Site area: 6,442㎡ (occupied by NIL: 3,036㎡)
- Floor space: 40,548㎡ (occupied by NIL: 18,148㎡)

Inose Lodge
The International Seminar House for Advanced Studies (Inose Lodge) was built on land donated by Dr. Hiroshi Inose, the first director general of NIL. His idea was to create an ideal place for interdisciplinary and international discussions.

- Uses:
  1. Domestic and international academic conferences, seminars, etc.
  2. Public lectures, social gatherings, etc.
  3. Research and training of NIL researchers and staff.

Chiba Annex (Inage-ward, Chiba City)

Chiba Annex is a building that houses the computer systems and networking equipment used to operate academic information systems and provide academic information services. It was built in November 1994.

- Site area (rented): 3,717㎡
- Floor space: 3,943㎡

International Seminar House for Advanced Studies (Kanazawa, Nagano Prefecture)

1052-471 Oka Minamihara-cho, Kanazawa, Nagano 389-0111
Tel: +81-267-41-1083 Fax: +81-267-41-1075

- Site area: 3,339㎡
- Floor space: 667㎡