

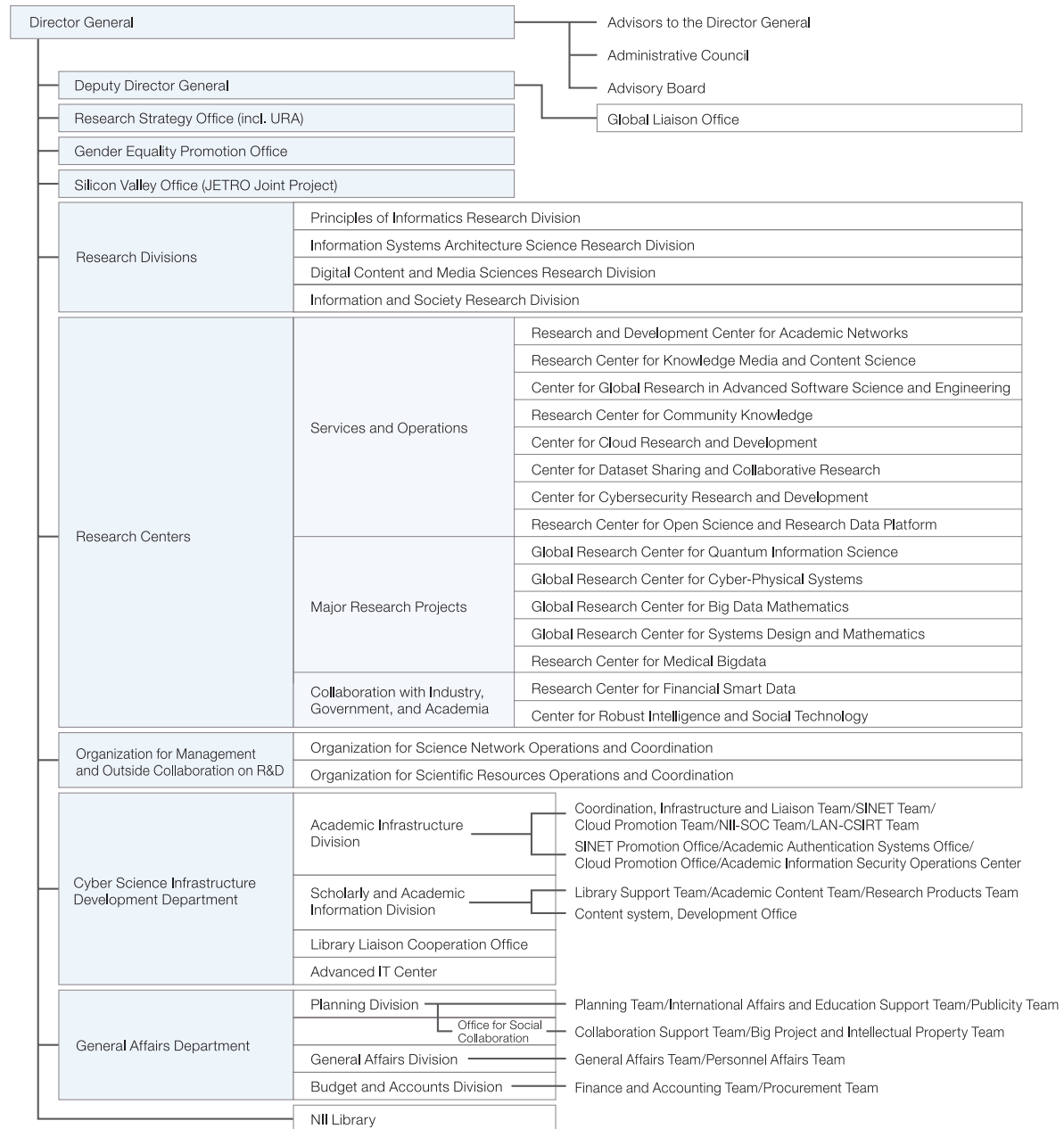
Collaboration with Industry, Government, and Academia

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. NII's Joint Research Division operates specialized laboratories in cooperation with industry to actively promote collaboration between industry, government and academia. This can take the form of things like comprehensive partnerships and open collaborative research as well. NII also aims to spawn chances to collaborate and utilize the results of research (licensing). To this end, it holds seminars that introduce cutting-edge research seeds and address the needs of both industry and society. It also offers technical consulting by our faculty members and cultivates human resources in the IT sector.

International Exchange

At NII, the 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 conclusion of international Memorandum 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.

Organizational chart



2019 Outline

NII

Inter-University Research Institute Corporation /
Research Organization of Information and Systems
National Institute of Informatics

Weaving Information into Knowledge

National Institute of Informatics (NII) pursues comprehensive research as Japan's only general academic research institution focused on informatics. This includes everything from fundamental research valuable from a long-term perspective, to practical studies aimed at resolving current social problems.

At the same time, it has used its role as an inter-university research institute to construct and operate the SINET5 (Science Information NETwork 5). It deploys operations such as providing academic content and service platforms, and helps projects to further develop by offering expertise and mutual feedback obtained through its research.

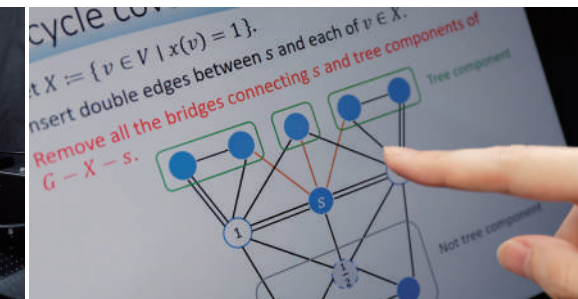
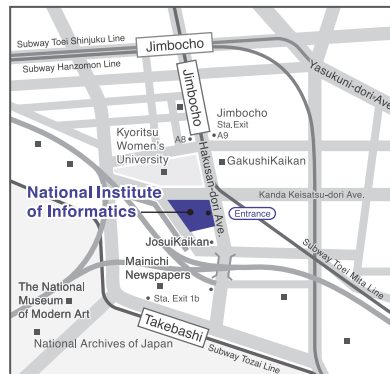
NII is using informatics to create future value by advancing research and operations in tandem.

NII Inter-University Research Institute Corporation /
Research Organization of Information and Systems
National Institute of Informatics

National Center of Sciences
2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8430
TEL: 03-4212-2000 <https://www.nii.ac.jp/en/>

■ NII Video Channel
View lectures and research presentations by NII.
<https://www.nii.ac.jp/event/videos/>

■ NII Today
Easy-to-follow presentations on NII's latest research.
<https://www.nii.ac.jp/en/about/publications/today/>



Informatics to Create Future Value on the Wheels of “Research” and “Service”

Research

Integrated Research from Basic Methodology to State of the Art

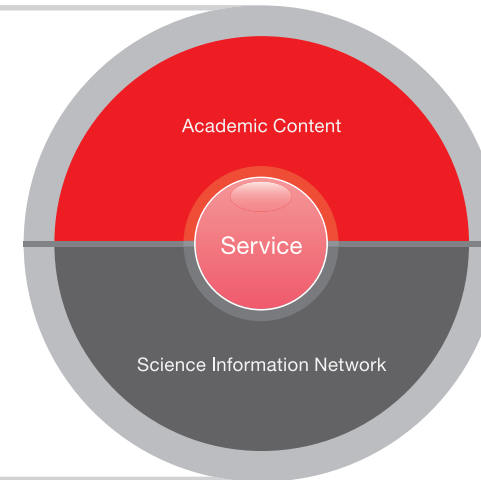
“Informatics” combines not only computer science and information engineering but also the humanities, social studies, and the life sciences. This new academic domain involves every aspect of society. NII has established four basic Research Divisions and 15 Research Centers charged with systematically 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. Researchers on the front lines of their fields teach graduate programs using state-of-the-art equipment in an international atmosphere.



Service

Services to Support Research Infrastructure and Education

NII coordinates with academic institutions and the research community to construct and operate the Science Information NETWORK (SINET). It utilizes this ultra high-speed, high reliability and high performance SINET5 network to develop and provide an academic authentication infrastructure, cloud infrastructure and an academic content infrastructure, and promote open science. In this way, it contributes to technical research and education activities. Through a security system framework grounded on inter-university collaboration, NII also helps build systems which enable national universities and other academic institutes to respond rapidly to incidents.



Research Divisions



Principles of Informatics Research Division

Pursues new theories and principles pertaining to algorithms and computational complexity as well as studies of artificial intelligence, robotics, and quantum computing. Carries out research aimed at developing technologies that aid in sustaining societies of the future and break new ground in the field of informatics.



Information Systems Architecture Science Research Division

Heightens the performance, quality, and functionality of computers and networks—the building blocks of information technology—to implement practical systems deriving from technical innovations to software and hardware architectures.



Digital Content and Media Sciences Research Division

Studies the generation of media and content including sign and patterned media plus the basic technologies for storing, retrieving and organizing content. Parses social media and interaction to underscore people and knowledge.



Information and Society Research Division

Draws from information/system technologies and the human/social sciences to conduct interdisciplinary research on making rational decisions using scientifically grounded data in a cyber-physical society that fuses the spheres of information and actualization.



Researchers with differing expertise collaborate to tackle specific fields of research.

Center for Robust Intelligence and Social Technology

Research Center for Open Science and Research Data Platform

Research and Development Center for Academic Networks

Research Center for Community Knowledge

Global Research Center for Quantum Information Science

Global Research Center for Systems Design and Mathematics

Center for Cybersecurity Research and Development

Research Center for Knowledge Media and Content Science

Center for Cloud Research and Development

Global Research Center for Cyber-Physical Systems

Research Center for Medical Bigdata

Research Center for Financial Smart Data

Center for Global Research in Advanced Software Science and Engineering

Center for Dataset Sharing and Collaborative Research

Global Research Center for Big Data Mathematics

Graduate Program

Fostering New Leaders of an Advanced Information Society

Graduate education at 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 original, world-class scholarly research beyond the borders of conventional disciplines and to open up new paths of scientific inquiry. National Institute of Informatics offers 3-year and 5-year Ph.D. course within SOKENDAI, in which it constitutes the Department of Informatics. There are six research fields within the Department of Informatics. So, students can receive lectures and research guidance based on the field of expertise they are pursuing.



Science Information NETWORK (SINET)

— An ultra high-speed network supporting more than 900 universities and research institutions throughout Japan —

Innovative Connectivity

NII is implementing cutting-edge technologies. These include ultra high-speed full-mesh connectivity for all prefectures in Japan through cutting-edge optical transmission technology, and providing security services based on network slicing.

Ultra High-Speed

NII has created an ultra high-speed, high-performance network by achieving 100 Gbps on all lines between nodes (400 Gbps planned for some) and minimizing transmission latency across the board.

Multifunctional Flexibility

Development and Provisioning of Certified Collaborative Platforms

NII develops and provides the Academic Access Management Federation in Japan (GakuNin), UPKI Digital Certificate Issuance Service, and eduroam JP (worldwide wireless LAN roaming platform) as collaborative platforms for universities and research institutions to realize not only easy but also safe and secure access to computing resources and networks for education/research.

Adoption and Support for Use of Cloud Systems

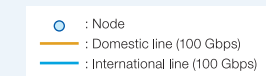
NII offers cloud implementation/utilization support services for universities and research institutions. Its "GakuNin Cloud Support Service" provides information related to cloud implementation and utilization. Its "GakuNin Cloud Gateway Service" provides one-stop access to cloud services. And its "GakuNin Cloud On-Demand Configuration Creation Service" provides support for setting up a cloud environment.

Robust and Reliable

Multilayered advanced network architecture has redundancy configured into each layer, introducing methods for evading and bypassing obstacles. These linked operations bring about a highly reliable network.

Global Reach

NII is working to upgrade line bandwidth to 100 Gbps in all directions to the USA, Europe and Asia to achieve a ring of connectivity between Japan, the USA and Europe. This will strengthen support for international joint research projects.



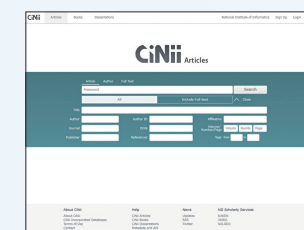
Security Systems Grounded on Inter-University Collaboration

NII collaborates with national university corporations to build systems that observe, detect, and analyze cyber attacks waged against SINET. Based on data sharing with related foreign and domestic organizations, NII also provides helpful information to national universities depending on the urgency level and risk of attack. Beyond that, NII trains people in charge of cybersecurity, working to advance their ability to cope with cyber attacks. In this way, we contribute to the construction of systems that enable our national universities to respond promptly to security incidents and accidents.

Scholarly Communication Infrastructure

CiNii (NII Academic Information Navigator)

This discovery service allows users to search information on academic publications and papers. CiNii Articles lets users search scholarly journals and bulletins for information. CiNii Books is for searching materials held by university libraries throughout Japan, and CiNii Dissertations allows users to search theses for doctoral degrees conferred by Japanese universities.



JAIRO Cloud (Shared Repository Service)



This is a cloud-based service that provides institutional repositories for universities, research institutions, and other academic institutions. The service uses NII-developed repository software WEKO to facilitate the development and operation of institutional repositories. Almost 600 academic institutions in Japan are participating.

GakuNin RDM (Research Data Management Service)



This service allows researchers to manage research data and related files in their daily research activity. In addition to the basic file management functionality, a variety of external research tools and storages can be connected and utilized from this single platform. Managed files in GakuNin RDM can be deposited to the JAIRO Cloud by means of simple and easy operation, so as to facilitate researcher's Open Science activity in Japan.