International Activities

The National Institute of Informatics (NII) actively making International Exchange Agreements with International Exchange Agreements (MOU, memorandum of understanding) with overseas universities and research institutions. Among institutions that have concluded MOUs, NII also holds exchange activities such as international joint research projects and interactions between researchers and students. To ensure the effectiveness of these research exchanges, NII has established systems such as the "MOU Grant" and "NII International Internship Program, and promotes research exchanges with overseas universities and other institutions in a wide range of research fields. NII promotes research exchanges through coordination and cooperation, in particular, through the NII Shonan Meeting in the Asian region, and European-based research institutes such as the Japanese- French Laboratory for Informatics (JFLI), and the German Academic Exchange Service (DAAD) program.

Organization

- **Director General** — Advisory Board
  - Administrative Council
- **Deputy Director General** — Global Liaison Office
  - Research Strategy Office
  - Pre & Post Research Center Group

- **Research Division**
  - ● Principles of Informatics Research Division
  - ● Information Systems Architecture Science Research Division
  - ● Digital Content and Media Sciences Research Division
  - ● Information and Society Research Division

- **Research Center**
  - ● Research and Development Center for Academic Networks
  - ● Research Center for Knowledge Media and Content Science
  - ● GRACE Center: Center for Global Research in Advanced Software Science and Engineering
  - ● Research Center for Community Knowledge
  - ● Global Research Center for Quantum Information Science
  - ● Global Research Center for Cyber-Physical Systems
  - ● Global Research Center for Big Data Mathematics

- **Organization for Management and Outside Collaboration on R&D**
  - ● Organization for Value Creation in Informatics
  - ● Organization for Science Network Operations and Coordination
  - ● Organization for Scientific Resources Operations and Coordination

- **Cyber Science Infrastructure Development Department**
  - ● Academic Infrastructure Division
  - ● Scholarly and Academic Information Division
  - ● Library Liaison Cooperation Office
  - ● Advanced ICT Center

- **General Affairs Department**
  - ● Planning Division ● Office for Social Collaboration
  - ● General Affairs Division

NII National Institute of Informatics

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

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2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8430
TEL +81-3-4212-2000
http:/www.nii.ac.jp/

■ iTunes U
 See movies of NII lectures and symposia on iTunesU.
 http://www.nii.ac.jp/event/itunesu/

■ NII Today
 Offers an easy-to-understand guide on the details of NII's advanced research.
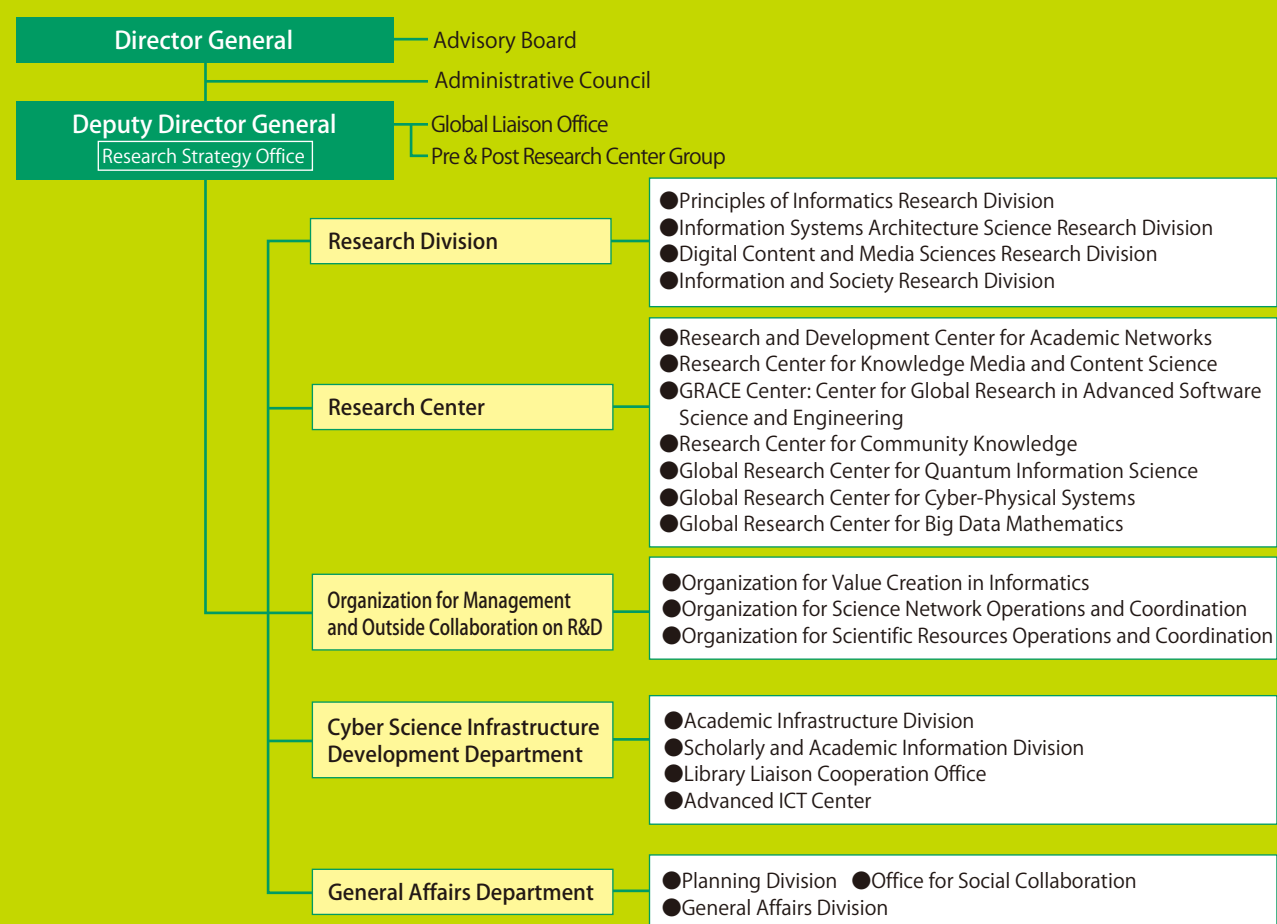 **http://www.nii.ac.jp/about/publication/today/**

Graduate Education

NII joined the Graduate University for Advanced Studies and established the Department of Informatics to provide graduate education (5-year and 3-year Ph.D. programs). The department covers six research areas: Foundations of Informatics, Information Infrastructure Science, Software Science, Multimedia Information Science, Intelligent Systems Science, and Information Environment Science. NII also accepts excellent students from overseas. In addition, NII is cooperating in the provision of graduate education to graduate students pursuing Master's or Ph.D. degrees at many universities.

■ Number of Students (March 2013)

	Domestic	Outside	Total
The Graduate University for Advanced Studies	35	44	79
Other graduate schools	40	12	52

NII National Institute of Informatics

Inter-University Research Institute Corporation
Research Organization of Information and Systems
2013

Weaving Information into Knowledge

As Japan's only general academic research institution
seeking to create future value in the new discipline of informatics,
National Institute of Informatics (NII) seeks to advance integrated
research and development activities in information-related fields,
including networking, software, and content.
These activities range from theoretical and
methodological work through applications.
As an inter-university research institute,
NII promotes the creation of a state-of-the-art academic-information
infrastructure (the Cyber Science Infrastructure, or CSI)
that is essential to research and education within the broader
academic community, with a focus on partnerships
and other joint efforts with universities and research institutions
throughout Japan, as well as industries.

[Research]

Seeking to establish a new academic discipline through the promotion and systemization of a wide range of informatics research ranging from natural science to human and social sciences, NII aims to create future value through new theories, methodologies, and application deployment, thereby contributing to the development of informatics.

[Partnerships between industry, academic and government sectors]

NII encourages close partnerships between universities, public research institutions and private institutions to conduct project-based joint studies, as well as human resource development and to promote the utilization of its research results in society.

[Interdisciplinary information processing]

To further the development of new domains through synergistic efforts between cross-functional interdisciplinary research and diverse academic disciplines, NII undertakes cross-functional transdisciplinary integration research at the Transdisciplinary Research Integration Center of the Research Organization of Information and Systems.

[International exchange]

NII strives to further the international contribution of informatics through the active promotion of international exchanges between researchers and students and an approach focused on the formation of an informatics research center through international collaboration, in addition to publishing its research results internationally.

[Social contribution]

NII seeks to achieve harmony between society, culture, and social systems in addition to creating platforms and portals that make effective use of content to disseminate and enliven social and public activities in the field of academic, cultural, education, publishing, environmental, regional, and NPO activities.
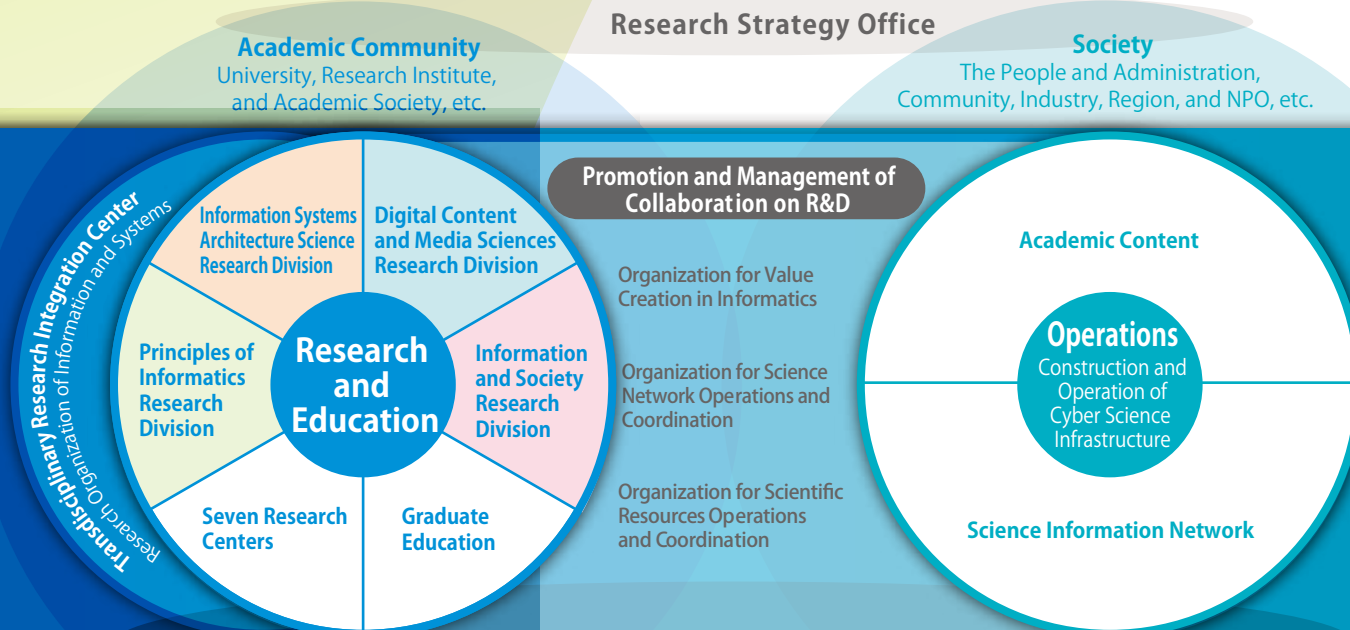
[Graduate education and human resource development]

In the Ph.D. program for informatics in the School of Multidisciplinary Sciences at the Graduate University for Advanced Studies, NII aims to nurture world-class researchers in the field of informatics and establish a base for the development of engineers with the skills to link the industry with academics to develop high-level human resources.

Subway Toei Shinjuku Line
Jimbocho
Subway Hanzomon Line
Yasukuni-dori Ave.
National Institute of Informatics
Entrance
Jimbocho Sta. Exit(A8) (A9)
Kyoritsu Women's University
Gakushi Kaikan
Kanda Keisatsu-dori Ave.
Josui Kaikan
Mainichi Newspapers
Sta. Exit 1b
The National Museum of Modern Art
Subway Toei Mita Line
Takebashi
Subway Tozai Line
National Archives of Japan

Future Value Creation through Informatics by Advancing Research and Operations in Tandem

Research Strategy Office

Academic Community
University, Research Institute, and Academic Society, etc.

Society
The People and Administration, Community, Industry, Region, and NPO, etc.

Advancing integrated research and education in the field of informatics

Informatics is a new academic discipline based not just only on computer science and information technology, but on the human, social, and life sciences. NII advances informatics research with the goals of creating future value; furthering social and public contributions; promoting interdisciplinary approaches to information processing; partnerships among industry, government, academic, and civilian organizations; and international research activities and operations. NII has established four research divisions, seven research centers, the Organization for Management and Outside Collaboration on R&D.

Promotion and Management of Collaboration on R&D

Transdisciplinary Research Integration Center
Research Organization of Information and Systems

Information Systems Architecture Science Research Division

Digital Content and Media Sciences Research Division

Principles of Informatics Research Division

Information and Society Research Division

Research and Education

Seven Research Centers

Graduate Education

Organization for Value Creation in Informatics

Organization for Science Network Operations and Coordination

Organization for Scientific Resources Operations and Coordination

Academic Content

Operations
Construction and Operation of Cyber Science Infrastructure

Science Information Network

Promoting the Cyber Science Infrastructure (CSI)

NII advances the formation and operation of the CSI, a state-of-the-art academic information infrastructure. Through these efforts, the entire research organization comprising the Organization for Scientific Network Operations and Coordination and the Organization for Scientific Resources Operations and Coordination, that which plan and manage partnerships and cooperation with universities and other institutions throughout Japan; the Cyber Science Infrastructure development Department, that which handles development and operation of information systems; and the research centers that promote researcher participation and incorporation of the results of research contributes to the academic community and the society.

Grand Challenge NII promotes studies on the following topics that may lead to breakthroughs in informatics.
- Breakthroughs algorithms ● Content value creation ● ICT governance: its social system and legal system ● Dependable software
- Bridging the semantic gap affecting image media ● Artificial brain project: Can a robot get into the University of Tokyo?

Four Research Divisions

Principles of Informatics Research Division
Seek to discover new principles and theories in informatics, as well as the development of technology and new domains that will support the future society.

Information Systems Architecture Science Research Division
Conduct research into the architecture and systemization of software and hardware for computers and networks.

Digital Content and Media Sciences Research Division
Conduct research spanning theories on the analysis, generation, accumulation, use and processing methods regarding diverse content and media, such as texts and video images, to their systemization.

Information and Society Research Division
Conduct interdisciplinary research on information and system technology and issues in the human and social sciences in a society in which the information society and the real world are integrated.

Seven Research Centers

Research and Development Center for Academic Networks
Develops and offers new services and functions for increasing the operational efficiency of the Science Information NETwork 4 (SINET4), which constitutes part of the Cyber Science Infrastructure (CSI).

Research Center for Knowledge Media and Content Science
Promote cutting-edge research on the analysis and use of knowledge content in academic fields.

GRACE Center: Center for Global Research in Advanced Software Science and Engineering
Develop TOPSE and TOPRE by integrating research, practical application, and education in advanced software engineering.

Research Center for Community Knowledge
Develop next-generation information and communications technology and information sharing platform system by creating "NetCommons" and "ReaD&Researchmap".

Global Research Center for Quantum Information Science
Promote activities such as cutting-edge research and personnel development to establish NII as a world-class international hub for quantum information.

Global Research Center for Cyber-Physical Systems
Promote researches on cyber and physical(real) world collaboration aiming at solving social issues and creating new values through the research.

Global Research Center for Big Data Mathematics
Engaged in cutting-edge research and human capital development to establish NII as a world-class hub for Big Data Mathematics with a central focus on developing high-speed algorithms.

Cyber Science Infrastructure
Research and education activities of academic community

● Academic Resource Sharing
Resource & Service

NII has built infrastructure to share academic resources where universities and other institutions share their academic research resources and computing resources.

NII preserves and supplies scholarly and academic information for the academic community. NII also saves the results of research from universities, research institutes, and other organizations in order to construct Academic Information Infrastructure, which we make available as a tremendous store of information in specialist fields.

Academic Resource Sharing Infrastructure Academic Computing Resource HPCI

Academic Information Infrastructure

GeNii [dʒi:ni:]

● User authentication・Establishing research groups
Security

NII has established and operated the Authentication Federation (GakuNin) as an accreditation infrastructure to safely, securely and efficiently make use of academic resources such as computers connected to SINET and electronic content. In addition, NII applies authentication in HPCI to use computational resources such as information infrastructure centers and provides VPN to establish closed networks for research groups.

Authentication in HPCI

Access Federation by Shibboleth 学認

VPN

● SINET
Network

SINET is an information network developed as scholarly and academic information infrastructure for universities, research institutes, and other organizations throughout Japan. SINET4 positions both edge nodes and core nodes in data centers, and a high-speed network is made available for supporting research and education of these organizations. SINET is also linked to many international research networks.

SINET4

Creation of future value through informatics
— Opening up new frontiers

F I R S T
量子情報処理プログラム
Quantum information processing project

Artificial brain project

Social contribution
— Adding new colors to society though the wisdom of informatics

net commons
NetCommons,
an information sharing infrastructure system that can be used by everyone

IMAGINE
"So (thought) – IMAGINE,"
An associative search that reels cultural memories from diverse sources of information

A place to connect the theories of the university with the actions of the industry

サイエンスによる
知的ものづくり教育プログラム
トップ エス イー
TOP SOFTWARE ENGINEERS
EDUCATION PROGRAM FOR TOP SOFTWARE ENGINEERS

An intellectual monozukuri (manufacturing) education program based on science
Nurturing outstanding software engineers by the TOPSE Project

Supporting academic research and educational activities
— Promotion of the Cyber Science Infrastructure (CSI)

SINET4
Science Information NETwork 4 , SINET4

学認 GakuNin
The Academic Access Management Federation in Japan

GeNii [dʒi:ni:]
GeNii, a portal site providing comprehensive information on academic research