International Activities

The National Institute of Informatics (NII) actively makes 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 Shimon 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.

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 students pursuing Master’s or Ph.D. degrees at many universities.

<table>
<thead>
<tr>
<th>Number of Students (March 2013)</th>
<th>Domestic</th>
<th>Outside</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Graduate University for Advanced Studies</td>
<td>35</td>
<td>44</td>
<td>79</td>
</tr>
<tr>
<td>Other graduate schools</td>
<td>40</td>
<td>12</td>
<td>52</td>
</tr>
</tbody>
</table>

NII

National Institute of Informatics

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

Organisation

Director General
- Advisory Board
- Administrative Council

Deputy Director General
- 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 IIT Center

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

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

Advancing integrated research and education in the field of informatics

Informatics is a new academic discipline based not just 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, seven research centers, the Organization for Management and Outside Collaboration on R&D.

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.

Cyber Science Infrastructure

Research and education activities of academic community

- Academic Resource Sharing
- Resource & Service
- Network
- Security

Academic Resource Sharing

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

Resource & Service

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 to a tremendous store of information in specialized fields.

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. SINET4 is also linked to many international research networks.

Security

NII has established and operated the Authentication Federation (Gakuhin) 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 HPC to use computational resources such as information infrastructure centers and provides VPN to establish closed networks for research groups.

Four Research Divisions

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

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
- Global Research Center for Quantum Information Science
- Research Center for Knowledge Media and Content Science
- Research Center for Global Research in Advanced Software Science and Engineering
- Global Research Center for Cyber-Physical Systems
- Research Center for Community Knowledge
- Research Center for Big Data Mathematics

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).

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.

Research Center for Knowledge Media and Content Science

Promote cutting-edge research on the analysis and use of knowledge content in academic fields.

Research Center for Global Research in Advanced Software Science and Engineering

Develop TOPIE and TOPIE by integrating research, practical application, and education in advanced software engineering.

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.

Research Center for Community Knowledge

Develop next-generation information and communications technology and information sharing platform system by creating "NetCommons" and "Real&Researchmap!".

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.

Four Research Divisions

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