Ministry of Education, Culture, Sports, Science and Technology

National Institute of Informatics 2001/2002



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Foreword



This is the second year since the National Institute of Informatics (NII) was established in April 2000. "Information" is the keyword of the 21st century. In the G8 Summit, which was held at Okinawa last July, Information Communication Technology (IT) was one of the main topics. At the "Okinawa Charter on Global Information Society", it was said that "Information Technology (IT) is one of the most powerful forces in shaping the twenty-first century" and "enormous opportunities are there to be seized and shared by us all".

"Informatics", which is the target of NII, is a new academic field that aims towards the 21st century. Informatics is an academic study covering wide research areas and it includes computer science and information engineering, as well as life science, the humanities, social sciences and other fields. Informatics has developed remarkably through academic research activities with in-depth research and interdisciplinary approach across various fields. As a result of these activities, informatics is expected to become an academic infrastructure that will provide support for all areas of social and economic activities. The fruits of the study of informatics are expected to return to society. NII puts a strong emphasis on the basic research, in addition to application of its results, aiming to build an academic information infrastructure, such as construction of network environments and of information resources, etc.

Thus, NII is now organizing as an inter-university research institute with two main purposes — systematic research regarding informatics and development and maintenance of a basic infrastructure for distribution of academic information. In the aspect of research, NII will focus on not only the research development of the informatics field from basic to application but also on promoting joint academic research in wide areas in cooperation with universities and research institutions, and private companies of in and outside Japan. Moreover, in the area of maintaining and developing academic information infrastructure, NII constructs and applies Science Information Network and also provides various academic information services through utilizing the results of informatics research. NII is putting forward their best efforts toward solving the problems related to information by implementing research activities as well as development and operation activities as if those were two wheels of a vehicle.

The global scale of today's rapid advancement and wide spread of information communication technologies have brought not only new possibilities but also several problems such as digital divide, security, etc. The importance of the role of NII has increased in this new "Information Century" as the main core institute for the study of informatics and distribution of academic information. The staff of NII wants to work hard so that the results of informatics research at NII will contribute not only to academic research and science technology, and to the industrial and economic development but also to the advancement of people's lives and culture.

July 2001

Mission and Strategies of the National Institute of Informatics

NII was founded in April 2000 as an Inter-University Research Institute to undertake the comprehensive research on informatics and to developing infrastructure for the distribution of scientific information. NII covers broad from the basic to the application of informatics related research, such as network, software, multimedia, under a long-term perspective. At the same time, NII makes every effort to advance informatics research through the cooperation of universities, national research institutes and private research institutions.

Comprehensive Research Ranging from Basic to Applied Subjects

NII develops highly academic research in the field of information science over the long term and in a wide array of subjects, varying from the natural sciences to the humanities and social sciences. And NII implements various research coherently, which covers subjects ranging from the basic to applied, and from the theoretical to the practical.

Interdisciplinary Approach

NII promotes interdisciplinary work, including across-the-board cooperative research in diverse fields, and collaboration among broad academic disciplines, and contributes to the development of entire academic field providing an effective means for more sophisticated and comprehensive academic research.

Partnership with Industry, Government, and Academic Sectors

NII promotes close partnership with universities, national and private research institutes, and endeavours significant development in the informatics research in Japan. At the same time, NII implements project-type joint research in cooperation with these and promotes the utilization of the outcomes of research in society.

International Research Activities

NII endeavours to disseminate its research information internationally, promoting exchanges of researchers between foreign institutes involving and conducting international joint research. Further, NII is making a significant contribution to the development of international standardization.

Development of Infrastructure for Science Information

NII plays key role in the development of an infrastructure for science information in Japan through the construction and operation of the Science Information Network, the production of union catalog database of academic books and serials in university libraries, the creation of science information databases, and the education and training programmes for staff of university library.





Scope of the Research at National Institute of Informatics

"Informatics," the focus of NII's work, is a new field that embraces a broad range of themes in areas such as the humanities, social sciences, and life sciences, as well as computer science and information engineering. The seven research divisions listed below are charged with carrying out core informatics research from a mid-to long-term perspective, and ranging from basic to applied themes. Further, the two Research Centers at NII are committed to research in the areas of testbeds and prototyping of research and to research and development regarding the accumulation and utilization of scientific information resources.

Research Divisions of NII



Construction of the foundations of science information

The Development and Operations Department

Informatics aims to encourage in-depth research in areas related to research and education as well as spurring the rapid advancement of interdisciplinary research involving collaboration between different fields of study. It is hoped that this will result in the formation of a scholarly infrastructure capable of supporting all aspects of our socioeconomic activities. NII, an inter-university research institute, is uniquely characterized by the fact that it, through the Research Divisions shown in the Table above, is committed to the construction of close links and cooperation with other universities and institutes in Japan and foreign countries and the promotion of joint research projects based thereon, and, simultaneously, to the development of the foundations of scientific information and the provision of information services. Therefore, it is expected for NII to effectively combine its advanced research on informatics and its practical expertise for the creation of new products that will meet urgent needs among universities and society.

Foundations of Informatics Research Division

This Research Division aims at formulating basic concepts and theories of informatics through the multi-faceted and comprehensive pursuit of basic research on information such as computational theory; algorithm; numerical analysis; artificial intelligence; cognitive science; and bioinformatics. Further, this Division covers the study of methodologies and implementation with which such

Research on Type Theory and Constructive Logic:

Type theory is used to mathematically analyze the concepts of types of programming languages, an issue that has attracted increasing attention in recent years. Constructive logic is obtained from usual logic by deleting the law of the excluded middle, and its proofs include algorithms. It has been found that these two systems, which were originally different research issues, have isomorphic correspondence. This research covers type theory, constructive logic and the correspondence between them.



Improvement of scheduling algorithms

Heuristic algorithms, approximate algorithms, and combinatorial optimization such as scheduling problems have been also studied.

Research on Numerical Analysis and Theory of Computation:

We are doing research on the convergence of iterative methods for singular linear systems arising, for instance, in the numerical solution of partial differential equations; iterative methods for eigenvalue problems and their validated computation. Another research issue is to consider the problem of how difficult it is and what the minimum required tools are in order to compute a function, through the theories of computation and proof, and to apply these theories to developing an automated theorem prover.

Research on Symbolic Processing:

We study the processing of artificial symbols used in logic and also related areas such as natural language processing and case-based reasoning. In logic-based symbolic processing we study advanced mechanisms such as non-monotonic reasoning and order-sorted logic. In the related areas we do research on automatic semantic annotation of human language texts using XML based on advanced machine learning techniques and also case-based reasoning using multi-media data. concepts and theories are materialized and applied.

- Foundations of Algorithms Research
- Mathematical Informatics Research
- Symbolic Reasoning Research
- Cognitive Science Research
- Bioinformatics Research (by visiting researchers)

Cognitive Science Research on Thought and Language:

We study how people use graphics and/or memos for problem solving, how people organize discourse by means of speech and gesture, etc. from the viewpoint of Cognitive Science including, but not limited to, Artificial Intelligence and Psycholinguistics.



The speech segment concurrent with the gesture shown in the picgture: mata hoori dasarete again throw get-out passives and Again, (the cat) gets thrown out.

Research on Speech and Gesture:

The above picture shows a scene from the videotaped data in which the person on the left is retelling a cartoon story to the one on the right. Using the audiovisual data like this, this research conducts psycholinguistic analyses on the way in which discourse is organized through the concurrent speech and gesture.

Research on Support System for Genome Analysis:

To meet the sharp increase in the genome and other biological data, theories, technologies and issues with regard to the collection, evaluation, management and effective use of such data are studied. Moreover, high-precision, high-speed algorithms for the analysis of structure of human genome and for the analysis of production amount of human genes have been designed and published.

Semantic tagging enables computer applications to understand the text PERSON/Clinib (PERSON) transit is that OPERSON Frank Newman p. 60, vice chairman and chief financial BRGANIZATION BankAmesia Coip. ZATOIN- is expedded to be nominated ORGANIZATION Treasury ZATOIN- scelarly for domestic financia

The figure shows how semantic annotations can be inserted into text in XML form so that computers can learn how to annotate new texts automatically.

Learning from tagged XML-text.

Infrastructure Systems Research Division

Research is conducted on implementation methods for computer systems and computer networks — the fundamental elements of information technology. Through cutting-edge research, highperformance computer systems will be developed that are capable of complex data processing operations not possible with conventional computers, and high-performance computer networks will be built to support the distribution of information in a smooth and secure manner.

In these ways we hope to propose a new type of information infrastructure to support an information-centered society.

- Computer Architecture Research
- Network Architecture Research
- Functional Network Research
- Information Networking Research
- Network Security Research (by visiting researchers)



Research on the Application of Router Management Information:

To guarantee the network connectivity soundness and reliability, comprehensive monitoring of various routing protocol information is required. And for his purpose, it is quite effective to make overall analysis of administrative information obtained from all routers composing the network. In this research, possible methods and underlying technologies are investigated.



Research on the Development of Communication Quality Model:

As communication networks become larger and more complex, it becomes more difficult to understand their action, e.g. the packet delay, but on the other hand, it is essential to foresee it to ensure high-quality communications. This research aims at approximating traffic and properties by expressing action of communications networks with numerical models.

Research on traffic control for assuring the quality of services in high-speed networks:

As network bandwidth is increasing, and different types of traffic, including audio, video and data are being transmitted over it, it is important to satisfy the different quality requirements of each of these types of communication traffic. This research examines the characteristics of traffic patterns and try to schedule different applications in a manner that their quality requirements can be met.

Research on Ubiquitous Computing Network:

For a ubiquitous computing network comprising a large number of cooperatively working computers, a new seamless communication architecture is studied which accepts communications from a sender, automatically selects the appropriate communication device, medium, and service for a receiver, converts the sender's message into the selected form, and forwards the converted message to the receiver.



Research on Multimedia Synchronization:

networks, the image and the voice are transmitted through separate channels, and their transmission delays differ to each other. This research pursues the possible methods to prevent this problem.





An example of ubiquitous computing network architecture

Software Research Division

Research is performed on various concepts related to software; the core element in information processing. Through the systematic study of software aspects such as programming languages, data processing, and software developing methods, we aim to create new software concepts. Such research will enable substantial improvement on software capabilities, productivity, and reliability, and thereby make possible the development of more complex and sophisticated systems.

Research on Bibliography Integration Based on Fast Approximate String Matching:

This research focuses on the procedure of integrating bibliographic information contained in document images using a fast approximate string matching technique. The application of the procedure to scanned documents will make it possible to construct large-scale digital libraries.



- Programming Languages Research
- Software Engineering Research
- Data Engineering Research
- Distributed Processing Research
- Software Reliability Research (by visiting researchers)
- Large-scale Software Research (Visiting)

Name-IT: Naming and Detecting Faces in News Videos

This research addresses content-based video indexing. The system associates faces and names in news videos as video annotation taking advantage of integrating image understanding and natural language processing techniques.



Research on Access to Information Space Based on Text Categorization

SVM (support vector machine) can classify documents flexibly by the similarity among them. This research aims at developing a high-level information retrieval interface through the application of this technique to human-computer interaction.

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This research aims at designing and implementing mobile agent, an active program that can move between computers, together with the systems to which mobile agents are applied.



Research on Extensible Distributed Operating Systems

This research focuses on the extensible distributed operating systems with much flexibility to which functions necessary for the operation can be added easily and safely to obtain higher level of distributed processing. The application thereof to large-scale real time systems is aimed at.



Please visit http://research.nii.ac.jp/ for details of these research projects.

Multimedia Information Research Division

The data handled in informatics research is in a variety of media formats, including text, images, and audio. Information media research aims to provide effective processing methods for expressing, analyzing, and retrieving data in various media formats. Through this work we hope to gain insights into the technical aspects of interaction between people and information media.

Universal Multi-Point Position Input Device and Its Application:

Utilizing RFID (memory chips with radio frequency communication capability) technology, we developed an universal position input device for a computer. This device reads and transmits the grid coordinates of the objects that are attached the RFIDs, therefore the computer can recognize the current arrangement of the multiple objects on the device. As its application we have introduced the system into elementary school classrooms for environment education program. When pupils manipulate the pieces which represent houses, factories and forests, the scene of a virtual town on the screen changes accordingly on real time.



Coding of Chemical Reactions and the Development of Reaction Prediction Systems:

The issues covered concern the possible methods to express, retrieve and systematically structure chemical data and to use such data to obtain useful knowledge that will allow the prediction of chemical reactions and spectra. The focal point of this research is how neutral networks and other procedures are used to express and structure various complex chemical phenomena in order to make predictions.



Multimedia Laboratory

The Multimedia Laboratory is used exclusively for experiments related to multimedia. Here, it is possible to collect different kinds of sound in a soundproof room, to input special images with precision and/or high-speed cameras, and to carry out higher-level editorial processing.

- Image Processing Research
- Multimedia Integration Processing Research
- Information Retrieval Research
- Computer Vision Research (Visiting)

Image Synthesis Based on Focal Point Free Change Technique:

The procedure proposed here will allow for freely changing the focal points of two images, one focusing on a person (close view) and the other on the scene (distant view). With this method, easy image editing can be enjoyed, because the blur of out-of-focus images is precisely removed and correct contours obtained.



Fast Retrieval Method for Multimedia Databases Based on the Distinctiveness of the Retrieval Results:

When one searches a multimedia database for some similar multimedia information, unfortunate cases can occur when none can be found in the database. Our method predicts the number of results which will meet the similarity requirement. This enables us to improve the system efficiency by avoiding useless searching when the predicted number is very few.





Please visit http://research.nii.ac.jp/ for details of these research projects.

Intelligent Systems Research Division

By analyzing a variety of activities involving intelligence that can be observed in the natural world, such as the activities of human beings, this area of research explores ways to build systems and computers capable of "intelligent" behavior and systems for solving problems through appropriate collaboration with people. The ultimate aim of this type of research is the creation of systems that can support the intelligent activities of human beings and in some cases substitute for them.

Research on Distance Learning Environment

Providing distance learning environment is very important to ensure the equal opportunity for education regardless of geographical conditions and time restriction. This research pursues the advanced integrated distance learning environment for higher education in which both synchronous and asynchronous procedures are employed as well as collaborative learning.



Knowledge Symbiosis Project:

This research focuses on the knowledge symbiosis, which will allow the effective use of multiple of information that are separately contained in the Internet for the creation of new information distribution systems. One of the issues covered here is to identify algorithms to find the relations between separate Internet directories.





- Knowledge Systems Research
- Intelligent Systems Research Division
- Human-Machine Symbiosis Research
- Robotics Research (Visiting)

Research on Symbiotic Robots:

As part of the research on symbiotic information system (SIS) and with the aim of realizing the environment where people and robots coexist in a natural way, studies covered include of human-type autonomous robots, cooperative robots, intelligent interface via vision, phonetic interaction and intention understanding, and distributed agent techniques based on knowledge processing.



Research on Web Information Gathering Agent:

This research addresses the systems in which mobile agents moves to retrieve and collect information on behalf of users. For example, Mobeet is accessible from your portable telephone. (http://mobeet.ex.nii.ac.jp/).



Research on Network Community:

Systems to support network-based community activities are dealt with in this research. One example is a system to see the relations between people who have used bookmarks.

Human and Social Information Research Division

This area of research examines issues related to information in the societal environment. Research topics include interaction between people and information in society; the distribution, management, and utilization of information; and social and systemic issues related to information. The ultimate aim is the systematization of informatics research from the viewpoint of the humanities and social sciences.

- Information Management Research
- Information Use Research
- Library Information Research
- Information Institution Research

kikai-hon'yaku [x CONTROL. [BECOME [y BE AT z]]] (Machine translation) kikai-sousa [x ACT ON y] internal argument (Machine operation)

Research on Analysis Model of Compound Words:

In what way the concepts inherent in our words should be expressed on computer? Compound nouns, a condensed style of sentence, are taken up as starting point to identify possible methods to describe the concepts and the rules of language.

Research on Retrieval, Clustering and Summarization of Information:

*Research on retrieval and summarization of information using text structure; information retrieval in which opinions and facts are differentiated; browsing of documents.

*Research on user-adaptive cluster-classification methods:

*Techniques of user support for information retrieval via human-system interaction.

*Research on the integration of conventional scientific information tools and Web:

*Automatic construction of multi-lingual thesaurus; access to multi-lingual information *Evaluation of information retrieval systems.

The test collections for information retrieval system evaluation that we have constructed are available for research purpose.



Information retrieval/clustering/summarizing



Research on Legislation on Information

Electronic money technology, in which digital data is used as money instead of notes and coins, allows us to realize Internet shopping and the mobile commerce, helping us realize more convenient life. This research addresses certain legal issues concerning information, such as privacy and/or cyber security, for the purpose of establishing more secured environment for the electronic commerce.

NTCIR: International Evaluation Conference on Information Retrieval and Text Summarizing Techniques:

The NTCIR is an international joint research of new type, where many researcher groups in Japan and other countries address common subjects using common large-scale experimental data sets, before comparing and examining the results for deeper understanding. Participants to the NTCIR were 33 groups in 6 countries and 45 in 8, in 1998/99 and 2000/01, respectively. http://research.nii.ac.jp/ntcir/





Application of Distributed Knowledge Base in Medical Systems:

This research aims at constructing, with the use of an object-oriented model, the distributed knowledge base for medical diagnosis.

Research Information Research Division

Academic researches in various fields require all sort of information as the input and they also produce new information as the fruit of the researches. This research division focuses on the role of this information and on systems for disseminating it effectively. In this way, we aim to promote sophistication of academic information infrastructure and to establish the informatics tailored scholarly information.

Analyzing international research trends based on databases of scholarly publications

Large databases containing abstracts of academic papers have been compiled to assist researchers and some of them are made available through NII to researchers. In addition to their usual use of searching relevant papers, these databases are also being subjected to sophisticated statistical analyses in order to identify trends in scholarly research.

- Humanities and Social Sciences Information Research
- Science and Engineering Information Research

Al values for the countries in 7 method fields

Biosciences Information Research





Analyzing characteristics of universities based on number of citations to scholarly papers

This project analyzes the level of activity of countries and institutions by examining the number of citations found in citation index databases. The number of times a paper is cited can be used as an index of the degree of its utilization. There is a particular need for citation analyses of this type focusing on Japanese academic papers.

International comparisons of information related research

The true state of informatics research in Japan and overseas can be elucidated by examining databases such as directories of researchers. By utilizing databases of academic information in this way, we hope to analyze the present state of scholarly research in every field and contribute to the development of an effective infrastructure for academic information, research system, science policies and the accountability of researches.



Please visit http://research.nii.ac.jp/ for details of these research projects.

Research Center for Testbeds and Prototyping

The Research Center for Testbeds and Prototyping provides testbed facilities and promotes prototyping research for real field application. These activities are carried out as projects with universities, other national research institutes or laboratories in commercial sectors, as well as projects within NII. The aim is that fruits of empirical research of this sort will be incorporated into the academic information infrastructure and provide themes and inspiration for new research.

The Research Center for Testbeds and Prototyping plays the role of a common-use facility, offering a development environment for testbeds and prototypes that individual universities or research divisions cannot provide on their own. It also promotes joint research and academic information infrastructure development in the form of projects. The Office for Promotion of Research Projects draws plans for projects such

as testbeds for high-speed networks or online journals as well as academic information infrastructure development, while the Office for Cooperative Research Programs plays a similar role for joint research projects. Projects advance under the direction of visiting researchers assigned to the above offices or to the research divisions, with the collaboration of outside researchers, and with assistance provided by the Development and Operations Department.

- Office for Promotion of Research Projects
- Cooperative Research Planning and Promotion Office
- High-Speed Network Laboratory (Visiting)
- High Quality Networking Laboratory (Visiting)
- Full-Text Contents Laboratory (Visiting)
- Virtual Library Laboratory (Visiting)



Research Center for Information Resources

Background

The recent increase of digital information both in amount and diversity have attracted strong attention to the contents of information, resulting in more vigorous research activities for the integrated access and use of massive and varied information. Many flields of informatics research are involved with processing methods and utilization of information resources, covering contents creation and processing software. To further extend the research in these fields, it is crucial to promote the development of information contents, researches on content processing software, the standardization of information digitalization and related issues.

Mission

The Research Center for Information Resources, a research facility within NII, is charged with the following missions.

- Collection and provision of information resources necessary for the pursuit of informatics research
- Promotion of joint research that uses information resources
- 3. Promotion of research on information resources

In cooperation with the other sections in NII, universities and the industrial sector, the Center is promoting research on information resources, including the development of large-scale digital contents and related software and the standardization necessary for the development of digital contents.

Organization

The Research Center for Information Resources presently comprises two sections. The Office for Research Coordination and Promotion, which is staffed by fulltime researchers, in charge of planning co-operative projects as well as pursuing research on information resources. The Data Collection Laboratory, staffed by visiting researchers, is engaged in the development of test collections for use in multi-language text retrieval and holds workshops for promoting the shared use of complied test collections.

- Office for Research Coordination and Promotion
- Data Collection Laboratory (by visiting researchers)

Projects

The Center manages and plans the following cooperative research projects, related workshops and international conferences:

- * Construction of large-scale test collections for the evaluation of information retrieval systems, and evaluation-type workshop (NTCIR Workshop) based on the test collections
- * Compilation and evaluation of language corpus for the research on lexicon and syntax of languages
- * Construction of video data collections with meta-data for the evaluation of advanced analysis and processing of video data
- * 2001 International Conference on Dublin Core and Metadata Applications



Research Cooperation / Graduate Education Activities

Graduate Education Activities

NII Special Research Students (Fiduciary graduate students)

NII accepts graduate students from other universities as NII Special Research Students for the purpose of promoting its research activities as an inter-university research institute and of making a contribution to the development of education. In F.Y.2000, NII accepted three graduate students of the national universities, one in the doctor's course and two in the master's course, for guidance in their studies.

Cooperation for graduate school education:

NII has ample research results on scientific information database and on infrastructure systems of information communications, and effectively utilize them to cooperate with Graduate School of Information Science and Technology,

Graduate Course, the University of Tokyo and Graduate School of Information and Media Studies, the University of Library and Information Science.

Introduction of Department of Informatics (Provisional title):

For the purpose of providing the guidance that will contribute to cultivate new type of researchers and high-level specialists with broad view point and sophisticated special knowledge, NII has a plan to newly establish the Department of Informatics Course (Provisional title) in the School of Mathematical and Physical Science of the Graduate University for Advanced Studies, by utilizing its practical-application-oriented research environments where its unique comprehensive research system, scientific information services and research and development activities are pursued in a concerted way.

International Exchange

Admission of foreign scientist (in F.Y. 2001):

Name, organization, nationality	Subject	Period
PARADIS, François Scientist, Mathematical and Information Sciences, Australia CSIRO, Canadian	Making use of hypertext and logical structure of documents	May-Oct., 2000 Hosted by Assoc. Prof. N.Knado
ANGELINO, Henri Professor, National Polytechnical Institute of Toulouse, French	Survey and Study of Super Highway and Information Technology policy in Asia-Pacific Region	Dec. 2000-Mar. 2001 (-Nov., 2001) Hosted by Prof. K.Ono
STEFANUK, Vadim Lvovitch Professor, Institute for Information Transmission Problems, Russian Academy of Science, Russian	Study on Advanced Intelligent Systems	JanMar. 2001 Hosted by Prof. H.Ueno

Visitors from foreign countries (in F.Y. 2000): 119

NII's researcher participants in international academic conferences designated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) projects (in F.Y.2000): 3

Collaborative Research (in F.Y.2000)

NII, an inter-university research institution, provides the opportunities of mutual exchange and learning to researchers of national, public and private universities in Japan, while actively promoting many collaborative research projects. In F.Y. 2000, 15 such projects were carried out as shown below:

Basic Research on the International Bibliography Coordination in Japan

Research on Extensible Real-time Distributed Operation System

Basic Research on Techniques to Support Storage, Processing and Retrieval of Science and Technology Theses

Analysis of Characteristics of Test Collections based on the Visualized Relations among Documents

Research on the Utilization of Electronic Information Media and the Society

Research on Remote Higher Education via the Internet

Research on Customizable Hypermedia Distribution System

Research on the Construction of Integrated Media Processing System and Its Basic Techniques

Research on Information Retrieval Algorithms Using Document Structure and Their Evaluation

Grants-in-Aid for Scientific Research (in F.Y.2000)

Research Categories	Number	Awarded amount (¥1000)
Scientific Research Expenditures:		
Special Research Promotion (1)	1	4,900
Scientific research (A) (2)	3	24,900
Scientific research (B) (1)	1	6,000
Scientific research (B) (2)	4	19,300
Scientific research (C) (2)	1	800
Encouragement of Young Scientists (A)	9	8,676
Publication of Scientific Research results	7	134,500
Total	26	199,076

Research on High-speed Internet Technology

The Construction of Large-scale Test Collections and the Comparable Evaluation of Information Retrieval Systems

Research on Advanced Software Architecture

Research on the Expression of Multi-dimensional Data of and the Access Procedures to Distributed Geographic Images (The GLOGEREQ (GLObal Geographical Resource for Query Facility)) Project

Research on the Automatic Construction and the Evaluation of Japanese-English Dictionary from the Bilingual Corpus

Research on Analysis Procedures of Large-scale Document with Associative Computation Engine GETA

University-Industry Cooperation and Collaboration (in F.Y.2000)

• Joint research with the private sector etc.

Number	Amount received (¥1000)
5	Total 14,280
Commissioned res	search
Number	Amount received (¥1000)
8	Total 106,684
Grants and endow	ments
Number	Amount received (¥1000)
25	Total 33,184

Dissemination of Research Results

NII has continued activities to organize lecture meetings and symposiums and to issue publications and publicity journals as a means of making feedback of the results of informatics research to the extensive areas in the society.

Open Lectures

NII held "NII Open lecture" on the theme of current developments of NII's research activities and operating services at Kansai area and Tokyo.

Symposiums and Study Meetings

The symposiums and study meetings organized by NII provide the opportunities for discussion on informatics from multi-faceted points by participant researchers from Japan and foreign countries. NII's Monthly Study Meeting plays an important role for mutual exchange among researchers and technology specialists who are interested in informatics, where the presentation of their studies and other events are carried out. NII is a research institution widely open to the society.



Open Lecture at the Kyoto International Conference Hall, in Nov. 2000

 Participants are making discussion at a Panel NTCIR Workshop in March 2001



NTCIR Workshop in March 2001

Publications

NII publishes books and periodicals detailing its research findings.

NII Journal

NII issues its bulletin "NII Journal" twice per year, which carries the paper about research activities. And it provides also in Electronic Library Service (NACSIS-ELS) and Online Journal Publication System (NACSIS-OLJ).

Informatics Series

"Informatics Series" is monograph series, which covers the research findings of NII or transcript of Open Lectures and published under the supervision of NII.

Publicity Journal

NII News, a publicity journal of NII, is issued every two months and distributed to introduce its research and development work, projects and other activities.









Development Work and Operation of NII

Once of the major roles of NII as an institution is the development and implementation of an advanced infrastructure for the distribution of science information. An science information infrastructure of the sort required to promote scholarly research must cover the aspects of networks, content, and applications, and there is a need to implement all three of these aspects in as advanced a manner as possible. This goal can be accomplished by applying the fruits of informatics research to the implementation and enhancement of the science information infrastructure in a rapid and timely fashion. For future informatics research to succeed, both of these activities need to proceed as one as with the two wheels of a car. The Development and Operations Department of NII is responsible for the building and operation. Through tight cooperation with research organizations, organizations and systems are being constructed to allow researchers to participate in the implementation of the science information infrastructure. By then applying the fruits of this research in a practical way, NII is contributing to the implementation and reinforcement of Japanese science information infrastructure.



Science Information Network

To promote informatics research in and the circulation of scientific information among universities and research institutions throughout Japan, NII has operated Science Information Network (SINET), an information network for scientific research which connects them via its network nodes, or points of presence. The network nodes are connected with high-speed dedicated lines, 405 Mbps at the maximum, and 763 institutions are connected via those network nodes as of April 30, 2001.

NII has achieved the mutual connection of SINET with high-speed testbed networks overseas, including Abilene in the U.S, DANTE in Europe, to facilitate the dissemination of scientific information and the tie-up with research networks on the international scene. In Japan, SINET has been connected to Inter-Ministry Research Information Network (IMnet), connecting national research institutions, etc., and to networks of Internet service providers (ISP), contributing to the wider circulation of research information offered by industry and university.

As an deployment of new research field, NII is planning to establish an ultra high speed network, Super SINET, whose bandwidth is 10Gbps, in January 2002. Super SINET will connect key institutions engaging in advanced scientific studies, such as high energy physics, space and astronomical sciences, genome information and super-computer interlocking (GRID). To meet new trends of faster communications and others, NII will continue to be committed to the efforts to develop the world most-advanced ultra high speed network technologies with the aim of realizing an optical network, capable of carrying signals of optical wavelengths.

Line speed (Budget of Fiscal 2001)

Domestic line	20~405 Mbps	
International line	2~450 Mbps	
Super SINET	10 Gbps	



U.S.A.

150Mbps

http://www.sinet.ad.jp/index-e.html



Institutions Participating in the Science Information Network	(Current as of April 2001)

National Universities	Municipal Universities	Private Universities	Junior Colleges	Colleges of Technology	Inter-university Institutes	Other	Total
95	52	290	100	43	15	168	763

Catalog Information Service

The Catalog Information Service consists of the Cataloging System and the Interlibrary Loan System.

Cataloging System (NACSIS-CAT)

The Cataloging System (NACSIS-CAT) comprises union catalog databases of academic documents (books and serials) in the collections of institutions such as university libraries. These databases were compiled to support the research work of scholars and can be searched to determine instantly where specific materials are housed. Standardized cataloging data (MARC) is referred to when constructing databases in order to improve efficiency, and the work of inputting records is shared by university libraries and similar institutions throughout the country. The union catalog of books and serials, which consists of the databases compiled in this manner, can be accessed on the World Wide Web through the Webcat service.



Participating Institutions	(Current as of May 31, 2001	
Type of Institution	Number	
National Universities	99	
Municipal Universities	70	
Private Universities	413	
Inter-university Research Institutes	14	
Junior Colleges and Colleges of Technology	152	
Other	109	
Total	857	

Number of Database Records

(Current as of May 31, 2001)

Database Name	Number
Books Bibliography	5,752,000
Holdings	53,112,000
Serials Bibliography	239,000
Holdings	3,575,000

Interlibrary Loan System (NACSIS-ILL)

The Interlibrary Loan System (NACSIS-ILL) supports exchange of information among libraries to enable them to provide documents to researchers at universities and other institutions. The service employs latest information from the union catalog databases constructed by NACSIS-CAT for improved efficiency and to ensure prompt delivery of documents to users. Users of the system may also request materials from the National Diet Library and the British Library Document Supply Center (BLDSC).



Information Retrieval Service

http://www.nii.ac.jp/ir/ir-e.html

The Information Retrieval Service (NACSIS-IR) has accumulated some 100 million records covering all fields of the humanities, the social sciences, and the natural sciences in order to provide researchers speedy and precise access to science information. This information can be accessed online. The information available through NACSIS-IR comprises databases planned and created by NII (creating databases), databases obtained from database compiling institutions overseas and elsewhere (importing databases), and databases accepted from other researchers and institutions (assimilating databases).



negistereu unta	(as 01 May 2001)				(401441 111 112000)
Number of Databases	Number of Records	Number of users	Number of access	Connect time(minutes)	Number of views
58	105,982,000	7,882	67,000	168,000	1,450,000

Utilization of NACSIS-IR

User Qualifications

- (1) Faculty, graduate students, graduate researchers, and students of universities (national, municipal, or private), junior colleges, colleges of technology, inter-university research institutions, and institutions under the jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology (MEXT) or the Agency for Cultural Affairs.
- (2) Regular members of academic societies, research staff and library personnel of National Research Institutes or publicly owned research organizations, and research staff affiliated with research and higher educational institutions overseas.

Fees for Use

- (1) Creating and importing databases: 50 yen/minute connected, 13 yen per hit
- (2) Union catalogs and assimilating databases: 30 yen per connection

Service Hours

The service is available continuously with the following exceptions: 8:00 to 9:00 a.m. each Monday, March 31, periods of system maintenance

List of Databases Accessible through the Information Retrieval Service

Creating Databases	Assimilating Databases
Laws in Force	Directory of Special Collections of National University Libraries
Economic Titles Japan	Database on Bibliography for Scientific Studies on Cultural Properties
Scientific Papers (Physical Sciences, Chemistry, Electronics)	Researcher Directory of Buddhist and Indic Studies in Japan
Clinical Case Reports	Database of Japanese Traditional Music by Modern Composers
Grant-in-Aid Scientific Research	Bibliography of Japanese Sociology
Register of Grant-in-Aid Scientific Research	Catalog of Collection related to Curriculum Development and Instruction
Dissertation Index	in Japanese Language Teaching, held by Naruto University of Education
Calendar of Academic Conferences, compiled by Science Council of Japan	Summary of Materials of Ishin History
Current Contents of Academic Serials in Japan	Inventory of Japanese Historical Documents
Academic Conference Papers	Hokkaido University Northern Studies Collection Database
Citation Database for Japanese Papers	Researcher Directory of Asian Historical Studies in Japan
Directory of Researchers	Bibliography of Central Asian Historical Studies in Japan
Database Directory	Bibliography of Islamic and Middle Eastern Studies in Japan
Private Grants-in-Aid Research	Japanese Slavic and East European Studies Database bibliographia
Union Catalog (Books, Serials)	germanistica japonica
	Database of Dossiers related to Japan in Russian Diplomatic Archives
Importing Databases	Database of American Studies in Japan
Arts and Humanities Citation Index	Chemical Sensor Database
Social Sciences Citation Index	Chemical Education Database
Harvard Business Review	RAMBIOS
Science Citation Index Expanded	Primatological Reprint Collection Database
List of Conference Proceedings in Science and Technology	Calendar of Academic Meetings, compiled by Japan Federation of
ISTP&B	Engineering Societies
ISTP	Index to Papers of Architectural Institute of Japan
MathSci	Database of Medical Conference Proceedings in Japan
COMPENDEX PLUS	Database of Geographical Studies in Japan
National Diet Library Catalog of Foreign Books	Index for General Information of Home Economics Research
Japanese Periodical Index	
Register of Private Grants-in Aid	
JPMARC	

Online Scientific Terms

For the broader dissemination and the precise evaluation and verification of research results, it is critical to specify the definitions and the ways of usage of scientific terms which all the researchers can accept. Therefore, much effort has been made in each of the scientific fields to standardize its specific scientific terms, having resulted in the publication of series of Japanese Scientific Terms. With the Online Scientific Terms (NACSIS-Sciterm) service, which was prepared after obtaining approvals of the Ministry of Education, Culture, Sports, Science and Technology and concerned academic

societies who are the copyright holders of the contents of the series, the scientific terms contained in the series can be retrieved, via the Internet, free of charge. The Table mainly indicates scientific terms (in Japanese-Romaji, Kana and languages of western countries), parts of speech, terms for reference.

Registered data	
Number of registered Series	Number of

. . .

24

LCMARC (Books, Serials)

(as of May 2001) Access to NACSIS-Sciterm (actual			
istered scientific terms	Access number of year		
8,000	70,000		

*Launched from July 2000

Academic Society HomeVillage

The Academic society HomeVillage is a listing of links to the Websites of academic societies. It is maintained as a service to these academic societies in order to assist them in disseminating information. The service also includes a search tool that allows users to locate Websites on the list using keywords. This provides an efficient way to obtain the latest research findings released by these societies. The links are listed both alphabetically by society name as well as classified into the fields defined by the Science Council of Japan.

1-2

Registered data		(as of May 2001)	Access to the Academic Society HomeVillage (Results of F.Y.2000)
Member of Academic	Details		Access number of year
Society HomeVillage	Web hosting service	Link to the Website of academic society	490,000
628	495	133	490,000

http://sciterm.nii.ac.jp/



http://wwwsoc.nii.ac.jp/



The Electronic Library Service (NACSIS-ELS) is an information service that enables users to retrieve via the Internet material from page image databases containing photographic reproductions of academic journals and magazines as well as with bibliographic information.

Researchers can search for journal articles by title, author, or keywords from their computers. They can also select articles from tables of contents or by browsing through pages. Users can use local printers to make high-quality printouts of desired pages.

Currently the database includes mainly academic journals published by Japanese academic societies. The range of information available will expand in future as the number of participating academic societies increases.

As a tentative project of the Electronic Library Service, 35 of electronic journals issued by the Institute of Physics (IOP) in the UK and 171 of those by Oxford University Press (OUP) have been offered since F.Y. 2000 and F.Y.2001, respectively.



(in E V 2000)

N

Overseas Electronic Journals (tentative): A

Number of registrants	Number of access	Number of displayed images	Number of printed images
3,840	97,000	39,000	55,000
* After Sep. 2000			

ccess to the IOP's journals	(in F.Y.2000)
umber of registrant organizations	Access
250	400,000

Registered data (as of Ma			(as of May 2001)
Participant academic societies	Journals	Articles	Number of pages of registered images
142	310	685,000	2,450,000

nder of	registrant organizations	
	445	

Online Journal Editing and Publication System http://www.nii.ac.jp/olj/

To support the publication as online journals of scientific journals issued by academic societies and universities, efforts to develop and construct the Online Journal Editing and Publication System (NACSIS-OLJ:OnLine Journal) have been continued, in which they are electronically edited and published online. The System consists mainly of the following two elements:

(1) Electronic Editing System:

The Electronics Editing System, operated by respective academic societies or universities, performs a series of functions of processing control and document processing, from writing and contributing manuscripts to receiving, reviewing, editing and lay-outing them, and further to preparing printing block copies and electronics manuscripts. (2) Online Journal Publication System:

The Online Journal Publication System, operated by NII, provides scientific journals as online journals via the Internet.



Surveys of Academic Research Activities

It is essential to gather information about the research activities of universities and research institutes and to provide it as a database. The information is important to advance research and development, encourage partnership with universities, research institutes, industry and community and to transmit the information internationally. Simultaneously, it is extremely significant from the standpoint of the evaluation of research findings, for easy access to information, the responsibility to explain research findings to the public and to foster understanding. To meet those needs, NII implements the survey of academic research activities under the cooperation of the researchers in universities and research institutes and then NII compiles the results of the survey into a database and makes it available to the public. The results of this survey are used for research about the trends and status of academic research and basic data for policy making for science and higher education.

Survey of Academic Research Activities / Directory of Researchers

NII carries out the "Survey of Academic Research Activities" every year, targeting researchers in universities and research institutes in Japan. Based on the results of the survey, NII compiles the "Directory of Researchers". The directory is available in NACSIS-IR and its data is published as a book and a CD-ROM titled "Directory of University Professors and Researchers in Japan". The key data is available to the public via the "Directory of Research Activities and Resources".

Furthermore, NII provides the results of the data to university from which data was gathered.

Registered data: Information on researchers based on F.Y. 2000 Survey: 161,970 records The Directory of University Professors and Researchers in Japan

研究者。研究課題総算

Survey for the Compilation of Database Providing a Conspectus of Research Activities at Universities and Other Institutes /NACSIS-DIRR (Directory of Research Activities and Resources)

NII carries out the survey to gather information about the researchers in universities and research institutes, research subjects and research resources including academic facilities and materials in order to provide the collected information to researchers, universities and research institutes, to secure excellent researchers, to distribute effectively research resources, and to encourage joint research with the industry, academic and government sectors. The "Directory of Research Activities and Resources" is produced from the results of the survey and is available via World Wide Web. This is a joint project of NII and the Japan Science and Technology Cooperation.

Registered data: Based on F.Y. 2000 Survey Research institution / research subjects: 13,448 Researchers: 117,570 Research resources: 2,187



Survey of Status of Science Information Databases / Database Directery

http://www.nii.ac.jp/ir/dbdr/dbdr.html

NII carries out the "Survey of Science Information Databases" annually to collect information on databases which are produced for science research in Japan. The "Database Directory" is produced on the basis of the latest information of this survey. It is released through the Information Retrieval Service (NACSIS- IR). In addition, the result of the survey is published under the title of "Status Report on Science Information Databases", that is essential data sources indicating current status of science databases in Japan.

Registered data:

Information on database based on F.Y. 2000 Survey: Approx. 3,000

International Activities of NII Services

It is essential to promote the distribution of science information on a global scale, in order to raise the standard of science research. NII has continued not only to augment a service of providing scientific information internationally but also to strengthen its relationships with overseas universities and institutions. This helps access overseas scientific information easily, which belongs universities and institutions in foreign countries. Thus, NII makes a meaningful contribution to distribute scientific information internationally and works for the development of international standardization.

Cooperation with overseas Institutions of Japanese Studies and Libaries

Twenty-five of universities, institutions and libraries in Europe and Asia, which carry Japanese data, have participated in Cataloging System (NACSIS-CAT) of NII. More than 200,000 academic documents were registered here from those overseas universities and institutions. In addition, the "Science Information Exchange Project with China" was initiated in 1998. NII offers assistance to the computerization of the catalogue records of the Beijing Center for Japanese Studies with the cooperation of the Japan Foundation

Overseas NACSIS-CAT Participating Institutes			
Oriental and India Office Collections, The British Library	University of Munich, Institute of East Asian Studies, Japanese Studies		
Cambridge University Library	The Japan Cultural institute in Cologne, The Japan Foundation		
Bodleian Library, University of Oxford	Japan Cultural Center, Bangkok, The Japan Foundation		
School of East Asian Studies Library, University of Sheffield	Beijing Center for Japanese Studies		
Scottish Centre for Japanese Studies, University of Stirling	China Agricultural University Library		
School of Oriental and African Studies, University of London	Library of Dalian University of Technology		
The Japan Foundation London Language Centre	Peking University Library		
Department of Japanese Artiquities, The British Museum	Wuhan University Library		
Institute of East Asian Studies, Duisburg University	Library of Nanjing University		
East-Asien Library, Katholieke Universiteit Leuven	Library of Zhongshan University		
Department of Japanese Studies, University of Heidelberg	Jilin University Library		
Japanische Bibliothek, Abteilung Japanologie, Ostasiutisches Seminar der Universitat Zurich	Institute of Japanese Studies, Hallym Academy of Sciences, Hallym University		
The Asia Library, Stockholm University			

International Activities of Science Information Service

Inter-Library Loan System (NACSIS-ILL)

The Inter-Library Loan System of NII is linked with one (ARTTeL) of the British Library Document Supply Centre (BLDSC), which makes it possible for researchers in Japan to photocopy and borrow of documents in the same way other institutes in Japan offer to the researchers.

Due to the suggestion of the U.S.-Japan Conference on Cultural and Education Interchange (CULCON), NII has discussed the introduction of the inter-library loan system to improve the document delivery services between Japan and U.S.

Information Retrieval Service (NACSIS-IR)

NII provides a database service, which is planned and prepared by NII, for overseas universities and research institutions.

Electronic Library Service (NACSIS-ELS)

NII offers the Electronic Library Service (NACSIS-ELS) to overseas universities and research institutes, which enables overseas researchers to utilize academic journals published by Japanese academic societies.

International Projects

In addition to the services mentioned above which are: "Science information Exchange Project with China" and "Project for Improvement of Document Delivery Service between U.S. and Japan", NII has carried out various international projects with the cooperation of overseas universities and research institutions; "Thai-Online-Project" via international network with Thailand, hosting or participating in workshops internationally regarding the exchange of scientific information, international cooperation and training programs on scientific information, etc.



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Staff of the participant organizations of the Thai-Online-Project visited NII

Advanced Training Programs

NII carries out various education and training programs designed to provide opportunities to catch up specialized and advanced technologies for staffs dedicating to support academic researchers at universities and research institutes.

NII Seminar

This seminar trains leading staffs for supporting academic researchers by providing hands-on experience performing actual research work. Network Training Course

This course provides opportunities to catch up recent and advanced network technologies for staffs administering and operating network services at universities and research institutes. NACSIS-CAT Advanced Training Course

This course trains leading staffs of NACSIS-CAT service in the participating university libraries.

NACSIS-IR Advanced Training Course

This Course trains instructors of guidance or training courses on how to use the NACSIS-IR service held at their institutions.



NII Seminar

User-Training and Guidance Program

NII offers user-training courses and guidance courses in NACSIS services.

Regional courses are also offered in conjunction with university libraries in order to expand the range of opportunities.

The following types of user-training courses and guidance course are offered.

NACSIS-CAT Training Course

NACSIS-ILL Training Course

NACSIS-IR Guidance Course

Provision of the Self-learning System

NII offers a self-learning system (NACSIS-SL) to enhance the user's learning experience, with which the user can learn our services through the Internet. NACSIS-ILL study course is the first production of NACSIS-SL.



NACSIS-ILL Self-learning System (NACSIS-SL/ILL)

Support for User Training Sponsored by Universities

In order to support guidance or user-training course of NACSIS services sponsored by universities and academic societies, NII offers some support programs, such as to provide training text or materials, to advice about curriculum, and to assign of user-ID.

International Training

In cooperation with related organizations, NII carries out training for staffs dedicating to support researchers at academic research institutions in foreign countries.



Board of Councilors, Advisory Council for Research and Management, Advisory Board, Professors Emeritus

Board of Councilors

Members advise the Director General regarding plans for NII projects and other important matters related to management and operations.

Toshiharu Aoki	President and Chief Executive Officer, NTT Data Corporation	Nobuaki Kumagai	Professor Emeritus, Osaka University
Hiroo Iguchi	Professor Emeritus, University of Tokyo	Yoshihide Kozai	Director, Gunma Astronomical Observatory
Yoneo Ishii	President, Kanda University of International Studies	Hirotaka Sugawara	Director General, High Energy Accelerator Research
Michiyuki Uenohara	Professor Emeritus, Tama University		Organization
Hitoshi Osaki	Director General, Center for National University Finance	Junjiro Takahashi	Vice President, Keio University
Masanori Otsuka	Professor Emeritus, Tokyo Medical and Dental University	Michiko Tenma	Professor Emeritus, Tsuda College
Kimio Ohno	President, Hokkaido Information University	Tatsuo Nishida	Professor Emeritus, Kyoto University
Takayasu Okushima	President, Waseda University	Yoichi Matsuno	Director General, National Institute of Japanese Literature
Tsutomu Kimura	President, National Institution for Academic Degrees	Wataru Mori	Professor Emeritus, University of Tokyo
Masaaki Kubo	Professor Emeritus, University of Tokyo	Hiroyuki Yoshikawa	President, The University of the Air.

Advisory Council for Research and Management

Advisory Council for Research and Management Members provide advice and suggestions to the Director General regarding joint research programs and other important matters related to the operation of NII, in response to requests from the Director General.

Setsuo Arikawa	Head of Library, Kyusyu University Library	Takamitsu Sawa	Planning and Coordination Director (Deputy Director
Yasuyoshi Inagaki	Professor, Graduate School, Division of Engineering, Nagoya University		General), NII
Hitoshi Inoue	Professor Emeritus, National Center for Science Information Systems	Kinji Ono	Executive Director of Research, NII
Haruo Kuroda	Director, Research Institutes for Science and	Takashi Hamada	Director, International and Research Cooperation
	Technology, Science University of Tokyo		Department, NII
Masao Sakauchi	Director General, Institute of Industrial Science, University of Tokyo	Mitsutoshi Hatori	Director, Development and Operations Department, NII
Ryuei Shimizu	Professor, Faculty of Commerce, Tokyo International University	Shoichiro Asano	Director, Infrastructure Systems Research Division, NII
Mikio Takagi	Professor, Faculty of Science and Technology, Science	Katsumi Maruyama	Director, Software Research Division, NII
	University of Tokyo	Haruki Ueno	Director, Intelligent Systems Research Division, NII
Norihisa Doi	Professor, Faculty of Science and Technology, Keio University	Eisuke Naito	Director, Human and Social Information Research Division, NII
Hisao Yamada	Professor Emeritus, University of Tokyo	Masamitsu Negishi	Director, Research Information Research Division, NII
Kahei Rokumoto	Professor, The University of the Air.		
Katsumi Wakabayashi	Professor Emeritus, Gunma University		

Advisory Board

Members provide general advice and suggestions to the Director General regarding informatics research and the development and implementation of an infrastructure for dissemination of academic information, in response to with the Director General's requests.

Isao Amagi	Director General, Institute for Higher Education	Arno A. Penzias	Former Senior Technology Advisor, Bell Laboratories,	
Keijiro Inai	President, Japan Audio-Visual Education Association		Lucent Technologies U.S.	
Ken-ichi Inaba	Professor Emeritus, Osaka University	Edward E. David, Jr.	President, EED, Inc. Former Science Advisor to the	
Sougo Okamura	President Emeritus, Tokyo Denki University		President of the United States	
Michio Okamoto	Special Advisor, International Institute for Advanced Studies	James L. Flanagan	Vice President for Research, Rutgers, the State University	
Masahiro Kawasaki	President, The Japan Science and Technology Corporation		of New Jersey U.S.	
Hiroshi Kida	Advisor, New National Theatre Foundation	John M. Thomas	Professor, Cambridge University	
Hiroshi Koyama	Professor Emeritus, National Institute of Japanese Literature	Lewis M. Branscomb	Professor Emeritus, Center for Science and International Affairs	
Tsukasa Shimizu	President, Tokyo Kasei University		John F. Kennedy School of Government Harvard University U.S.	
Masao Tobari	Chief Librarian, National Diet Library, Japan	Lotfi A. Zadeh	Professor in the Graduate School and Director, Initiative	
Saburo Nagakura	Chairman, Kanagawa Academy of Science and Technology		in Soft Computing University of California at Berkeley U.S.	
Teruo Fukumura	Professor Emeritus, Nagoya University	Walter L. Engl	Professor Emeritus, Rheinisch-Westfalische Technische	
Tatsuo Matsuda	Professor Emeritus, National Institute of Polar Research		Hochschule Aachen (RWTH) Deutschland (Germany)	

Professors Emeritus (NACSIS: National Center for Science Information Systems)

Kimio OhnoPresident, Hokkaido Information UniversityAtsunobu IchikawaProfessor Emeritus, Tokyo Institute of TechnologyTatsuo NishidaProfessor Emeritus, Kyoto University

Hisao Yamada Hitoshi Inoue Professor Emeritus, University of Tokyo



	Foundation of Algorithms Research
Foundation of Information Property Distance	Mathematical Informatics Research
Foundation of informatics Research Division	Symbolic Reasoning Research
Director: Kinji Ono	Cognitive Science Research
	Computer Architecture Desearch
	Network Architecture Research
Infrastructure Systems Research Division	Functional Network Research
Director Chaiching Assoc	Information Networking Research
Director: Shoichiro Asano	Network Security Research*
	Programming Languages Research
	Software Engineering Research
Onderson Descende Division	Data Engineering Research
Software Research Division	Distributed Processing Research
Director: Katsumi Maruyama	Software Reliability Research*
	Large-scale Software Research*
	Image Processing Research
Multimodia Information Research Division	Multimedia Integration Processing Research
Multimedia mormation Research Division	Information Retrieval Research
Director: Takeo Yamamoto	Computer Vision Research*
	Knowledge Systems Research
Intelligent Systems Research Division	Computational Intelligence Research
Director: Haruki Hono	Human-Machine Symbiosis Research
Director: Haruki Deno	Robotics Research*
the second se	Information Management Research
Human and Social Information Research Division	Information Use Research
Director: Eisuke Naito	Library Information Research
Director. Lisuke Natto	Information Institution Research
Distance in the second s	Humanities and Social Sciences Information Res
Hesearch Information Hesearch Division	Science and Engineering Information Research
Director: Masamitsu Negishi	Blosciences Information Research
	Office for Promotion of Research Projects
	Unice for Cooperative Research Programs
Research Center for Testbeds and Prototyping	High Quality Network Laboratory
Director: Akira Miyazawa	Full-Text Contents Laboratory*
	Virtual Library Laboratory*
	Office for Research Coordination and Promotion
Research Center for Information Resources	Data Collection Laboratory*
Director: Jun Adachi	* Sections staffed by visiting researchers.
	Planning and Coordination Section
Planning and Coordination Division	Information Infrastructure Development Section
Director: Toshimi Fujikawa	Users Support Section
Notice of Contract District	Network Planning and Development Section
Network System Division	Network Construction and Operations Section
Director: Kazuo Inose	Network Security Section
	Contents Management Section
Contents Division	Image Contents Section
Director: Toôru Kyoutou	Contents Assessment Section
	System Development Management Section
Application Division	Data Processing Technology Section
Director: Masayuki Kawasa	Network Software Technology Section
Director. Wasayuki Nawase	General Affairs Section
General Affairs Division	Planning and Regulation Section
Director: Katsumi Tokiwa	Personnel Section
	Genenal Affairs and Audit Section
	Budget and Government Property Section
Budget and Accounts Division	Accounts Section
Director: Yuuei Fukuii	Supplies Section I
	Eacilities Section
	Research Conneration Section
Research Cooperation Division	International Affairs Section
Director: Kazukiyo Matsui	Publicity and Survey Section
	Information and Document Section
Publicity and Survey Division	
Publicity and Survey Division Director: Kazuo Akiyama	International Activities Section
Publicity and Survey Division Director: Kazuo Akiyama	International Activities Section Planning Section
Publicity and Survey Division Director: Kazuo Akiyama Dissemination Activities Division	International Activities Section Planning Section Dissemination Section

Office for Public Relations Promotion

Supervisor: Akira Miyazawa

Facilities

National Center of Sciences (Chiyoda-ku, Tokyo)

The "National Center of Sciences" was established as a focal point for science research in informatics fields, academic exchanges, the dissemination of science information, and partnership with society, in order to promote academic research infrastructure in Japan. Its building was completed in December 1999. The Center has 4 institutes: NII, the Hitotsubashi University Graduate School of International Corporate Strategy, the Center for National University Finance, and the National Institution for Academic Degrees. The Center aims to form a sophisticated base for intellectual creativity by utilizing in a comprehensive manner the academic functions of each institute. In the lower floor of the building, there are conference facilities, including the Hitotsubashi Memorial Hall. These are available for use for a various activities, such as international conferences, lectures and other academic meetings, organized by national universities.



Hitotsubashi Memorial Hall





Library

The library of NII is a specialized library on informatics that collects scientific books and journals related to informatics. In addition it offers online journal services for inhouse researchers.

Numbers of books, journals and journal titles:

Data category	Number of books	Number of journals	Number of journal titles
Published in Japan	10,624	12,050	183
Published overseas	6,109	8,949	273
Total	16,733	20,999	456



Chiba Annex (Inage-ku, Chiba City)

The Chiba Annex is a facility for a computer systems and networking equipments, which are used to operate the Science Information System and to provide the science information services. It was built in November 1994 and it is located in the Chiba Experiment Station of the Institute of Industrial Science of the University of Tokyo.





Chiba Annex Guide Map



 $\label{eq:plottage} \begin{array}{l} \mbox{Plottage area (rented): } 1,782m^2 \\ \mbox{Floor space: } 3,715m^2 \end{array}$

International Seminar House for Advanced Studies (Karuizawa Town, Nagano Prefecture)

The International Seminar House for Advanced Studies was built in March 1997 in Karuizawa, Nagano Prefecture, as a venue for international conferences, seminars and training. It has a seminar room (capacity:46 persons), accommodations, and other facilities. It is widely utilized not only by NII but also by other universities and research institutes.





Seminar at the International Seminar House for Advanced Studies



International Seminar House for Advanced Studies Guide Map

Plottage area : $3,339m^2$ Floor space : $667m^2$

History

October 1973	A proposal is made to achieve an "Improvement of a Distribution System for Academic Information"
	in the Third Report (Basic Policies for the Promotion of Scholarship) of the Science Council.
November 1978	An inquiry entitled "A New Plan for Academic Information Systems" is placed before the Science Council by the Minister
	of Education, Science, Sports and Culture. The Science Council responds in January 1980.
May 1976	The Research Center for Library and Information Science (RCLIS) is established at the University of Tokyo.
April 1983	The Center for Bibliographic Information is established at the University of Tokyo. (This involves reorganizing the Research
	Center for Information and Library Science.)
December 1984	The Catalog Information Service is started.
April 1986	The National Center for Science Information Systems (NACSIS) is established. (This involves reorganizing the Center for
	Bibliographic Information, University of Tokyo.)
April 1987	Operation of Science Information Network and Information Retrieval Service (NACSIS- IR) is started.
April 1988	The Electronic Mail Service (NACSIS-MAIL) is started.
January 1989	The Science Information Network is linked to the National Science Foundation (NSF), U.S.A.
January 1990	The Science Information Network is linked to the British Library (BL), U.K.
April 1992	The Inter-Library Loan System (NACSIS-ILL) is started.
	Operation of Internet backbone network service (SINET) is started.
November 1993	Mutual utilization by Japan Information Center of Science and Technology (JICST) users and NACSIS users becomes
	possible via a gateway connection.
April 1994	NACSIS-ILL is linked to the British Library Document Supply Centre (BLDSC).
October 1995	An international connection is established, linking the Science Information Network to Thailand.
April 1996	NACSIS-ILL System is connected with the National Diet Library (NDL).
March 1997	International Seminar House for Advanced Studies (Karuizawa, Nagano Prefecture) is completed.
April 1997	The Electronic Library Service (NACSIS-ELS) is started.
February 2000	Operations move to building of National Center of Sciences (Hitotsubashi, Chiyoda-ku, Tokyo).

December 1997	An Advisory Panel on a Core Institution for Scientific Research in the Information Field is established by the Ministry of
	Education, Science, Sports and Culture.
January 1998	A proposal entitled "Promoting Computer Science Research" is published by the Science Council of Japan.
	It calls for a core informatics research institution be established as an inter-university research institute.
March 1998	The Advisory Panel on a Core Institution for Scientific Research in the Information Field issues its report.
April 1998	The Core Institution for Scientific Research in the Information Field Coordination Office is established, and a committee is
	formed in May.
March 1999	The Core Institution for Scientific Research in the Information Field Coordinating Committee issues its report.
April 1999	The Core Institution for Scientific Research in the Information Field Preparatory Office is established, and a committee is
	formed in May.
July 1999	The Core Institution for Scientific Research in the Information Field Preparatory Committee issues its interim report.
March 2000	The Core Institution for Scientific Research in the Information Field Preparatory Committee issues its final report.

The National Institute of Informatics (NII) is established. (This involves the reorganization of NACSIS and assumption of its functions.)

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