

Chapter 4 Science and Technology Supported by Society and the Public

1 Responsible Approaches to Ethical, Legal, and Social Issues in Science and Technology

(1) Establishing of a sense of ethics for researchers and engineers

In recent years, Japan has faced a situation where misconduct, such as fabrication, falsification, or plagiarism (FFP) of data in research, has been revealed. Such misconduct in scientific research must not be allowed since it goes against the essential qualities of science to create new knowledge through accumulated searches for truth. Misconduct also undermines public trust in science and hinders scientific progress.

Following the approval of the Proper Counteractions against Research Misconduct by CSTP in February 2006, CSTP revised the Countermeasures against Misconduct in Research Activities by the Competitive Research Fund (agreement in the Liaison Committee of Ministries and Agencies Concerned with Competitive Funding) in November 2006 to stipulate measures for FFP in research. To rectify these problems, MEXT, MAFF and other multiple ministries, have implemented approaches to misconduct, and established a reception desk for accusations.

In October 2006, SCJ formulated the Code of Conduct for Scientists which specified ethical standards scientists are to observe and the Charter of the Science Council of Japan in April 2008 as an external vow derived from the full will of the Council members.

(2) Efforts in relation to bioethics and safety in the life sciences

To adequately deal with problems regarding bioethics that could occur as a result of the rapid growth in the life sciences in recent years, CSTP implements surveys and studies on important issues; MEXT and MHLW review necessary acts, regulations, and guidelines. (Refer to Part 2, Chapter 2, Section 2, 1).

(3) Measures for the social impact of nanotechnology

In order for nanotechnology to be accepted and developed by society, it is necessary to correctly assess the impacts of nanomaterials on the human body and the environment. Therefore, based on the results of the Research Project on Facilitation of Public Acceptance of Nanotechnology under the Special Coordination Funds for Promoting Science and Technology, NIMS is implementing the Development of Platform Technologies for Public Acceptance of Nanomaterials [literal translation] (Refer to Part 2, Chapter 2, Section 2, 4).

2 Accountability in S&T and Improvement of Information Dissemination

Many feel that science and technology contributes the social community. While there are high expectations for S&T to deliver safety or relief in life and spiritual richness, however, rapid progress in S&T is causing uneasiness in their minds. In order to that the results of science and technology,

which will be developed much more in the future, can be smoothly accepted by the social community, it is essential that they are understood and supported by the people through the open sharing of its results with society, disseminating them in easy-to-understand ways, enhancing accountability and information release, and promoting dialogs with the public to allow the opportunity to evaluate and understand.

MEXT stipulated in the application guidelines for the program Research and Development Program for Resolving Critical Issues that about 3% of direct expenses should be allocated to outreach activities under the Special Coordination Funds for Promoting Science and Technology and that the outreach activities should be subject to interim and post evaluations.

In addition, JST prepares the “Children's White Paper on Science and Technology” which explained the questions and research outcomes related to current themes of S&T and in an easy way to understand using a comic book format and was distributed to public elementary schools and libraries nationwide.

MAFF is providing an information service and exchanges of views related to R&D on recombinant DNA technology/technology for genetic modification between producers and consumers. Furthermore, independent administrative research institutions offer open lectures throughout the year to promote and disseminate the introduction of research activities and achievements.

3 Improving Public Awareness concerning S&T

In order to create the social community where people are familiar and strongly interested in S&T, it will be important to promote activities to convey S&T in an easy way to understand, such as providing occasions to gain familiarity with S&T and to enhance accountability and information dissemination through communication between researchers/technicians and the society. It will also be important to promote efforts contributing to improving people's basic knowledge and ability regarding S&T.

(1) Reinforcing and enhancing science museum and other museums activities

The National Museum of Emerging Science and Innovation (Miraikan) managed by JST provides exhibitions and explanations to introduce state-of-the-art science in an easily understandable manner, and at the same time, promotes exchange between researchers and the general public through lectures and events. Also, Miraikan has implemented a traveling exhibition service to regional science museums, and fostering of human resources as a core center for activities to promote the understanding of S&T in Japan.

The National Museum of Nature and Science holds exhibitions and implements activities to provide the opportunity to convey interesting factors in science, to think together, and to support learning, targeted for a broad range of generations from juveniles to adults, by utilizing the intellectual, material, and human resources of the museum including research achievements and specimen samples accumulated in the national center of natural history and history of S&T. The museum is also developing “Science Communicator Practical Training Program” to train people who will be interested in activities to promote the understanding of S&T by developing a model program

for the cultivation of science literacy and cooperate with schools to develop scientific experience-based learning programs.

(2) Activities of universities and research institutions

MEXT implements measures to promote the increased understanding of S&T by holding public lectures in relation to S&T at universities. In addition, in order to convey how interesting science is, MEXT offered a variety of other events that allowed the general public to communicate directly with scientists called "Science Cafe."

JSPS has implemented a project called "HIRAMEKI☆TOKIMEKI SCIENCE (Science that Inspires and Inspirits)" which introduces updated research results supported by the Grants-in-Aid for Scientific Research to elementary and junior high school students in an easy way to understand through experience, experiments and lectures.

As a part of the activities to return academic achievements to the general public, SCJ opens lectures; five lectures were provided in FY 2009. The themes include "Principles of inter-culture in globalized world: Viewpoint from Japan", "The Niigataken Chuetsu-oki Earthquake and Kashiwazaki-Kariwa Nuclear Power Plant: Architecture and Structure", "Quality control of university education in various fields- Report from SJC", "Darwin 200th Anniversary-Significance of now and then", and "Public application and security of google-rised world and cultural properties of mass media."

JAXA implements a variety of different educational activities. Such activities include the Cosmic College and Space School, with the aim of raising interest in S&T in general, including space science among juveniles who will lead the next generation, and to foster children's scientific observational, thinking, and problem-solving abilities.

AIST has permanent exhibition facilities, such as the Science Square Tsukuba/Rinkai, Geological Museum and the JIS Pavilion. In FY 2009, eight facilities were opened to the public with about 13,000 visitors in total. Furthermore, as one of the largest public research institutions in Japan, AIST positively implements Science Communication projects, including the Science Cafe, Experiment Class, and Delivery Lecture, so that the activities will help the public to understand S&T.

(3) Promoting activities for enhancing understanding of S&T in regions

JST supports experiment classes, events, and construction of network by science museums, universities, local governments, and volunteers to promote regional science communication activities throughout the country for the understanding of S&T.

In addition, through the "Children's Dream Fund" established in the National Institution for Youth Education, JST subsidizes experimental activities for experiencing science by children organized by private sectors.

(4) Disseminating S&T information to regions across the country

JST has created programs that introduce S&T in an easy way to understand for the general public, especially for juveniles, focusing on topics related to S&T and these programs are delivered

throughout the country via TV and the internet (<http://sc-smn.jst.go.jp>).

(5) Science & Technology Week

The 50th Science & Technology Week was held from April 13 to 19, in FY 2009, in cooperation with related organizations, such as experimental research institutions and local governments. During the week, various facilities are open to the public for experiments and manufacturing classes and lectures from related organizations in different locations across the country. In FY 2009, within S&T section “S&T week and S&T 50th anniversary film festival symposium” was organized in Kanda-Jimbocho, Tokyo and also Science Cafes were open every day where researchers and the general public to talk casually about science and technology over a cup of coffee.

(6) Fusing S&T with culture and art

Fusing of S&T with culture/art may result in the creation of new works of art, creation of new unique technologies in the S&T field as well as creation of new ideas & knowledge. In FY 2009, JST organized an event called “Fusion of Science and Art” in Tokyo and Kagawa prefecture, for general public to get to know the S&T through cultures and Arts.

(7) Awards for science and technology

(Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology)

MEXT has commended individuals who achieved significant outcomes in R&D related to S&T and the promotion of S&T understanding. The commendation is aimed at fostering eagerness in S&T researchers and contributing to the improvement of Japan’s S&T level. The award ceremony was held at Toranomon Pastoral on April 14, 2009 (Table 2-4-1).

Table 2 4 1 FY 2009 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology Awardees

○ Prizes for Science and Technology (Development Category)		
Name	Title	Achievement [literal translation]
Yoshihiro Aiura	Senior Research Scientist, Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)	Development of high precision cooling sample, goniometer for ultrahigh vacuum
Hiroshi Akiba	President, Allied Engineering Corporation	Development of Large Scale Parallel Structural Analysis System
Shinobu Yoshimura	Professor, Department of Quantum and System Science, School of Engineering, The University of Tokyo	
Tomonobu Oyama	Division Manager, ADVC Development Division, Allied Engineering Corporation	
Takashi Kawakami	Professor, Department of Mechanical Systems Engineering, Faculty of Engineering, Toyama Prefectural University	Advanced research and development of sub-50 nm MOSFET technology
Hiroshi Iwai	Professor, Frontier Research Center, Tokyo Institute of Technology	
Hisayo Momose	Specialist, Center for Semiconductor Research and Development, Toshiba Semiconductor Company	

Toyota Morimoto	Specialist, Flash Memory Department, Toshiba Semiconductor Company	
Tatsuya Ooguro	Senior Specialist, Center for Semiconductor Research and Development, Toshiba Semiconductor Company	
Mizuki Ono	Research Specialist, Corporate Research & Development Center, Toshiba Corporation	
Masato Edahiro	Chief Researcher, System IP Core Research Laboratories, NEC Corporation	Development of LSI clock wiring system
Masaki Otsuka	Vice-councilor, Health and Environment System Division, Sharp Corporation	Development of air current control technologies for new shafts - energy saving of Room Air conditioners
Yasukata Takeda	Section Chief, Health and Environment System Division, Sharp Corporation	
Yukishige Shiraichi	Section Chief, Health and Environment System Division, Sharp Corporation	
Hiroyuki Iida	Section Chief, Health and Environment System Division, Sharp Corporation	
Yuji Uehara	Section Chief, Health and Environment System Division, Sharp Corporation	Development of high resolution optical ranging system by measuring the time difference between successive pulses
Fumio Otomo	Director and Senior Executive, Director of Research and Development, TOPCON CORPORATION	
Masahiro Oishi	Department Manager, Research and Development Center, TOPCON CORPORATION	Development of LC system using high-performance crystalline thin film transistor
Hideto Onuma	Deputy Manager, AT Management Department, Semiconductor Energy Laboratory Co., Ltd.	
Koichiro Tanaka	Senior Member, Research and Development Department, Semiconductor Energy Laboratory Co., Ltd.	
Toru Takayama	Deputy Manager, AT Management Department, Semiconductor Energy Laboratory Co., Ltd.	
Akihiko Imaya	General Manager, Personal Solution Division, Sharp Corporation	
Naoki Makita	Deputy Counselor, Element Technology Development Center, Mobile LCD Division, Sharp Corporation	
Ooyuki Ogawa	Executive Advisory Engineer, DENSO CORPORATION	
Haruhiko Okumura	Senior Researcher, Human Centric Laboratory, Corporate Research and Development Center, Toshiba Corporation	Development of fast response LCD overdrive technology
Masahiro Baba	Researcher, Multimedia Laboratory, Corporate Research & Development Center, Toshiba Corporation	
Hisao Fujiwara	Researcher, Mobile Youth Division, Toshiba Matsushita Display Technology Co., Ltd	
Kazuo Omata	Director, East Japan Works, Senior Executive of JFE Steel Corporation	Promotion of the development of online accelerated cooling technology by cooling rate limit
Toshiaki Kakutani	Department Manager, Development of Equipment Element Division, Seiko Epson Corporation	Development of high-quality printing technology for ink-jet printer
Ryuta Kawashima	Professor, Institute of Development, Aging and Cancer(IDAC), Tohoku University	Development of smart-aging method (learning therapy) of brain function
Toshimi Kitakado	Senior Engineer, Development of Bathtub Department, TOTO Ltd.	Development of quick-drying bath floor panel
Kuniaki Saito	Deputy Chief Executive, Personal Business Division, FUJITSU LIMITED	Development of digital broadcasting receiving PC and content protection technology
Takeshi Yamaguchi	Department Manager, PC Division, FUJITSU LIMITED	

Keiichi Ushiwaka	Department Manager, PC Division, FUJITSU LIMITED	
Kiyoshi Kohiyama	Senior Researcher, Platform Technology, FUJITSU LABORATORIES LTD.	
Hiroyuki Fujiyama	Section Chief, Infotainment Division, Fujitsu Microelectronics Limited	
Yasuo Shimizu	Senior Researcher, Honda R&D Co., Ltd.	Research and development of electric power steering
Katsuji Watanabe	Senior Researcher, Honda R&D Co., Ltd.	
Atsuhiko Yoneda	Senior Researcher, Honda R&D Co., Ltd.	
Shigeru Yamawaki	Senior Researcher, Honda R&D Co., Ltd.	
Shintaro Shinjo	Researcher, Optical/Microwave Circuit Technology Department, The Information Technology R&D Center	Development of key device technology for ETC on board vehicles
Keiki Yamada	Manager, Research and Development Strategy, The Information Technology R&D Center	
Noriharu Suematsu	Kamakura Works, Mitsubishi Electric Corporation	
Norihiko Mohri	Section Chief, Second Control Equipment Production Department, Himeji Works, Mitsubishi Electric Corporation	
Toshio Koga	Section Chief, Second Control Equipment Production Department, Himeji Works, Mitsubishi Electric Corporation	
Hirotsugu Takeuchi	DENSO AUTOMOTIVE Deutschland GmbH	Development of ejector-cycle
Yasushi Yamanaka	Director, Air Conditioning Division, Denso Corporation	
Kazuhisa Makida	Chief, Thermal System Development Department, Denso Corporation	
Hisayoshi Sakakibara	Manager, Air Conditioning Refrigeration Technology 2 nd Division, Denso Corporation	
Makoto Ikegami	Researcher, Thermal System Development Department, Denso Corporation	
Naokazu Takeda	Adjunct Professor, Research Institute for Microbial Diseases, Osaka University	Development of diagnostic reagent using modified viral particles
Takaaki Toyooka	Director, Analysis and Evaluation Division, Chief of Chiba Branch and Research and Development, JFE Techno-Research Corporation	Development of next generation high strength and high processability electric resistance welded steel pipe contribute to reduce environmental impact
Yoshiaki Nakazawa	Senior Researcher, Research and Development of Application Technology, Corporate Research & Development Laboratories, Sumitomo Metal Industries, Ltd.	Development of high efficient crash box
Kenji Tamura	Senior Researcher, Research and Development of Application Technology, Corporate Research & Development Laboratories, Sumitomo Metal Industries, Ltd.	
Michitaka Yoshida	Senior Researcher, Research and Development of Advanced Design, Corporate Research & Development Laboratories, Sumitomo Metal Industries, Ltd.	
Mitsutoshi Kanoh	Representative, Product Development Department, Toyota Iron Works Co., Ltd.	

Katsutoshi Takagi	Manager, SE Section, Product Development Department, Toyota Iron Works Co., Ltd.	
Kazuo Hagimoto	Chief, Network Innovation Laboratories, Nippon Telegraph and Telephone Corporation	Development of high-capacity, long-distance optical transmission system
Akiharu Hioki	Chief, Metrology Section, Independent Administrative Institution National Institute of Advanced Industrial Science and Technology	Development of standardized plastic materials in corresponds to green procurement.
Masaki Ohata	Researcher, Metrology Section, Independent Administrative Institution National Institute of Advanced Industrial Science and Technology	
Shinichi Kinugasa	Chief, Metrology Section, Independent Administrative Institution National Institute of Advanced Industrial Science and Technology	
Shigetomo Matsuyama	Researcher, Metrology Section, Independent Administrative Institution National Institute of Advanced Industrial Science and Technology	
Masahide Hirasawa	Deputy Director, The Second DCP Development Center, Canon Inc.	Development of compact optical devices capable of fast zooming
Hirofumi Suda	Director, Image Communication Development Center, Canon Inc.	
Hiroyuki Wada	Director, The First DCP Development Center, Canon Inc.	
Naoya Kaneda	Director, Lens Development Center, Canon Inc.	
Katsumi Maeda	Senior Researcher, Nano-electronics Laboratories, Nippon Telegraph and Telephone Corporation	Development of ArF resistant materials for manufacturing innovative LSI
Shigeyuki Iwasa	Senior Researcher, Nano-electronics Laboratories, Nippon Telegraph and Telephone Corporation	
Kaichiro Nakano	Senior Researcher, Nano-electronics Laboratories, Nippon Telegraph and Telephone Corporation	
Etsuo Hasegawa	Senior Expert, Nano-electronics Laboratories, Nippon Telegraph and Telephone Corporation	
Shuichi Matsumoto	Department Manager, Shinagawa Branch Office, KDDI Corporation	Development of one segment mobile devices with both telecommunication and broadcasting functions
Hiroyuki Nakamura	Department Manager, MSAT Business Sales Department, Solution Division, KDDI Corporation	
Hiroaki Matsubara	Professor, Cardiovascular Internal Medicine at Kyoto Prefectural University of Medicine	Development of blood vessel regenerative medicine using bone-marrow cells
Masaaki Matoba	Lecturer of Cardiovascular Internal Medicine at Kyoto Prefectural University of Medicine	
Yoshifumi Mizoshita	Senior Staff, Storage Products Division, FUJITSU LIMITED	Development of thermal stable magnetic recording media by magnetic exchange coupling
Iwao Okamoto	General Products Manager, YAMAGATA FUJITSU LIMITED	
E. Noel Abarra	Manager, Canon Anelva Corporation	
Takafumi Miyatake	Senior Researcher, Research Center, Hitachi, Ltd.	Development of finger vein authentication technology
Shinichiro Umemura	Professor, Biomedical Engineering, Tohoku University	
Akio Nagasaka	Senior Researcher of Information System, Research Center, Hitachi, Ltd.	
Miyuki Kono	Senior Researcher, Life Science, Research Center, Hitachi, Ltd.	
Naoto Miura	Researcher, Information System, Research Center, Hitachi, Ltd.	
Shigeyuki Yamaguchi	Deputy Counselor, Housing Construction Technology and Product Development, Panasonic Electric Works Co., Ltd.	Development of low pressure micro bubble generation technology and optimum bubble production technology

Hitoshi Kitamura	Engineer, Housing Construction Technology and Product Development, Panasonic Electric Works Co., Ltd.	
Yoshihiro Ito	Engineer, Housing Construction Technology and Product Development, Panasonic Electric Works Co., Ltd.	
Yasunari Maeda	Section Chief, Housing Construction Technology and Product Development, Panasonic Electric Works Co., Ltd.	
Naoki Shibata	Member of Housing Construction Technology and Product Development, Panasonic Electric Works Co., Ltd.	
Takayoshi Yokoyama	President, Fujikoki Corporation	Promotion of the development of room air conditioner drain pump
Hiroyuki Yoshimi	2nd Department Manager, Technology Development, Optical Division, Nitto Denko Corporation	Development of wide viewing double refraction film for LCD
Tatsuki Nagatsuka	Department Manager of Research, Optical Division, Nitto Denko Corporation	
Yasuo Fujimura	Department Manager, Key Technology Center, Nitto Denko Corporation	
Tatsuya Osuka	Department Manager, Technology Development, Optical Division, Nitto Denko Corporation	
Satoshi Wada	Senior Researcher, Core Research Center, RIKEN, an independent administrative institution	Development of electronic control variable wavelength solid-state laser

○Prizes for Science and Technology (Research Category)

Name	Title	Achievement [literal translation]
Kazuyuki Akasaka	Professor, High Pressure Protein Research Center, Institute of Advanced Technology, Kinki University	Research of protein dynamics using high pressure NMR method.
Morito Akiyama	Research Team Leader, Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology	Research of elucidation of piezoelectric property of aluminum nitride thin films and f vibration sensors
Naohiro Ueno	Research Team Leader, Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology	
Tatsuo Tabaru	Chief Researcher, Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology	
Kazushi Kishi	Chief Researcher, Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology	
Hiroaki Noma	Chief Researcher, Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology	
Hideki Asai	Professor, Faculty of Engineering, Shizuoka University	Research of advanced power signal integrity analysis technology
Kotoji Ando	Emeritus professor, Graduate School of Engineering and Faculty of Engineering, Yokohama National University	Research of performance and reliability of crack-healing behavior of ceramics
Koji Takahashi	Associate Professor, Graduate School of Engineering and Faculty of Engineering, Yokohama National University	
Wataru Nakao	Adjunct Faculty (Assistant Professor), Interdisciplinary Research Center, Yokohama National University	
Shinji Saito	Supervisor, Research and development, NHK SPRING CO, LTD	

Masakazu Anpo	Dean, Graduate School of Engineering , Osaka Prefecture University	Research of creating a new photocatalyst that functions efficiently under the sunlight
Toshitaka Idehara	Associate Professor, Research Center for Development of Far-Infrared Region extraordinary, University of Fukui	Research of high-power terahertz source-harmonic gyrotron
Isamu Ogawa	Professor, Research Center for Development of Far-Infrared Region, University of Fukui	
Seitaro Mitsudo	Professor, Research Center for Development of Far-Infrared Region, University of Fukui	
Satoshi Ito	Emeritus Professor, Kyushu University	Research of steady operation and development of strong magnetic field superconducting fusion device
Yukio Nakamura	Professor, National Institute for Fusion Science, Independent Administrative Institution National Institutes of Natural Sciences	
Eriko Johtaki	Professor, Research Institute for Applied Mechanics, Kyushu University	
Shinichi Moriyama	Assistant Professor, Information Engineering, Kyushu Institute of Technology	
Kazuo Nakamura	Professor, Research Institute for Applied Mechanics , Kyushu University	Research of Ceramic Laser
Kenichi Ueda	Professor, The University of Electro-Communication, Director, Institute for Laser Science	
Takagimi Yanagitani	Deputy Manager, Ceramic Division , Konoshima Chemical Co. Ltd	
Takashi Osugi	Associate Professor, Astrophysical Science Center, Hiroshima University	Research of semiconductor tracking detectors for radiation
Nobuyoshi Oyabu	Professor, Theoretic data Analysis, Large Helical Device Information, National Institute for Fusion Science, National Institute of Natural Sciences	Research of ultra-high density plasma that gives a new path to nuclear fusion chamber
Tomohiro Morisaki	Associate Professor, Plasma Control Research, Large Helical Device Information, National Institute for Fusion Science, National Institute of Natural Sciences	
Suguru Masuzaki	Associate Professor, Plasma Control Research, Large Helical Device Information, National Institute for Fusion Science, National Institute of Natural Sciences	
Ryuichi Sakamoto	Associate Professor, Plasma Control Research, Large Helical Device Information, National Institute for Fusion Science, National Institute of Natural Sciences	
Teruo Okano	Director and Professor, Institute of Advanced BioMedical Engineering and Science, Tokyo Women's Medical University	Research on development and clinical application of cell sheet engineering
Masayuki Yamato	Professor, Institute of Advanced BioMedical Engineering and Science, Tokyo Women's Medical University	
Tatsuya Shimizu	Associate Professor, Institute of Advanced BioMedical Engineering and Science, Tokyo Women's Medical University	
Koji Nishida	Professor, Graduate School of Medicine and Faculty of Medicine, Tohoku University	
Yoshiki Sawa	Professor, Graduate School of Medicine / Faculty of Medicine, Osaka University	
Fumio Okano	Chief Researcher, Science and Technology Research Laboratories (Human and Information Science) Japan Broadcasting Corporation	Research on 3-dimensional imaging of gradient index fiber arrays
Tsutomu Katsuki	Professor, Graduate school of Science, Kyushu University	R&D of dissymmetric oxidation reaction using oxygen and hydrogen peroxide as oxidizing agent

Yukio Kaneda	Professor , Graduate school of Engineering, Nagoya University	Research on Computational science and statistical theory of turbulence
Hitoshi Kikutani	Director, Research institute for Microbial Disease, Osaka University	Research on immune control mechanism of semaphorins molecules
Koji Kimoto	Top researcher, Advanced Electron Microscopy Group, Advanced Nano Characterization Center, National Institute for Materials Science	Research on Element-selective imaging of atomic columns in a crystal using STEM and EELS
Takuro Nagai	Head Engineer, Clusters with Electron Microscope, National Institute for Materials Science	
Yoshio Matsui	Advanced Electron Microscopy Group Leader, Advanced Nano Characterization Center National Institute for Materials Science	
Takashi Kyotani	Professor, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University	Research on synthesis of carbon materials by template carbonization method
Reiko Kuroda	Professor, Graduate School of Arts and Science, The University of Tokyo	Research on measurement of chirality in the solid state
Makoto Konagai	Professor, Graduate School of Engineering, Tokyo Institute of Technology	Research on high efficiency thin film solar cells
Sadanori Konishi	Professor, Graduate school of Faculty of Mathematics, Kyusyu University	Research of new statistical science in this advanced computer technology environment
Yuichi Komizo	Professor, Joining and Welding Research Institute, Osaka University	Research of High-strength steel tube welding metallurgy using heterogeneous nucleation
Yoshiki Sasai	Group Director, Organ generation cell differentiation research group, Center for Development Biology, Kobe Laboratory, Riken	Research on systematic induction of differentiation in pluripotent stem cells to various nerve cells
Fumihiko Sato	Professor, Graduate school of Life Science, Kyoto University	Research on metabolic engineering of isoquinoline alkaloid biosynthesis
Yuji Sano	Professor, Ocean Research Institute, The University of Tokyo	Research on marine geochemical using high sensitivity and high resolution mass spectrometer
Seiji Samukawa	Professor, Institute of Fluid Science, Tohoku University	Research on ultra-precision machining to prevent deterioration of semiconductor device characteristics
Norio Shiratori	Professor, Research Institute of Electrical Communication, Tohoku University	Innovative research on Higher management technology of Computer network
Toshinori Suzuki	Professor, Graduate School of Science, Kyoto University	Experimental research on chemical reaction process by visualization of its reaction
Satoshi Sekiguchi	Department Head, Information Technology Research Department, National Institute of Advanced Industrial Science and Technology	Research on for Grid middleware for computational Science and Technology
Yoshio Tanaka	Supervisor researcher, Information Technology Research department, National Institute of Advanced Industrial Science And Technology	
Hidemoto Nakata	Senior Researcher, Information Technology Research department, National Institute of Advanced Industrial Science And Technology	
Toshiyuki Takatsuji	Vice Research Division Head, Measurement Standards Division, National Institute of Advanced Industrial Science And Technology	Research on realization of standardized flatness of the world's highest precision

Yoichi Bitoh	Head Researcher, Measurement Standards Division, National Institute of Advanced Industrial Science And Technology	
Sonko Osawa	Head Researcher, Measurement Standards Division, National Institute of Advanced Industrial Science And Technology	
Kozo Takahashi	Professor, Graduate School of Science, Kyushu University	Research on pale oceanography restoration and biogenic sinking particle flux variation
Shogo Tanaka	Professor, Graduate school of Science and Engineering, Yamaguchi University	Research on advanced non-destructive testing technology using electromagnetic radar
Ichiro Terasaki	Professor, Faculty of Science and Engineering, Waseda University	Research on oxide thermoelectric exchange materials
Koji Tokimatsu	Professor, Graduate School of Science and Faculty of Science, Tokyo Institute of Technology	Research on foundation behavior and its effect and evaluation on building damage during earthquakes
Tatsushi Toda	Professor, Graduate school of Medicine, Kobe University	Research on analysis of Fukuyama muscular dystrophy and its similar diseases
Koji Nakao	Group Leader, Incident Response Group, Information Security Research Center, National Institute of Information and Communications Technology	Research on nictet: Network Incident Analysis System
Daisuke Inoue	Head Researcher, Incident Response Group, Information Security Research Center, National Institute of Information and Communications Technology	
Masashi Eto	Researcher, Incident Response Group, Information Security Research Center, National Institute of Information and Communications Technology	
Katsunari Yoshioka	Assistant Professor, Interdisciplinary Research center Yokohama National University	
Eimatsu Moriyama	Research Manager, Traceable Network Group, Information Security Research Center National Institute of Information and Communications Technology	
Gen Nakamura	Professor, Graduate School and Faculty of Science, Hokkaido University	Mathematical research of inverse scattering problem using asymptotic analysis
Yoichi Nabeshima	Professor, Graduate school of Medicine and Faculty of Medicine, Kyoto University	Research on molecular mechanism of the formation and maintenance of function of an animal subjects
Taketoshi Nojima	Adjunct Faculty, Innovation Management, Tokyo Institute of Technology	Research on Engineering of Origami using Mathematical Origami
Susumu Noda	Professor, Graduate school of Engineering, Kyoto University	Original and pioneering research on Photonic crystal
Yasuhiko Fujii	Directorate Manager, Quantum Beam Applied Research Division, Japan Atomic Energy Agency	Research on Structural properties using neutron/radiation X-ray scattering
Yoshiharu Fujii	Senior Scientist Emeritus, National Institute for Agro-Environmental Science	Research on allelopathic phenomena of plants and its agent

Makoto Fujita	Professor, Faculty of Engineering of Graduate school, The University of Tokyo	Research on creation and functionalization of hollow material group based on self-organization
Osamu Matsui	Professor, Pharmaceutical Medicine Health Research Area, Kanazawa University	Research on early diagnosis of hepatocellular carcinoma and treatment under the silhouette image
Takashi Matsuyama	Professor, Graduate school of Informatics, Kyoto University	Research on comprehension of Distributed Cooperative Image
Michiko Miura	Professor, Graduate school of Advanced Science of Matter, Hiroshima University	Research on analysis of carrier response and application of circuit model
Kensaku Motoki	Supervisor, Institute of Semiconductor Technology, Sumitomo Electric	Research on low-dislocation GaN substrate for blue-violet laser
Takuji Okahisa	Supervisor, Development Division, Institute of Semiconductor Technology, Sumitomo Electric	
Naoki Matsumoto	Project General Manager, Development Division, Institute of Semiconductor Technology, Sumitomo Electric	
Seiji Nakahata	Group Leader, Development Division, Institute of Semiconductor Technology, Sumitomo Electric	
Ryu Hirota	Project General Manager, Board Technical Division, Institute of Semiconductor Research Technology, Sumitomo Electric	
Seizo Morita	Professor, Graduate school of Engineering, Osaka University	Research on manipulation assembling nanostructures of multi-element system based on atomic force microscope at room temperature
Yoshiaki Sugimoto	Adjunct Faculty, Graduate school of Engineering, Osaka University	
Masayuki Abe	Associate Professor, Graduate school of Engineering, Osaka University	
Oscar Custance	Leader, National Institute for Materials Science, Nano-measurement Center, Nano-mechanics Group	

○ Prizes for Science and Technology (Science and Technology Promotion Category)

Name	Title	Achievement [literal translation]
Yasushi Okuno	Professor, Graduate school of Pharmaceutical Sciences, Kyoto University	Exploring innovative computational techniques to promote a candidate pharmaceutical compounds to accelerate drug discovery
Noboru Hidano	Professor, Graduate School of Decision Science and Technology, Tokyo Institute of Technology	Promotion of economic evaluation techniques of public policy and project

○ Prizes for Science and Technology (Technology Category)

Name	Title	Achievement [literal translation]
Hideyuki Amamiya	President, Atago	The advanced development of refractometers
Takashi Aomi	Technical adviser, Development Center, HORIBA, Ltd	The development of analyzing device using Ion sensor, and its development
Soji Ichikawa	President, Sigma Tech	Development of a ball screw driven positioning device with nanometer resolution
Tomio Masuda	Director, Sigma Tech	
Jiro Otsuka	Guest Professor, Faculty of Science and Technology, Shizuoka Institute of Science and Technology	

Koji Eki	Executive Director, Yamakawa Sangyo	Development of spherical artificial sand mold
Akira Ohashi	Administration Officer, Yamakawa Sangyo	
Makoto Kaminaka	President, Stoneworks	Development of green infrastructure using silas, volcanic ejecta
Kenichi Sodeyama	Chief Researcher, Department of Material Development, Kagoshima Prefectural Institute of Industrial Technology	
Yukio Yoshimura	Chief Researcher, Department of Project Information, Kagoshima Prefectural Institute of Industrial Technology	
Yoshihisa Sechi	Chief Researcher, Department of Material Development, Kagoshima Prefectural Institute of Industrial Technology	
Kazuto Hamaishi	Patent Licensing Advisor, Kagoshima Intellectual Property Center	
Yoshiki Kubota	Executive Adviser, Kubota Iron Works	Development of innovative plastic processing technology
Takuji Kitayama	Manufacturing Manager, Manufacturing Division, Kubota Iron Works	
Minao Tatemichi	Group Leader, Manufacturing Division, Kubota Iron Works	
Kumeo Kondo	President, Katazen	Development of injection-molding polyamide resin bonding technique
Zenichi Kondo	President, Kondo Electric	Development of a surge absorber
Iwao Shimonishi	President, Shimonishi Seisakusho	Development of magnetic transfer device system
Masakatsu Takayasu	President, Nutimasu	Development of an ideal sea salt manufacturing process against the traditional common sense
Nobuyuki Nishio	Chief of Division, Meisei Chemical Works	Development of water/grease-proof paper with water soluble fluorine resin
Mayuki Nishio	Chairperson, Nishio Seimitsu	Development of manufacturing process of the elongated gear for door closers
Katsutaro Hashimoto	President, Bull	Development of aluminum sound absorption panels
Shokichi Hamano	President, Kyodo Giken Kagaku	Development of double sided tape using molecular grade film
Yukio Hirose	Professor, Graduate Programs, Chief, intellectual strategy, Kanazawa Gakuin University	Developmental support of bone density assessment method using ultrasonic measurement
Kazuyuki Matsui	President, Sensa	
Fumio Nogata	Professor, Faculty of Engineering, Gifu University	
Shinji Yasunari	President, Decos	Development of DECOS-DRY method, dry-manufacturing method for heat insulating material using recycled newspapers
Yukio Koizumi	Executive Vice President, Decos	
Kenji Yamashita	President, Yamashita Works	Development of abrasive food material and projection equipment made it possible to mirror finish

○ Prizes for Science and Technology (Public Understanding Promotion Category)

Name	Title	Achievement [literal translation]
Masami Okyudo	Professor, Faculty of Tourism	Enhance understanding of astronomy by using multimedia freely
Mio Kihara	General Department of Tsuruga Operation Control Japan Atomic Energy Agency	Enhance understanding of Atomic energy by female public relations staff Team
Yuko Morohashi	Reactor Core and Fuel Technology Group, FBR Plant Engineering Research Center, Japan Atomic Energy Agency	
Yurie Yamasawa	Technology Development, R&D Center for Nonproliferation & Safeguards Technology, Japan Atomic Energy Agency	

Erina Sayama	Procurement Department of Tsuruga Operation Control, Japan Atomic Energy Agency	
Yuko Ouchi	Ex-officer, Prototype fast-breeder reactor “Monju” Construction Office, Japan Nuclear Cycle Development Institute	
Kashiko Kodate	Professor, Faculty of Science, Japan Woman’s University	Enhance understanding of science and technologies through training female science researchers
Masayuki Konishi	Manager, Project and Public Relations, Agilent Technology	Enhance understanding of science and technologies for children through science experiment classes for children
Minoru Sakamoto	Executive Director, Igaku-Shoin	Enhance understanding of clinical medicine over a period of years by the treatment of almanac
Tsuneya Takahashi	Professor, Faculty of Education, Hokkaido University	Enhance understanding of science of atmosphere for nurturing science literacy
Yukimasa Tsubota	Professor, College of Liberal Arts, J.F. Oberlin University	
Tomio Takahara	Member of the Board, Asakura Publishing	Enhance understanding of biological science by publishing the handbook of biochemistry
Yoshisada Takizawa	Inspector, JAXA	Enhance understanding of the moon exploration and scientific researches by the moon orbiter “Kaguya”
Susumu Sasaki	“SELENE” Project Manager, JAXA	
Manabu Kato	Professor, Solid Planet Science Group, JAXA	
Michio Takahashi	Planning Manager, Earth Observation Research Center, JAXA	
Shinichi Sofue	Chief, SELENE Project, JAXA	
Reiji Tanaka	Professor, Department of Life Design, Tohoku Institute of Technology	Dissemination and enlightenment of disaster prevention education by creating town withstands earthquake for next generations
Takehiro Tokuda	Professor, Graduate School of Science and Engineering, Tokyo Institute of Technology	Dissemination and enlightenment of information science by a series of literary work for juvenile
Shozo Nagai	Part-time lecturer, Science Club, Japan Science Foundation	Activities to enhance understanding of science by nurturing ability to think aiming at early school year children
Hiroshi Nakazawa	Professor, Graduate School/Faculty of Science	Dissemination and enlightenment of chemistry through high school chemistry ground contests
Takashi Hata	Associate Professor, Material Engineering, Kochi National College of Technology	Dissemination and enlightenment of science education by experience activities rooted in local areas
Tetsuharu Fuse	Researcher, National Institute of Natural Sciences The NAOJ Hawaii Observatory	Dissemination and enlightenment of accomplishment by the Subaru telescope and enhance understanding of astronomy
Yoshimi Benno	Special invitation Researcher, RIKEN Strategy of intellectual properties Institute	Enhance understanding of the key to a good health is the control of enteric environment
Shozo Makino	Professor, Graduate School of Engineering, Tohoku University	Enhance understanding of science and technology by training through experience using advanced engineering research
Masumi Saka	Professor, Graduate School of Engineering, Tohoku University	
Hiroshi Inomata	Professor, Graduate School of Engineering, Tohoku University	
Koji Omata	Associate Professor, Graduate School of Engineering, Tohoku University	
Masashi Yamanaka	Associate Professor, Graduate School of Engineering, Tohoku University	
Hiroshi Moriyama	Honor Researcher, National Institute for Agro-Environmental Sciences	
		Enhance understanding of biodiversity in farm village by creating and exhibiting mini-farm village

Kokichi Matsumoto	Group member, research technology assistance room, National Institute for Agro-Environmental Sciences	
Naokuni Harada	Contract employee, National Institute for Agro-Environmental Sciences	
Makoto Ide	Chief, Plan strategy section, National Institute for Agro-Environmental Sciences	
Shori Yamamoto	Senior Researcher, National Institute for Agro-Environmental Sciences	
Toru Yamamoto	Professor, Graduate School of Education, Hiroshima University	Dissemination and enlightenment of education of fostering engineering in the topics of life saving
Kan Yoneda	Professor, Faculty of Engineering, Chiba Institute of Technology	Enhance understanding of robot engineering through literary work
Takashi Tsubouchi	Professor, Graduate School of Information Electrical Engineering, Tsukuba University	
Hisashi Osumi	Professor, Faculty of Science and Engineering, Chuo University	
Kazuo Watanabe	Professor, Graduate School of Life environmental science, Tsukuba University	Dissemination and enlightenment of R&D and risk management of genetically modified plants
Akira Kikuchi	Instructor, Graduate School of Life environmental science, Tsukuba University	

○ Yong Scientists' Prize

Name	Title	Achievement [literal translation]
Satoshi Ashihara	SA Associate Professor, Graduate School of Symbiosis science and technology, Tokyo University of Agriculture and Technology	Research of molecular vibration dynamics using middle infrared super short input impulse
Mahito Atobe	Associate Professor, Graduate School of Science and Engineering, Tokyo University of Agriculture and Technology	Research of electrolysis process control using special reaction field
Hajime Abe	Assistant Professor, Graduate School of Medicine Pharmacy, Toyama University	Research of sugar recognition system in water by artificial host polymer
Takeaki Araki	Associate Professor, Graduate School of Science, Kyoto University	Numerical research of phase segregation and phase transition phenomenon in complex liquid
Makoto Arita	Associate Professor, Graduate School of, Pharmacy, Tokyo University	Research of anti-inflammatory lipid mediator originating from omega3 aliphatic acid
Seiichiro Ariyoshi	Researcher, Terahertz Sensing and Imaging Laboratory, RIKEN Advanced Science Institute	Research of terra hertz · superconducting detector array and imaging application
Atsushi Igarashi	Associate Professor, Graduate School of Informatics, Kyoto University	Research of basic theory and its planning of object-orientation language
Koichi Izawa	Associate Professor, Graduate School of Science and Engineering, Tokyo Institute of Technology	Research of symmetrical property of superconductor in non-conventional superconductor
Fumihiko Ishikawa	Unit Leader, Research Center for Allergy and Immunology, RIKEN Advanced Science Institute	Research of blood-forming and leukemia stem cell using humanized mouse
Toru Ishitani	SA Associate Professor, Medical Institute of Bioregulation, Kyushu University	Research of function and control of signaling system in forming and conservation of individual
Mayumi Ishizuka	Associate Professor, Graduate School of Veterinary medicine, Hokkaido University	Research of analysis of adaptability to contaminated environment and cytochrome P450 in wild animals
Toru Ishihara	Associate Professor, System LSI Research Center, Kyushu University	Research in relation to power saving technology of micro processor

Hiroaki Isobe	SA Assistant Professor, Unit of Synergetic Studies for Space, Kyoto University	Research of heat mechanism of solar corona
Kenji Inaba	SA Associate Professor, Medical Institute of Bioregulation, Kyushu University	Research of molecular mechanism of protein disulfide bond in cell
Haruko Imaizumi	Fixed-term Researcher, Unit of Interaction Studies for Plants and Microorganism, National Institute of Agrobiological Sciences	Research of common signal communication channel which controls mutualism of leguminous bacteria and mycorrhizal fungi
Hiroyasu Iwata	Associate Professor, Waseda University for Advanced Study	Research of practical development of livelihood support robots in general mechanical engineering field
Takeaki Iwamoto	Professor, Graduate School of Engineering, Tohoku University	Research of stable partial saturation silicon compound and related molecular system
Koji Uenishi	Associate Professor, Research Center Urban Safety and Security, Kobe University	Research of the physical process of earthquake fault rupture
Masanobu Uchiyama	Associate Chief Scientist, RIKEN Advanced Science Institute	Research of developing new reactions by typical metal complex in organic synthesis
Yasuhiro Oki	Associate Professor, Graduate School of Science, Nagoya University	Research of the function and building active site of metal-activated enzyme which control reductive reaction
Yuichi Oshima	Researcher, Point electronic material investigation Laboratories, Hitachi Cable, Ltd	Research of production technology of high quality large GaN base by void formation liftoff procedure
Yutaka Otake	Lecturer, Graduate School of Engineering, Tokyo University	Research of complex 3-D shape control using implicit rounded surface function
Akira Otomo	Associate Professor, Institute for Materials Research, Tohoku University	Research of producing oxide phase by atomic level control and quantum conducting
Ryo Onishi	Researcher, Global Earth simulator center, Japan Agency for Marine-Earth Science and Technology	Research of clarification and application of the particle bombardment mechanism in the field of multiphase turbulent flow
Atsuko Oku	Team Leader, Spring-8 Center, RIKEN Advanced Science Institute	Research of the actuation mechanism of biological quadratic transportation protein
Hiroshi Okuyama	Associate Professor, Graduate School of Science, Kyoto University	Research of the proton dynamics in real space
Minoru Osada	MANA researcher, Field of Nano material soft chemical group, National Institute for Materials Science	Research of nanostructure control and production of new function of metallic oxide
Masaru Kato	SA Associate Professor, Graduate School of Pharmacy, Tokyo University	Research of developing high efficiency separating analysis and its application to nanomaterial synthesis
Yuichiro Kato	Associate Professor, Graduate School of Engineering, Tokyo University	Research of electron spin control of nonmagnetic semiconductor
Masayuki Kawakita	Associate Professor, Research Institute for Mathematical Sciences, Kyoto University	Research of the high dimension ultra small model theory
Yukio Kawano	Researcher, Advanced Device Laboratory, RIKEN Advanced Science Institute	Research of the terahertz imaging in the field of nanodevice engineering
Akito Kusaka	KICP Fellow, Kavli Institute for Cosmological Physics (KICP) and Enrico Fermi Institute	Research of CP nonconservation by $\pi\pi$ collapse phenomenon of neutral B kaon
Hidehito Kuroyanagi	Associate Professor, Graduate School of Bio Medical Science, Tokyo Medical and Dental University	Research of splicing cipher of developing visualization within the living body technique
Masayasu Kuwahara	Assistant Professor, Graduate School of Engineering, Tokyo Medical and Dental University	Research of producing artificial nucleic acid with a new function which has molecular recognition ability in aqueous liquid
Masato Koashi	Associate Professor, Graduate School of Foundation Engineering, Osaka University	Research of the basic theory of the security theory of quantum encryption communication and quantum information

Yutaka Komura	Chief Researcher, Neuroscience Research Institute, National Institute of Advanced Industrial Science and Technology	Research of selection and unification of information by early aesthesis (perception) system [Literal Translation]
Michinori Saito	Professor, Graduate School of Medical, Kyoto University	Research of the decision system of germ track and its characteristics
Tomohiko Sakao	Professor, Faculty of Business and Engineering, Linkoping University, Sweden	Research of the design aid method for balancing the consideration to environment and business efficiency
Shinichi Sakamoto	Associate Professor, Faculty of Engineering, The University of Shiga Prefecture	Research of commercial viability of thermoacoustic cooling system
Akitsugu Sato	Lecturer, Graduate School of Environmental Science, Tsukuba University	Research of analysis and treatment of mitochondrial diseases at individual level
Imari Sato	Associate Professor, Science of contents, National Institute of Informatics, Research Organization of information and Systems	Research of integrated digital contents of analysis and production of photographic images
Kazunori Sato	SA Associate Professor, Graduate School of Foundation engineering, Osaka University	Research on materials design for semiconductor spintronics
Junko Sato	Associate Professor, Medical Research Institute , Tokyo Medical and Dental University	Research on regulation of ion channels and cardiac arrhythmia
Takafumi Sato	Assistant Professor, Center for the Advancement of Higher Education , Tohoku University	Electronic structure studies of fe-based high temperature superconductors and cuprates
Hiroshi Shiku	Associate Professor, Graduate School of Environmental science, Tohoku University	Research on early embryonic and cell function discovery based on micro-electrode method
Hiroshi Shinokubo	Professor, Graduate School of Engineering , Nagoya University	Research on porphyrin synthesis using transition metal catalysis reaction
Hiroshi Shiba	Assistant Professor, Graduate School of Biological Sciences, Nara Institute of Science and Technology	Research on plant self-incompatibility factor regulating the expression of epigenetic
Atsushi Suzuki	SA Associate Professor, Medical Institute of Bioregulation, Kyushu University	Research on hepatic stem cell separation and function control mechanism
Junpei Takano	Assistant Professor, Graduate School of Agricultural science, Hokkaido University	Elucidation and applied research on molecular mechanisms of boron transport
Satoshi Takamizawa	Associate Professor, Graduate School of Urban Social and Cultural Studies, Yokohama City University	Research on super-molecular science in the field of gaseous guest-crystal host system
Kazuya Takemoto	SA Associate Professor, Institute for Nano Quantum Information Electronics, Tokyo University	Research on telecommunication wavelength single-photon source for quantum cryptography
Junichi Tatami	Associate Professor, Graduate School of Environment and Information Sciences, Yokohama National University	Research on highly reliable ceramics in the field of materials engineering ceramics
Shuji Tanaka	Associate Professor, Graduate School of Engineering, Tohoku University	Research on micro-energy sources
Taku Tsuchiya	Professor, Geodynamics Research Center, Ehime University	Research on lower earth mantle material by first-principle simulation
Takashi Tsuboi	Associate Professor, Graduate School of Arts and Sciences, Tokyo University	Research on visualization analysis of the molecular mechanisms that control hormone secretion
Seiji Nakagawa	Chief Researcher, Institute for Human Science and Biomedical Engineering, Advanced Industrial Science and Technology	Research on bone-conducted ultrasonic perception and understanding of its application to new hearing aids
Koji Nagata	Associate Professor, Graduate School of Engineering, Nagoya University	Research on scalar diffusion in stratified turbulence associated with density stratification
Kentaro Nakahara	Chief, Nano Electronics Research Institute, NEC Corporation	Research on organic radical battery
Kenichiro Nakarai	Associate Professor, Graduate School of Engineering, Gunma University	Research on integrated analysis for soil materials and cement system

Satoshi Nishimura	SA Assistant Professor, Graduate School of Medicine for Cardiology, Tokyo University	Research on the metabolic syndrome by new bio-imaging
Nobuhiko Nishiyama	Associate Professor, Graduate School of science and engineering, Tokyo Institute of Technology	Research on performance improvement in long wavelength VCSEL
Toshiyuki Nohira	Associate Professor, Graduate School of Energy Science, Kyoto University	Research on new electrochemical reaction of silicon in molten salt system
Muneaki Hase	Associate Professor, Graduate School of Pure and Applied Sciences, Tsukuba University	Development of ultrafast time-domain spectroscopy and research on measurement of lattice dynamics
Rikinari Hanayama	Assistant Professor, Graduate School of Medicine , Kyoto University	Research on mechanism of phagocytosis of apoptotic cells
Junko Hayase	SA Assistant Professor, Special Research and Education Center, The University of Electro-Communications	Research on semiconductor quantum and dot quantum coherence in telecommunication wavelength band
Hiroaki Harai	Group Leader, Network Architecture Group, New Generation Network Research Center, NICT	Research on multi-wavelength optical packet switching focusing on high-speed buffer management technology
Shuichi Hiraoka	Associate Professor, Graduate School of Science , Tokyo University	Research on polynuclear functional movement complex system in the field of supramolecular chemistry
Tetsufumi Hirano	Lecturer, Graduate School of Science , Tokyo University	Research on quark gluon plasma by relative hydrodynamics
Tetsushi Biwa	Associate Professor, Graduate School of Engineering, Tohoku University	Research on thermoacoustic energy conversion technology based on phenomena
Yuko Fukata	Associate Professor, National Institute for Physiological Science , National Institute of Natural Science	Research on regulation of cell function analysis of higher-order protein complexes
Tomoteru Fukumura	Lecturer, Institute for Materials Research, Tohoku University	Research on synthesis and properties of semiconductor devices and magnetic oxides
Kenzo Fujimoto	Associate Professor, Graduate School of Material Science, Japan Advanced Institute of Science and Technology	Research on photochemical system of DNA and RNA manipulation
Hidehiko Masuhara	Associate Professor, Graduate School of Arts and Sciences, Tokyo University	Research on basic theory and extensions of aspect-oriented programming language
Takuya Maruyama	Associate Professor, Center for Policy Studies, Kumamoto University	Research on transportation policy analysis methods to extend the network model
Chikara Meno	Professor, Graduate School of Medicine, Kyushu University	Research on molecular mechanisms of embryonic axis formation
Keisuke Morishima	Associate Professor, Graduate School of Advanced Frontier Applied Physics, Tokyo University of Agriculture and Technology	Research on bio-mechanical actuators for the life of muscle cells
Akiko Yanagisawa	Lecturer, Graduate School of Life and Environmental Science , Tsukuba University	Research on regulation of energy metabolism in cells
Makoto Yamashita	Lecturer, Graduate School of Engineering , Tokyo University	Research on new boron nucleophilic Boryl anion
Yusuke Yokoyama	Associate Professor, Atmosphere and Ocean Research Institute, Tokyo University	Research on mechanisms and variability of sea level changes with high time-resolution reconstruction of the past
Hiroto Yoshida	Associate Professor, Graduate School of Engineering, Hiroshima University	Research on creation of multi-substituted aromatic compounds using a reactive aromatic intermediates
Daisuke Yonetoku	Assistant Professor, Graduate School of Mathematics and Physics, Kanazawa University	Research on early universe and the discovery of gamma-ray burst Yonetoku relational expression

NISTEP Researchers Award

NISTEP has selected approximately 10 researchers every year for the NISTEP Researchers Awards [literal translation] since FY 2005. In FY 2009, NISTEP selected the researchers listed below who achieved significant results related to S&T in the past several years referring to the investigation and research activities by NISTEP and the opinions of its expert network (approximately 2,000 experts), and announced their names in December 2009. (Table 2-4-2)

Table 2 4 2 NISTEP Researchers Award 2009 Recipients

Category	Name	Organization	Reason for the award [literal translation]
Research	Keiji Tanaka	Acting Director, The Tokyo Metropolitan Institute of Medical Science	Attracted worldwide attention in the study of the proteasome that decomposes unnecessary proteins within cells
	Hiroshi Amano	Professor, Department of Materials Science and Engineering, Meijo University.	Led the cutting edge research from the birth of the blue LED semiconductor to ultraviolet light-emitting semiconductor
	Yasuhiro Koike	Professor, Department of Science and Technology, Keio University	Research and practical application of plastic optical fiber for high-speed communication
	Makoto Watanabe	Professor, Graduate School of Life and Environmental Sciences, University of Tsukuba	Established a basic technology for next generation energy Resource Development by using hydrocarbon producing green algae
	Hiroshi Harada	Director, High Temperature Materials Center, The National Institute for Materials Science Director, The Rolls-Royce Center of Excellence for Aerospace Materials.	Development and promotion of practical application of the next generation superalloy.
	Kazunari Shibata	Director, Kwasan and Hida Observatories, Graduate School of Science, Kyoto University Unit Director, Unit for Synergetic Studies of Space	Contributed to the investigation of the solar phenomena as the basic research of the space weather forecast.
Project/Industry and Academia Corroboration/ International Research Exchange	Yasuo Kanematsu	Professor, Center for Advanced Science and Innovation, Osaka University	Created opportunities for training young researchers and utilization of research outcomes by forming "innovation core" in universities.
	Mime Egami	Visiting professor, The Institute of Advanced Biomedical Engineering and Science, Tokyo Women's Medical University	Practice of "Producer" activities for treatments in regenerative medical research
	Yoshihiko Torano	Project manager, HTV project team, Space environment utilization mission Headquarters, Japan Aerospace Exploration Agency,	Demonstration of technologies of H-II Transfer Vehicle (HTV) that satisfies advanced safety and reliability
	Yukio Koyari	Sub manager, HTV project team, Space environment utilization mission Headquarters, Japan Aerospace Exploration Agency,	
Hiroshi Sasaki	Function manager, HTV project team, Space environment utilization mission Headquarters, Japan Aerospace Exploration Agency,		

Gender Equality	Sanae Ariga	Deputy director, Hokkaido University Director, The Support Office for Female Researchers in Hokkaido University Professor, Environmental Molecular Biology Laboratory, Graduate School of Life Science	Environmental considerations to support activities of female researchers and promoting recruitment of female researchers
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The Imperial Prize, Japan Academy Prize and Duke of Edinburgh Prize

The Imperial and Japan Academy Prizes are awarded to individuals who have achieved notable research landmarks or who have authored particularly outstanding academic papers or books. The Japan Academy Prize is awarded to up to nine individuals and the Imperial Prize is awarded in each of its two categories: humanities and natural sciences. The awardees of up to one individual in each category are selected from among recipients for that year's Japan Academy Prize. Among the past recipients, Hideki Yukawa (1940), Shinichiro Tomonaga (1948), Kenichi Fukui (1962), Leo Esaki (1965), Makoto Kobayashi (1985), Toshihide Masukawa (1985), Masatoshi Koshihara (1989), and Ryoji Noyori (1995) have all become Nobel Laureates afterward. At the suggestion of His Royal Highness the Prince Philip, the Duke of Edinburgh Prize was adopted in 1987. It is awarded every two years to a Japanese scientist with outstanding academic research achievements in the area of wildlife protection and species preservation. For FY 2009, an award ceremony was held on June 1, FY 2009 at the Japan Academy in the presence of Their Majesties the Emperor and Empress. (Table 2-4-3)

Table 2 4 3 Imperial Prize, Japan Academy Prize, and Duke of Edinburgh Prize Recipients

Name of prize	Name of recipient	Present organization and Title	Research achievement for award
Imperial Prize/Japan Academy Prize	Tetsumi Murakami	Emeritus professor, Tohoku University	Studies on Ci in Song Period
	Toru Eguchi	Professor, Kyoto University Director, Yukawa Institute for Theoretical Physics, Kyoto University	Research on Particle Theory based on Methods of Mathematical Physics
Japan Academy Prize	Sadafumi Kawato	Professor, Graduate Schools for Law and Politics, University of Tokyo	Electoral Systems and Party Systems and Japanese Diet and Party Politics: Creation, Transformation, and Political Outcomes of Legislative Institutions
	Takaho Ando	Professor, School of Economics, Nagoya University	Formation of Liberalism in France — with a Special Reference to the Condorcets
	Kuniaki Tatsuta	Professor, Faculty of Science and Engineering, Waseda University	Total Synthesis of Bioactive Natural Products using Carbohydrates
	Genki Yagawa	Director, Center for Computational Mechanics Research, Toyo University Professor, Graduate School of Engineering, Toyo University Emeritus professor, Tokyo University	Studies on Computational Science for Large Scale with High Accuracy
		Tadashi Watanabe	
	Kazuyoshi Takeda	Emeritus Professor, Okayama University	Establishment of the Cereal BioResource Genetics and Contribution to its Application
	Takao Shimizu	Professor and dean, The Faculty of Medicine and Graduate School of Medicine of the University of Tokyo	Studies on Lipid Mediators and Phospholipid Metabolism

	Katsuhiko Mikoshiha	Laboratory Head, Laboratory for Developmental Neurobiology, RIKEN Brain Science Institute Emeritus professor, Tokyo University	Regulatory Mechanism of Calcium Concentration inside the Cell
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* Affiliation and position at the time of award

JSPS PRIZE

The JSPS PRIZE was established by JSPS in FY 2004 to sustain the zeal for research and the further advancement of young researchers in all academic fields, from humanities to natural sciences, with rich creativity and superlative research ability while rewarding and offering them support in advancing their work from an early stage in their careers. In 2009, the award ceremony was held on March 1 at the Japan Academy in the presence of Their Imperial Highnesses Prince and Princess Akishinomiya. (Table 2-4-4)

Table 2 4 4 JSPS PRIZE Awardees

Category	Name of awardee	Present organization and Title	Research achievement for award
Humanities and Social Sciences	Takanori Ida	Professor, Graduate School of Economics, Kyoto University	Behavioral Economic Study of Consumer Preference on Information and Health
	Masao Kashinaga	Associate Professor, National Museum of Ethnology, National Institutes for the Humanities	Study on the Transmission of the Tai Dam Culture
	O Nobuyuki Kawai	Associate Professor, Graduate School of Information Science, Nagoya University	Comparative Psychology on the Origin of Cognition and Learning
	O Ryo Nishimura	Research Fellow, The Eastern Institute	The Buddhist Thoughts in Early Modern Japan Focusing on the Scholar-Monk Fujaku
Mathematics; Physical Sciences; Chemistry; Engineering Sciences	Takeo Igarashi	Associate Professor, Graduate School of Information Science and Technology, The University of Tokyo	Intuitive Design Interface for 3D Computer Graphics
	Narutaka Ozawa	Associate Professor, Graduate School of Mathematical Sciences, The University of Tokyo	Theory of Discrete Groups and Operator Algebras
	Kazuya Kikuchi	Professor, Graduate School of Engineering, Osaka University	Design, Synthesis and Biological Application of Chemical Probes, Which Convert Biological Signals to Chemical Output
	Osamu Sato	Professor, Institute for Materials Chemistry and Engineering, Kyushu University	Development of Tunable Magnetic Materials
	Masaru Shibata	Professor, Yukawa Institute for Theoretical Physics, Kyoto University	Numerical Relativity and Its Application
	Michinori Suginome	Professor, Graduate School of Engineering, Kyoto University	Study on New Catalytic Organic Syntheses Based on the Design of Novel Boron Reagents
	Shigeki Takeuchi	Professor, Research Institute for Electronic Science, Hokkaido University	Realization of Quantum Information Processing and Communication Using Photons
	Shoji Takeuchi	Associate Professor, Institute of Industrial Science, The University of Tokyo	Nanobio Research Based on Microfluidic Device Technologies
	Shigeru Chiba	Professor, Graduate School of Information Science and Engineering, Tokyo Institute of Technology	A Programming System with Load-time Reflection

	O Kenji Hata	Team Leader, Nanotube Research Center, National Institute of Advanced Industrial Science and Technology	Research on Carbon Nanotube Syntheses and Its Applications
	Satoshi Fujii	Professor, Graduate School of Engineering, Kyoto University	Social-science Based Engineering Research on Social Dilemmas and Its Practice for Real World Problems
	O Takuro Mochizuki	Associate Professor, Research Institute for Mathematical Sciences, Kyoto University	Study on the Asymptotic Behavior of Harmonic Bundles
	Shinji Yuasa	Group Leader, Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology	Development of High Performance Magnetic Tunnel Junction Devices
Biological Sciences; Agricultural Sciences; Medical, Dental, Pharmaceutical Sciences	O Yukiko Goto	Professor, Institute of Molecular and Cellular Biosciences, The University of Tokyo	Elucidation of Signaling Molecules Regulating Cell Fate
	Hitoshi Sakakibara	Group Director, RIKEN Plant Science Center	Biosynthetic Mechanisms and a Novel Function of a Plant Hormone, Cytokinin
	Michiko Shirane	Associate Professor, Medical Institute of Bioregulation, Kyushu University	Regulation of Neuronal Function by Vesicular Trafficking
	Kiyoshi Takeda	Professor, Graduate School of Medicine, Osaka University	Regulation of Homeostasis in Intestinal Mucosal Immune System
	O Kazushige Tobara	Professor, Graduate School of Agricultural and Life Sciences, The University of Tokyo	Studies on Molecular Mechanisms Underlying Odorant and Pheromone Reception
	Tetsuya Higashiyama	Professor, Graduate School of Science, Nagoya University	Behavior and Molecular Mechanism of Plant Reproduction Commencing with Pollen Tube Guidance
	Shigeo Murata	Professor, Graduate School of Pharmaceutical Sciences, The University of Tokyo	Functional Analysis of Mammalian Proteasomes and Their Diversity
	Toshihide Yamashita	Professor, Graduate School of Medicine, Osaka University	Molecular Mechanisms Regulating the Regeneration and Plasticity of Injured Central Nervous System

*Affiliation and position are at the date of January 1 2010.

* O: JSPS PRIZE Awardees