Overview of JST Programs & Organization 2013 - 2014
In the 1980s, after becoming a major economic power, Japan sought to become a research and development frontrunner, which has led to strong performances at the Nobel Prize level. Japan’s 1995 Basic Law on Science and Technology linked Japan’s prosperity even more closely with science and technology. With worldwide development of science and technology policy and fierce R&D competition both in developed countries and emerging economies, the era of mega-competition in science and technology has now arrived. Japan seeks to create new value based on innovative science and technology and to contribute to the sustained development of human society, ensuring Japan’s competitiveness. To this end, a convincing national science and technology strategy is essential, but we must also accelerate practical reform in the field to generate innovation. To further scientific and technological innovation, JST operates virtual network-based research institutions, along with information dissemination services, next-generation human resource development, and science communication to create a great foundation for innovation. JST’s efforts to create comprehensive interdisciplinary links have received high praise worldwide.

To realize a sustainable society, we are developing innovative low-carbon technologies and embarking on large-scale projects including high-efficiency solar power technology, next-generation battery technology, energy carriers, and elemental strategies. “Research Center Network for Realization of Regenerative Medicine” has also commenced. JST’s programs such as CREST, PRESTO, and ERATO lead the world in research excellence, and its new ACCEL program to accelerate innovation-oriented research is highly anticipated. The Center of Innovation will soon become a meeting place for outstanding technology seeds and future social visions: a one-stop research and development center tackling basic research through to bringing new products and services to market.

To augment existing research exchanges, the e-ASIA JRP scheme was launched to promote multilateral research. JST participates in many international forums and actively promotes international discussions with a view to enhancing global R&D cooperation. With legal revisions in 1999, intellectual property strategy was left up to individual universities. This increased intellectual property licenses held by universities, but did not necessarily improve patent quality or strategic applications. JST has recently produced a proposal outlining future directions for university intellectual property strategy, and is committed to offering stronger support for university intellectual property. The commissioned development system established by JST helps industry meet the challenges of high-risk development themes, and it can now implement unprecedented large-scale developments—we hope that industry can commit to bold new challenges based on the seeds of scientific research in academia.

To increase R&D efficiency, the Open Access Policy actively promotes access to journal papers, thus gaining stakeholder understanding (including researchers). JST has decided to strongly recommend JST’s funding recipients to make their journal papers open.

Research and development does not always proceed smoothly, but if we can help the researchers striving daily to embrace lofty ideals, we will improve Japan’s competitiveness and achieve a more sustainable society. JST is committed to its dynamic role as a catalyst in constructing an ecosystem to give birth to future innovation.
Integrated Promotion of Science, Technology and Innovation

For the Actualization of Social and Industrial Values through Science, Technology and Innovation

- Generation (producing innovation)
- Connection (industry-academia-government collaborations, collaboration between ministries and agencies, cross-sectoral harmonization, international cooperation)
- Risk taking (R&D that is difficult for the private sector or universities to conduct)

Strategic Program Package

By combining various programs in specific technology areas related to the priority fields, JST aims to effectively generate new systems and services.

5 Integrated Promotion of Science, Technology and Innovation

To promote science, technology and innovation, JST takes an integrated approach across a range of key areas, including strategic basic research programs, industry-academia collaboration, technology transfer programs, international collaborative research and the utilization of intellectual property (IP).

9 Establishing R&D Strategies for Creating Science, Technology and Innovation

- Center for Research and Development Strategy (CRDS)
- Center for Low Carbon Society Strategy (LCS)

10 Promoting Creation of Science, Technology and Innovation

- Strategic Basic Research Programs
- Research Center Network for Realization of Regenerative Medicine
- R&D Programs Focused on Technology Transfer
- Next Generation Technology Transfer Program (NexTEP)
- Program to Promote Post-Earthquake Revitalization, Etc.
- Programs to Promote the Utilization of IP
- International Activities towards Global Innovation

22 Building Infrastructure for the Creation of Innovation

- Dissemination of Scientific and Technological Information
- National Bioscience Database Center (NBDC)
- Supporting Career Development of Researchers and Engineers
- Fostering the Next Generation of Leaders in Science and Technology
- Promoting Communication on Science and Technology

JST aims to realize a sustainable society by developing game-changing technologies for stable energy supply, a low carbon society, chemical element strategies, and solving food and water issues.

In order to help people lead healthy and creative lives in an aging society, JST carries out activities ranging from basic research to the demonstration of medical technology concepts that will meet unmet needs.

By controlling nanoscale structures and compositions, JST aims to develop new functions and dramatically improve existing performance, thereby contributing to green innovation and life innovation.

Through the development of technologies to collect, accumulate, and utilize large-scale data, JST works to enable the creation of a knowledge infrastructure and its use toward the solution of diverse social and scientific issues and the creation of new industries and services.

JST makes specific efforts to transfer science and technology achievements to society in order to accomplish goals such as the development of future cities, the promotion of reconstruction from the Great East Japan Earthquake, and solutions to global issues.
Green Innovation

Opening up frontiers for natural energy
1. Demand and supply system for stable and low carbon energy sources
2. Sustainable use of resources
3. Sustainable coexistence with the natural environment

Fulfil unmet needs with medical innovation
1. Prevention, diagnosis, and treatment of key diseases in the aging society
2. Medical devices to further improve the quality of life of the elderly and disabled patients
3. Key technologies to accelerate the creation of opportunities for life innovation

Life Innovation

Solve social problems through realization of nanosystems
1. Reforming of R&D system for nanotechnology and materials: Active utilization of “open innovation” platform
2. Development of new basic industries: Creation of new basic industries through vertical integrated R&D
3. Promotion of intelligent strategy, standardization strategy, HR strategy, and global strategy

Science and Technology for Society and Social Infrastructure

Rebuilding of a robust and resilient society
1. Sustainable realization of a safe, secure, and enriching lifestyle
2. Building social infrastructure for controlling resources and energy utilization while promoting economic growth

Green Innovation

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1. Demand and supply system for stable and low carbon energy sources
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3. Promotion of intelligent strategy, standardization strategy, HR strategy, and global strategy

Science and Technology for Society and Social Infrastructure

Rebuilding of a robust and resilient society
1. Sustainable realization of a safe, secure, and enriching lifestyle
2. Building social infrastructure for controlling resources and energy utilization while promoting economic growth
Building of knowledge infrastructure and utilization technology in the Big Data age

1. Promotion of the information and communications field with a focus on addressing social challenges
2. R&D of various ICT platform technologies enabling the use of Big Data
3. Promotion of science centering on what is called “fourth paradigm” data in scientific methodology

For details, please refer to the following websites.

- Strategic Program Package / Department of Innovation: Tel. +81-3-5214-8274
- Life Innovation: http://www.jst.go.jp/EN/research/research2.html
- Green Innovation: http://www.jst.go.jp/EN/research/research5.html
- Information and Communications Technology: http://www.jst.go.jp/EN/research/research4.html
- Science and Technology for Society: http://www.jst.go.jp/EN/research/index.html

Establishing R&D Strategies for Creating Science, Technology and Innovation

**Center for Research and Development Strategy (CRDS)**

http://www.jst.go.jp/crds/

CRDS aims to fundamentally strengthen JST's capabilities in R&D strategy formulation and to reinforce JST's structure as a science and technology funding agency, and to further contribute to Japan's overall R&D strategy formulation process.

**Examples of Strategic Proposals**

- Development of new materials and innovative devices using atomically thin 2D functional films
- Transdisciplinary research on integration of infrastructures for urban service system
- Toward the establishment of principles regarding the roles and responsibilities of science and government in policy making
- Strategy for integration and application of databases in the fields of life science and clinical medicine
- Fundamental technology of energy carriers for transportation, storage, and utilization of renewable energy

**Activities**

- Formulation of R&D strategies that are key to the realization of Japan’s social vision
- Preparation and publication of strategic proposals relating to the scientific field
- Provision of information to facilitate the use of output not only within JST’s various programs but also by a range of other stakeholders, including government-related agencies

Inquiries: CRDS / Planning and Management Office crds@jst.go.jp

**Center for Low Carbon Society Strategy (LCS)**

http://www.jst.go.jp/lcs/

LCS objective is to promote the realization of a sustainable, "affluent low carbon society." The application of science and technology, and its beneficial effect on the economy and society are inevitable for the construction of a low carbon society. Society in Japan can be redesigned through expansion of low carbon industries, such as services, agriculture and fisheries industries, etc., based on low carbon energy systems.

**Activities**

- Creating quantitative technology scenarios
- Developing revolutionary technology for creating low carbon societies
- Developing low-temperature hydrogen storage technology
- Creating quantitative economic and social scenarios
- Developing databases for understanding carbon cycle
- Proposing social systems from both Japanese and global standpoints

The scenarios envisage low carbon economic and social systems by using integrated simulation models to which the technology scenarios are combined. The time horizon of scenarios are 2030 and 2050.

Inquiries: LCS / Planning and Management Office lcs@jst.go.jp
To those ends, the programs form virtual research institutes (specified duration research structures that transcend organizations) comprising researchers from universities, enterprises, and public research organs. Under management of the program officers (such as Research Supervisors) as the directors of the institutes, the researchers advance research by forming networks with other researchers and widely concerned parties in business and society, who become the recipients of the research results.

Creating the Seeds for New Technology

In CREST, under the management of the Research Supervisor, Research Directors lead their research teams, aiming to create internationally high-level results that will greatly contribute to science, technology and innovation while forming and utilizing networks among industry, academia, and government.

In PRESTO, under the management of the Research Supervisor, respective researchers advance creative and challenging research while interacting with each other toward generating results that will become a source for science, technology and innovation and producing future research leaders.

ACT-C aims at the creation of leading technologies of materials conversion that can contribute to the reduction of greenhouse gas emissions. Under the R&D strategy for developing a low carbon society decided by the Japanese government (MEXT), ACT-C promotes the continuous and steady reduction of greenhouse gas emissions over the medium to long term. To achieve this objective, ACT-C aims to generate “game-changing technologies” that will lead to breakthroughs and major transformations of existing paradigms. The program promotes R&D based on new scientific and technical insights vis-à-vis technologies that have significant potential to contribute to the reduction of greenhouse gas emissions. ACT-C aims to generate R&D results that will lead to “green innovation.”

Activities
- Promotion of R&D after call for and selection of project proposals from universities, public research institutions, and private-sector firms
- Development of solutions to specific issues based on a long-term perspective
- R&D covering the spectrum from basic research through to the technology development phase
- Evaluations at the beginning of each R&D stage to enable a “selection and focus” policy to be implemented effectively
- Proactive addition and selection of new projects
- Promotion of cross-pollination of ideas among researchers and engineers from diverse fields and experience backgrounds

Inquiries: Department of Green Innovation / alca@jst.go.jp

ALCA (Advanced Low Carbon Technology Research and Development Program)

Generating New Technologies that Will Significantly Contribute to the Reduction of Greenhouse Gas Emissions

Under the R&D strategy for developing a low carbon society decided by the Japanese government (MEXT), ALCA promotes the continuous and steady reduction of greenhouse gas emissions over the medium to long term. To achieve this objective, ALCA aims to generate “game-changing technologies” that will lead to breakthroughs and major transformations of existing paradigms. The program promotes R&D based on new scientific and technical insights vis-à-vis technologies that have significant potential to contribute to the reduction of greenhouse gas emissions. ALCA aims to generate R&D results that will lead to “green innovation.”

Activities
- Promotion of R&D after call for and selection of project proposals from universities, public research institutions, and private-sector firms
- Development of solutions to specific issues based on a long-term perspective
- R&D covering the spectrum from basic research through to the technology development phase
- Evaluations at the beginning of each R&D stage to enable a “selection and focus” policy to be implemented effectively
- Proactive addition and selection of new projects
- Promotion of cross-pollination of ideas among researchers and engineers from diverse fields and experience backgrounds

Inquiries: Department of Green Innovation / alca@jst.go.jp

RISTEX (Research Institute of Science and Technology for Society)

Fostering Innovation to Address Social Challenges through Science and Technology

RISTEX pursues R&D with the aim of generating results (“technology for the benefit of society”) that will contribute to addressing issues facing humankind and society. Such issues include global warming and other environmental problems, energy, the declining birthrate and aging society, and safety and security.

While drawing together a wide range of parties involved in developing solutions to societal issues and building networks of people from relevant fields, RISTEX conducts pilot programs of hands-on approaches with the objective of developing insights and methods that will generate innovative solutions to societal issues. RISTEX also supports the application in society of the R&D results obtained, to enable other regions and organizations to pursue similar solutions.

Activities
- Building of human networks and developing dialogue with society
- Promotion of R&D
- Promotion of the application and further development in society of R&D results
- Announcements of results and provision of information

Inquiries: RISTEX / Planning and Management Office / ristex@jst.go.jp

Overview of JST Programs & Organization
In regenerative medicine using iPS cells, a field where the international competition is intensifying, JST is making use of Japan’s advantages to accelerate research and development for clinical applications, elucidate pathogenic mechanisms, and advance drug discovery research.

Core Center for iPS Cell Research
Conducting long-term research as needed toward building up a stock of iPS cells for regenerative medicine while advancing standardization and securing the safety of clinical applications of iPS cells.

Centers for Clinical Application Research on Specific Disease / Organ
Carrying out the required research and development to implement clinical research using the iPS cells for regenerative medicine produced at the Core Center for iPS Cell Research, and aim for the realization of regenerative medicine on specific disease/organ.

Projects for Technological Development
Aiming at technology development to expand the range of clinical applications of iPS cells and realize more advanced regenerative medicine while collaborating with the above centers.

Highway Program for Realization of Regenerative Medicine
For the realization of regenerative medicine, the concerned ministries and agencies continuously support regenerative medicine research and accelerate research in collaboration with the research centers on specific disease/organ.

Research Center Network for Realization of Regenerative Medicine

<table>
<thead>
<tr>
<th>Core Center for iPS Cell Research</th>
<th>Centers for Clinical Application Research on Specific Disease / Organ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance standardization and secure safety</td>
<td>Fields where clinical applications can be expected within five years</td>
</tr>
<tr>
<td>Stock of iPS cells for regenerative medicine</td>
<td>Fields where technological breakthroughs are required for clinical application</td>
</tr>
</tbody>
</table>

Projects for Technological Development

Highway Program for Realization of Regenerative Medicine

R&D Programs Focused on Technology Transfer

Linking Universities and Enterprises to Drive Innovation
These programs are designed to promote the practical application of university research output and generate innovation through collaboration between universities and companies. The programs support R&D between industry and academia (researchers) to utilize IP, as well as R&D involving multiple universities and other researchers working with an industry-based platform (consortium).

A-STEP (Adaptable and Seamless Technology Transfer Program through Target-Driven R&D)
http://www.jst.go.jp/tt/EN/platform/a-step.html

Working Toward Practical Application of University Research Output
This program supports technology transfer across several R&D phases with the goal of developing commercial applications based on the research output generated by universities and public research institutions. In doing so, the program aims to contribute to social and economic development, the advancement of science and technology, and the enhancement of ordinary people’s lives. The program comprises the following two stages and includes several types of support, which are provided depending on the characteristics of each R&D phase.

<table>
<thead>
<tr>
<th>Feasibility Study (FS) Stage</th>
<th>Full-Scale R&amp;D Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigation of technology transfer potential</td>
<td>R&amp;D in preparation for the establishment of a university-launched start-up venture that aims for the practical application of technology seeds</td>
</tr>
</tbody>
</table>

Recombinant Human Hematopoietic Stem Cell (HSC) Research

Promoting Creation of Science, Technology and Innovation

S-Innovation (Strategic Promotion of Innovative Research and Development)
http://www.jst.go.jp/tt/EN/platform/s-innova.html

Creating Innovation with Industry and Academia Hand in Hand on the R&D Themes with High Impact on Society
R&D themes in S-Innovation are mainly established based on research output from basic research programs in JST. S-Innovation aims to bring about innovation in Japan by creating foundations for prospective new industries through long-term R&D. Several teams, selected in a theme, promote efficient R&D by sharing knowledge and information.

Activities
- Selection of R&D themes based on research output of JST’s basic research programs
- Seamless and long-term support for application development from basic research output

Center of Innovation (COI) Program
http://www.jst.go.jp/tt/EN/platform/coi.html

Along visions of a desirable future to be realized a decade from now, this program aims at forming large-scale university-industry research collaboration hubs. These hubs are expected to contribute to sustainable value creation by carrying out intensive R&D, which can have an impact on the global market.

Inquiries: Department of Industry–Academic Alliance s-innova@jst.go.jp
COI / Department of Industry–Academic Alliance coi@jst.go.jp
### JST's Business Outline

#### Collaborative Research Programs Based on Industrial Demand

http://www.jst.go.jp/TT/EN/platform/kyousou.html

Promoting Basic Research that Will Contribute to Solutions to Technical Issues Shared Across the Industrial Sector

Based on dialogues between the academic and industrial sectors, academia carries out basic research that will contribute to solutions to technical themes shared across the industrial sector. As well as accelerating solutions to technical issues in the industrial sector, this program facilitates feedback for basic research projects from the perspective and knowledge of the industrial sector. The program aims to stimulate basic research in academia and to strengthen Japan's industrial competitiveness.

**Activities**
- Selecting of technical themes based on demands from the industrial sector
- Promoting basic research that will contribute to solutions to technical issues
- Setting up interaction space between the academic and industrial sectors

**Inquiries:** Department of Industry–Academic Alliance kyousou@jst.go.jp

#### Development of Advanced Measurement and Analysis Systems (SENTAN)

http://www.jst.go.jp/SENTAN/en/

Development of Measurement and Analysis Systems to Meet the World's Most Advanced Research Needs

Creative and original R&D is a key to generating innovation. To boost these activities, JST promotes the development of systems and technologies for advanced measurement and analysis. Our program offers different types of support to match the needs of each development phase.

**Activities**
- Supporting industry-academia joint R&D project to realize cutting-edge technologies, devices, and equipment
- Promoting practical realization of R&D results

**Inquiries:** Office of Next Generation Measuring Technology sentan@jst.go.jp

#### Next Generation Technology Transfer Program (NexTEN)

Purpose

Accelerate commercialization by supporting company's large-scale practical development based on university's research results

**Feature**
- JST takes the financial risk on company's high risk development
- Budget on each project: ¥300 million to ¥5 billion
- Development term: 5 to 10 years
- Ex-ante evaluation is conducted based on technological target, concludes:
  - Project is successful
  - Company must repay expenditure without interest
  - Repayment for 90% of expenditure is exempted
  - JST rewards project with a small-scale feasibility study. On advancing to practical development, the expenditure of the Feasibility Study is exempted.
- JST rewards project with small-scale feasibility study. On advancing to practical development, the expenditure of the Feasibility Study is exempted.

**Inquiries:** Department of Business Innovation Development jitsuyoka@jst.go.jp http://www.jst.go.jp/jitsuyoka/

#### Program to Promote Post-Earthquake Revitalization, Etc.

http://www.jst.go.jp/fukkou/

Supporting Revitalization and Rebuilding after the Great East Japan Earthquake

JST has established offices in Morioka (Iwate Prefecture), Sendai (Miyagi Prefecture), and Koriyama (Fukushima Prefecture), and assigned "matching planners" who have significant experience in commercializing new technologies. Matching planners identify business needs, introduce universities with potential technological seeds to companies, and assist practical application and commercialization by industry-academia collaboration through active consultations with companies in disaster-affected areas. These efforts aim at creating new industries in disaster-affected areas.

**Inquiries:** Center for Revitalization Promotion fukkou@jst.go.jp

#### Programs to Promote the Utilization of IP

Center for Intellectual Property Strategies (CIPS)

http://www.jst.go.jp/cips/au/

In an era when the importance of IP as the basis of international competitiveness is increasing, CIPS has a commitment to producing IP strategies for Japan and conducting a range of programs, including support for IP-related activities at universities and public research institutions.

1. **Patent Acquisition Support**

   **Supporting the First Step in Converting Research Output to IP**

   - Support for improving patent applications:
   - Provision of support to universities, etc., including patent consulting and preliminary examination of technology.
   - Support for foreign patent applications:
   - Provision of assistance to universities, technical colleges, and TLOs to help cover costs related to foreign patent applications.
   - Support for developing patent portfolios:
   - Provision of support in building patent portfolios based on a high-value core patent.

2. **Accelerating Utilization of University IP Program**

   **Enhancing the Value of Patents and Providing Analytical Information**

   To enhance the value and accelerate the use of patents held by universities and other public research institutions, JST establishes relationships with investors and provides funds to universities for such purposes as refining technology, producing prototypes, and conducting market research. Furthermore, JST conducts patent analyses and creates patent maps with the aim of accelerating the commercialization of unused patents held by universities.

3. **Licensing**

   **Providing a Bridge from Research Output to Commercial Application**

   To achieve commercialization of the research output from universities, public research institutions, and JST programs, JST undertakes licensing activities.

4. **J-STORE (JST Science and Technology Research Result Database for Enterprise Development)**

   http://jstore.jst.go.jp/EN/

   **Open Access to Information on Patents Available for Licensing**

   J-STORE is a database open to the general public free of charge, comprising patents and unpublished patents—held by universities, JST, and other parties—which are available for licensing to companies. By increasing the opportunities for matching technology seeds with industry needs, J-STORE supports the technology transfer activities of universities.

5. **Matching Support**

   **New Technology Presentation Meetings**

   (http://jstshingi.jp/): Inventors explain their new technology

   **Inquiries:** Center for Intellectual Property Strategies j-cips@jst.go.jp

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*Note: The image contains diagrams and tables that are not transcribed here.*
Active international collaboration is key to the excellence of Japanese scientific and technological endeavors. In order to achieve its global strategy, JST implements two programs for bilateral research cooperation: SICP (since 2003) and SICORP (since 2008), described below, in collaboration with various countries throughout Europe, America, Oceania, Asia, the Middle East, and Africa. These are “top-down type” programs that provide support to international research projects for countries and regions and in fields of cooperation designated by the Ministry of Education, Sports, Culture, Science and Technology (MEXT) on the basis of intergovernmental agreements.

Under these programs, JST aims to encourage international research collaboration which can contribute to the resolution of global challenges, as well as to promote science and technology diplomacy through robust partnerships across the world.

**Strategic International Research Cooperative Program (SICP)**

SICP provides research funds to projects selected through an open joint call for proposals with a counterpart funding agency (FA). The scale of financial support provided by JST to the Japanese side is about ¥15 million over a period of 3 years, while an equivalent level of support is provided to the counterpart research institutions by the counterpart FA. JST works in close cooperation with its counterpart FAs to operate this program and to organize workshops, etc., to promote international collaboration. SICP also includes a sub-program, called “J-Rapid”, to support international collaborative research / survey activities in response to natural or anthropogenic disasters, or other unanticipated events in the world.

**Strategic International Collaborative Research Program (SICORP)**

SICORP provides a larger scale of research funds to projects selected through an open call. Financial support in the range of ¥50–100 million is granted to the Japanese side per project per year, for a period of 3–5 years. The equivalent level of support is provided to the counterpart research institutions by the counterpart FAs. JST’s operation of this program is implemented under the supervision of a Program Director (PD) and Program Officers (POs).
Promotion of Multilateral International Collaboration

Amid the rapid advancement of globalization, it is important to establish multilateral cooperation schemes which can provide open research spaces in which to combine and make the best use of our worldwide research resources, including knowledge, research minds, facilities, data, technologies, and materials. In order to give rise to international synergies and to attain complementarities, JST leads and participates in several multilateral programs that provide opportunities for the finest research minds to get together to formulate fruitful research collaborations.

e-ASIA Joint Research Program (e-ASIA JRP)
A Scheme for Joint Research in East Asia

The e-ASIA Joint Research Program is a matching-fund program which seeks to realize innovative and robust economies and societies in East Asia, by pursuing state-of-the-art technologies as well as solutions to common issues, such as those concerning the environment, natural disaster prevention, and infectious diseases. In doing so, it also aims to strengthen R&D capabilities across the East Asian region.

Current Members: as of July 2013
Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, the U.S., Vietnam, and Japan

Other Programs
• CONCERT-Japan: A project to promote effective and coordinated science and technology cooperation between Europe and Japan, funded by the European Union (FP7). Multilateral EU-Japan research is supported in the fields of ‘Disaster Resilience’ and ‘Efficient Energy Storage and Distribution’
• Belmont Forum: A high-level group meeting of the governments and funding agencies for funding global environmental change research.

Inquiries: Department of International Affairs sicpo@jst.go.jp

Support for R&D Cooperation with Developing Countries through Joint Program with JICA
Science and Technology Research Partnership for Sustainable Development (SATREPS)

Promoting Joint International Research with Developing Countries in Coordination with Japan’s Official Development Assistance (ODA)

JST and the Japan International Cooperation Agency (JICA) have teamed up to promote a joint international research program that combines competitive research funding for science and technology with ODA. Based on the needs of developing countries, this program works toward finding solutions to global-scale issues and providing research outcomes with practical applications in society. In addition, through such joint international research, SATREPS aims to help developing countries enhance their independent R&D capabilities and build systems to support sustained research activities that will play a role in finding solutions to the challenges they face.

Research Fields:
- Environment / Energy, Bioresources, Natural Disaster Prevention, Infectious Diseases Control

Research Period: Three to five (3–5) years
Project Size:
- Approx. ¥100 million per project per year [Funding split]
  - JST: Approx. ¥ 36 million
  - JICA: Approx. ¥ 60 million

Inquiries: Research Partnership for Sustainable Development Division, Department of International Affairs / global@jst.go.jp

China Research and Communication Center (CRCC)
The primary missions of the China Research and Communication Center (CRCC) are to build up a powerful network in Japan and China of people and information in the fields of science and technology and education, and contribute to the creation of innovation in both countries. CRCC also works to resolve common issues such as the environment, energy, the aging of society with a declining fertility rate, and resources and food problems.

Main Activities
• Conducting survey research and holding symposiums and research meetings centered on Chinese science and technology and education
• Mutual transmission of information via “Science Portal China” and “Objective Japan (Keguan Riben)”
• Japan-China fairs, forums, and other exchange events
• Cooperation in innovation to address common issues such as industry-academia collaboration and technology transfer
• Compilation of a literature database on the natural sciences and Chinese research

Inquiries: CRCC/China Research and Communication Center crcc@jst.go.jp

Contribution through Participation in Global Funding Agencies’ Consortia
The Funding Agency Presidents’ Meeting (FAPM)

JST and Deutsche Forschungsgemeinschaft (DFG; German Research Foundation) have been co-organizing the FAPM since 2010 in order to openly discuss common interests and concerns, thereby facilitating and enhancing networking and cooperation among the funding agencies.

The Global Research Council (GRC)

JST participates in the Global Research Council, which is a virtual organization, comprised of the heads of science and engineering funding agencies from around the world, dedicated to promoting the sharing of data and best practices for high-quality collaboration among funding agencies worldwide.

Infrastructure Development for Promoting International S&T Cooperation

Management of Housing Facilities for Foreign Researchers in Japan

JST manages housing facilities for foreign researchers in Tsukuba, Ibaraki Prefecture, to provide a living environment that will enable researchers to undertake their research activities in Japan smoothly and efficiently. JST offers various support and events such as Japanese language classes, summer festivals, medical appointments, shopping and travel information, etc., to make foreign researchers’ life in Japan as fruitful one.

Inquiries: Department of International Affairs sicpo@jst.go.jp

Overview of JST Programs & Organization

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Activities at Overseas Branch Offices

The four (4) JST overseas branch offices focus on strengthening cooperation as well as promoting mutual understanding between JST and their counterpart organizations, scientists and researchers in their counterpart countries and regions. In addition, these offices provide various opportunities for cooperative programs and projects to enhance scientific cooperation between their counterpart countries and regions.

1. Paris Office

Director, Yuji KATO

Outline

JST Paris Office was established in February 1984 to strengthen international cooperation as well as promote mutual understanding between JST and our counterpart organizations, scientists, and researchers. JST Paris Office covers all European and African countries.

Activities

The JST Paris Office is primarily engaged in the following activities:
- Supporting the overseas extension of JST’s international programs such as SICP (See P.17), SICORP (See P.18), etc., in the area
- Collecting and disseminating information on science and technology policy and R&D trends in Europe
- Collecting information is available on the ‘Daily Watcher’ website, operated by the Center for Research and Development Strategy (CRDS).
- Strengthening the presence of Japan and JST worldwide in the field of science and technology
- Acting as a liaison between JST and organizations such as the European Commission (EC), agencies or institutions such as DFG in Germany, ANR / CNRS in France, and Research Councils of the U.K., and researchers in the area

2. Washington, D.C. Office

Director, Takashi OHAMA

Outline

JST Washington, D.C. Office was established in December 2004. Our mission is to strengthen U.S.–Japan scientific cooperation and to study and analyze science and technology policies in the U.S. as well as R&D trends.

In addition JST Washington, D.C. Office has been coordinating joint research projects between Japanese research institutions and Latin American research institutions under the SATREPS (See P.18) framework since 2009.

Activities

JST Washington, D.C. Office is:
- Promoting and coordinating U.S.–Japan collaborative research programs in science and technology
- Developing and supporting JST’s various operations in the U.S. and other countries in the Americas
- Collecting and reporting science and technology policies and R&D trends in the U.S. and other countries in the Americas
- Coordinating joint research projects between Japanese institutions and Latin American institutions under the SATREPS framework
- Acting as a liaison between JST headquarters and various organizations, agencies, and researchers in the Americas

3. Singapore Office

Director, Osamu KOYAYASHI

Outline

Since its establishment in 2009, JST Singapore Office has supported research programs which foster and strengthen scientific ties between Japan and countries in the Asian region to address various global and regional problems mainly through joint research activities including enhancement of research capacity and human resource development, for achieving mutual benefit and prosperity.

Activities

The research programs that the JST Singapore Office supports include SATREPS (See P.18) and a new international cooperative scheme in this region called e-ASIA JRP, which was initiated in June of 2012. This e-ASIA JRP program pursues state-of-the-art technologies as well as solutions to regional common issues to realize an innovative and robust economy and society in the region, through research activities by research consortia supported by multilateral matching funds on an equal-footing basis from among member countries.

Singapore began its modern growth as a trading center within an expanding and changing global economy in the early 19th century. Now, in the 21st century, as large-scale global change is once again occurring, Singapore is the best place to accomplish our mission as it is one of the most active operating centers of global and regional science, technology and innovation, taking advantage of its geopolitical and institutional merits.

We at the JST Singapore Office will continue to strive to contribute to the development of science, technology and innovation in both Japan and the region as a whole to realize a more innovative and sustainable future from this crossroad of global activities.

4. Beijing Office

Director, Akira NAKANISHI

Outline

JST established its Beijing Office in 2002. JST Beijing Office focuses on strengthening cooperation as well as promoting mutual understanding between JST and our counterpart organizations, scientists, and researchers in China. In addition, the office provides not only support for the overseas extension of JST activities but also self-disciplined various activities to enhance research exchanges with China and the presence of JST in China.

Activities

In order to enhance science and technology cooperation with China, JST Beijing Office is:
- Supporting overseas extension of JST activities through communication support and coordination between JST departments and appropriate counterparts in China. For example, providing coordination in collaboration with MOST and NSFC for research exchanges as well as with MODST for joint research between Japan and China researchers and private companies.
- Collecting and disseminating information on science and technology in China and for China. Collected information is available on the ‘Daily Watcher’ website, operated by CRDS as well as Science Portal China, presided by China Research and Communication Center (CRC), in addition to research reports on science and technology policy trends overseas, published by CRDS, etc.
- Strengthening the presence of science and technology of Japan and JST. That is, utilizing networks with Chinese major funding agencies, research organizations, and universities, JST Beijing Office is acting as liaison for researchers of both sides and carrying out self-disciplined various activities such as providing dialogue opportunity among young researchers with multi-disciplinary backgrounds in specific topics.

Inquiries: Department of International Affairs sicpo@jst.go.jp
Supporting R&D through the Seamless Use of Scientific and Technological Information

- Provides a one-stop search service covering a wide collection of scientific and technological databases, including chemical substances, R&D documents, patents, researchers, and research institutes
- Links on the basis of various correlations, such as co-authorship of papers and patents

ReaDiResearchmap  http://researchmap.jp/lang-english

Comprehensive Database of Researchers in Japan

- Provides profiles of over 220,000 Japanese researchers and user-friendly searches according to researcher’s name, institution, keyword, and/or research area
- Multifunction research information platform to exchange views and ideas for future collaboration

J-STAGE  https://www.jstage.jst.go.jp/browse

Japan’s Largest Electronic Journal Platform for Academic Societies

- Disseminates research results in the form of peer-reviewed articles from 1,500 journals published by academic societies in Japan
- Offers access to abstracts free of charge, with more than 90% of journal abstracts available in English (Approximately 80% of articles are also available free of charge)

Japan Link Center  http://japanlinkcenter.org/

Reference Service Linking Japanese Scholarly Content with Digital Object Identifiers (DOIs)

- Assigns DOIs and provides sustainable access to electronic academic content
- Managed by the joint committee from Japanese institutes that deal with scholarly content

Overview of Selected Programs

1. Support for Super Science High Schools (SSHS)

Under this program, high schools that provide advanced science and mathematics education are designated as SSHS. Currently, 201 high schools nationwide have received SSHS designation. SSHS develop and implement curricula with a strong emphasis on science and mathematics subjects, while promoting task-oriented research, collaboration with universities, and international links. This is aimed at nurturing human resources to work in the science and technology sphere who have rich imaginations and an internationally oriented future outlook.

2. Japan High School Science Championships http://rikai.jst.go.jp/koushien/

High school students from throughout Japan who enjoy science and mathematics pool the knowledge they have cultivated through their daily studies to compete in written and practical contests that draw on their abundant individual creativity as well as the team’s combined intellect. This event provides the opportunity for students representing each of Japan’s prefectures to engage in friendly competition while aiming to win the national champion’s title.

3. Supporting Student Contests in Science and Technology http://contest.jst.go.jp

By supporting programs related to international science and technology contests, we aim to enhance students’ level of interest, enthusiasm, and skills in relation to science and technology, thereby fostering excellent human resources in science- and mathematics-related fields.

Inquiries: Center for Promotion of Science Education  cpse@jst.go.jp  http://rikai.jst.go.jp/eng/
In order to gain the public’s understanding, trust, and support of science, technology and innovation policies, we must focus on building a better relationship among science and technology, people, and society. One way to do this is by connecting together the missing links in science communication today.

The Center for Science Communication is building on its existing role of sending out messages about science and technology knowledge and its benefits, and is now aiming to encourage individuals, the government, research institutes, and researchers to share ideas about how to solve issues such as potential risks, and create science together that will benefit our lifestyles and society.

### Diverse Activities Promoting Science and Technology Communication

Whilst working to increase science and technology literacy among the general public, JST also strives to win the trust, understanding, and support of citizens via-à-vis science and technology through the implementation of a diverse array of activities that promote science and technology communication.

- **Activities**
  - Implementation of research and studies
  - Development of local networks
  - Collaboration with advanced science centers in network development
  - Activity implementation support

Inquiries: Center for Science Communication csc@jst.go.jp

### Science Communication Activities

1. **Science Agora**
   http://scienceagora.org/

   Science Agora is a two-day event held at Odaiba (Tokyo) in November every year. Its purpose is to freely facilitate science and technology communication. It is open to anybody interested in science and technology.

2. **Science Channel (Free Internet-Based Video Library of Science and Technology)**
   http://sci-sm.inst.go.jp/

   JST provides a free video library of science and technology on the Internet. You may choose from about 4,000 programs including documentaries, dramas, cartoons, and English programs.

Inquiries: Center for Science Communication csc@jst.go.jp

### National Museum of Emerging Science and Innovation (Miraikan)

Utilizing Miraikan to Foster Japanese Citizens’ Awareness of Science and Technology

http://www.miraikan.jst.go.jp/en/

Miraikan is a science museum dedicated to share, with all members of society, the new knowledge created by science and technology. Miraikan works to gather and provide a diverse array of information and exhibits related to cutting-edge science and technology.

**Information**

- **Opening Time**
  10:00–17:00 (Please make sure to enter at least 30 minutes before closing time. Opening days and hours are subject to change.)
- **Closed**
  Every Tuesday (As the museum may be open on Tuesday that land on national holidays or during spring, summer, or winter break, please contact us beforehand.), December 28–January 1
- **Admission Fees**
  Groups (8 or more people) Adults ¥480 18 years old and under ¥160

Inquiries: Miraikan http://www.miraikan.jst.go.jp/en/
Science and technology is administered under the Science and Technology Basic Law.

### Overview of JST Programs & Organization

#### Structure of National Science and Technology Policy Administration

Science and technology is administered under the Science and Technology Basic Law.

#### Organization Chart

As of December 2013

#### Overseas Branch Offices

<table>
<thead>
<tr>
<th>Location</th>
<th>Office Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris</td>
<td>28 rue du Docteur Finlay Paris, 75015 France</td>
</tr>
<tr>
<td>Singapore</td>
<td>11 Biopolis Way #07-12 Helios, Singapore 138667</td>
</tr>
<tr>
<td>Beijing</td>
<td>#121, Beijing Fortune Building, No.5, Dong San Huan Bei Lu, Chao Yang District, Beijing 100004, CHINA</td>
</tr>
</tbody>
</table>

#### Domestic Offices

JST's History

- 1960: Japan Information Center of Science and Technology (JICT) was founded in 1957.
- 1970: Research Development Corporation of Japan (JRDC) was founded in 1961.
- 1990: Online information system (JOIS) started in 1976.
- 2000: Promotional support for international research collaboration started in 1999.
- 2010: Strategic Promotion of Innovative Research and Development (S-Innovation) started in 2011.

#### Key Programs

- Adaptable and Seamless Technology Transfer Program through Target-driven R&D (A-STEP) started in 2009.
- Practical Development for Business Innovation started in 2013.
- Center for Science Communication
- Center for Research and Development Strategy (CRDS)
- JICST and JRDC were merged into Japan Science and Technology Corporation (JST) in 1996.
- JRDC was founded in 1961.
- Promotion of understanding and communication on science and technology started in 1996.
- Center for Research and Development Strategy (CRDS) was established in 2003.
- First mid-term plan started in October 2003.
- Second mid-term plan started in April 2007.
- Strategic Promotion of Innovative Research and Development (S-Innovation) started in 2011.
- Third mid-term plan started in April 2012.
- Research Center Network for Realization of Regenerative Medicine started in 2013.
- Practical Development for Business Innovation started in 2013.

#### Key Organizations

- Ministry of Education, Culture, Sports, Science and Technology (MEXT)
- Ministry of Health, Labour and Welfare (MHLW)
- Ministry of Agriculture, Forestry and Fisheries (MAFF)
- Japan Science and Technology Corporation (JST)
- Japan Information Center of Science and Technology (JICT)
- Research Development Corporation of Japan (JRDC)
- Japan Atomic Energy Agency (JAEA)
- Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
- National Institute for Materials Science (NIMS)
- National Institute of Radiological Sciences (NIRS)
- Center for Science Communication
- Center for Research and Development Strategy (CRDS)
- National Museum of Emerging Science and Innovation (Miraikan)