Press Conference President of JST

September 13, 2018



SPI and JST's actions



Cross-ministerial Strategic Innovation Promotion Program (SIP)

<Features of the SIP Program>

- The Council for Science, Technology and Innovation selects projects that answer critical social needs and offer a competitive advantage to the Japanese industry and the economy.
- Cross-ministerial, multidisciplinary initiatives.
- Promotes focused, end-to-end research and development from basic research to practical application and commercialization.
- An intellectual property management system facilitating strategic corporate use of research results.

<Budgets>

- SIP I : 28 billion yen (FY2018)
- SIP II : 32.5 billion yen (FY2017 Supplementary budget)

Cabinet Office HP(<u>http://www8.cao.go.jp/cstp/gaiyo/sip/</u>)



SIP Operating Structure

Implementation Structure

- Select program directors (PD) for each program
- PDs break through ministerial silos, managing programs from a crossministerial perspective.
- Governing Board (comprised of executive members of the Council for Science, Technology and Innovation) provides advice/assessment.
- Place a program director general to support GB's works.





The management agencies

Following the research and development action plan, the management agency fills the roles of:

- ① Calling for research proposals,
- 2 Entering into Contract Research Agreements with universities or research institutions,
- ③ Managing funds,
- ④ Managing progress of research and development,
- (5) Conducting a self-check using peer reviews from the experts' viewpoints,
- 6 Reporting the results of self-checks to PDs, and
- ⑦ Surveying and analyzing matters relating to projects.





SIP I (-2018) Projects and PDs

JST

TRU



Innovative Combustion Technology

Structural Materials for Innovation

Innovative Structural Materials Association,





Teruo Kishi

The University of Tokyo,



Tatsuo Oomori

Next-generation Power Electronics

Mitsubishi Electric Corporation





Next-generation Technology for Ocean Resources Exploration **Tetsuro Urabe** The University of Tokyo,

National Institute for Materials Science Advisor Emeritus (NIMS)



Shigeru Muraki Tokyo Gas Co., Ltd.

Energy Carriers



Automated Driving System

Against Natural Disasters

Muneo Hori

The University of Tokyo

Seigo Kuzumaki Toyota Motor Corporation

Infrastructure Maintenance, Renovation and Management Yozo Fujino Yokohama National University

Japan Mining Engineering & Training Center (JMEC)



Cyber-security for Critical Infrastructure Atsuhiro Goto Institute of Information Security



Innovative Design/Manufacturing Technologies

Naova Sasaki Hitachi, Ltd. Corporate



Technologies for Creating Next-generation Agriculture, Forestry and Fisheries Noboru Noguchi Hokkaido University

Enhancement of Societal Resiliency



: JST supported program as the management agency.

Ref. Cabinet Office HP: http://www8.cao.go.jp/cstp/gaiyo/sip/



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SIPII (2018-) Projects and PDs \leq As of June 4, 2018



Cyber Space Technology Using Big Data and AI

Yuichiro Anzai **Keio University**



Cyber Physical Security in IoT Society **Atsuhiro Goto**

Institute of Information Security (IISEC)

Currently under review



Structural Materials for Innovation Teruo Kishi Innovative Structural Materials Association, University of

Tokyo, National Institute of Materials Science.



Bio industry and Agricultural Infrastructure Technology Noriaki Kobayashi Kirin Holdings Co., Ltd.



Enhancement of National Resiliency against Natural Disasters Muneo Hori The University of Tokyo, LsETD



Smart Logistics Service Yorimasa Tanaka Yamato Holdings







Automated Driving System

Physical Space Data Processing



Society 5.0 Realization Technology Using

Photon and Quantum Naoto Nishida Toshiba Co.

Infrastructure

Hideyuki Sasou

Fujitsu Laboratories

Currently under review

Energy Systems toward a Decarbonized Society

Takao Kashiwagi Tokyo Institute of Technology, Institute of Innovative Research



Advanced Diagnosis and Treatment System by AI Hospitalization

Yusuke Nakamura Chicago University, University of Tokyo, Cancer Precision Medicine Center



Next-generation Technology for Ocean **Resources Exploration** Shoichi Ishii JAPEX



Japan Science and Technology Agency

* The projects names are provisional.

Topics



Outline of Science Agora 2018

- •Date : November 9 (Friday) November 11 (Sunday), 2018 10:00-16:00 (The first day is 13:00-16:15)
- •Venue : (Ceremony & Key note lecture) Mirai-kan (November 9) (Main venue) Telecom Center Building (November 10 & 11)

[Features]

1. Programs that promote "co-creation" to solve social issues

- Sharing "co-creation" models
- Various programs for attaining SDGs
- Symposiums to talk about the future society with the next-generations
- 2. Encourage young people's participation
- 3. Hearing voices of citizens about social expectation and issues toward science and technology

120 programs—everyone can participate

The programs consist of dialogues with scientists, symposiums, workshops, and exhibitions, including booths and sessions.





Center for Research and Development Strategy (CRDS) releases a New Report Beyond Disciplines - CRDS focuses on 12 transdisciplinary research themes (2018)

- Published on August 28, 2018
- Focused on the world's hot topic, "Transdisciplinary research"

Contents

- Why we speak of going "Beyond Disciplines"
- > Examples of research themes and systems
- Learning from relevant policies and programs.

Questions to be asked

- What kind of transdisciplinary approaches are required to find scientific and technological solutions to the many problems confronting the world today?
- How to identify and develop new fields that transcend the traditional boundaries or encourage inter-disciplinary cooperation that will lead to a fusion of disciplines and ideas?

Target readers

Researchers, technicians, policy makers, politicians, business person, students, and others.

Chapter 1 Summary: Why we speak of going "Beyond Disciplines"

Chapter 2 12 Transdisciplinary research themes

- 1 Information science and technology for decision-making in a complex society
- 2 R&Ds for solving social issues by data science
- 2.1 Future energy network using IoT
- 2.2 Promoting the integration of Bio-Medical Things (IoBMT)
- 3 Advanced design and manufacturing with Digital Twins and Cyber Physical Systems in future industries
- 4 Robotics as integration technology
- 5 Data-driven innovations in Materials and Life Sciences
- 6 Cutting-edge analytical instrumentation for deciphering biological phenomenon
- 7 Bioproducts and Biosystems Engineering
- 8 Nexus approach for water, energy, and food security
- 9 Science and technology for sustainable use of critical resources and materials
- 10 Innovations in Separation Engineering: Separation science and technology for a sustainable society
- 11 Next-generation Biomaterials Engineering: Controlling interaction between materials and biological environment
- 12 Structural reforms of research systems/laboratories; nationwide research infrastructure/platform for promoting transdisciplinary research

Chapter3 Example of policies and programs in Japan and other leading countries

Japan:	Center of Innovation (COI) Program, etc.
USA:	National Science Foundation (NSF) "Convergence Research"
China:	National Natural Science Foundation of China (NSFC) "Key Program",
	"Major Program", "Major Research Plan"
UK:	UK Research and Innovation (UKRI) "Multidisciplinary Programmes"
Germany: German Research Foundation (DFG) "Coordinated Programmes"	
France:	French National Research Agency (ANR) "Convergence Institutes"
EU:	European Research Council (ERC) "Synergy Grants"





JST's Efforts toward the SIP-Innovative Combustion Technology

Today's Speakers

1. SIP-Innovative Combustion Technology, Yuko Shimabayashi

Department of Innovation Platform, JST

2. SIP-Innovative Combustion Technology, Program Director, Masanori Sugiyama

General Manager, Toyota Motor Corporation, Advanced Development Power Train Company, Executive General Manager, Higashifuji Technical Center

3. SIP-Innovative Combustion Technology, Gasoline Burning Team, Project Leader Norimasa Iida

Research adviser, Professor, Keio University

