Chapter 1　Overview of Research Proposal Solicitation

1.1　Solicitation Period and Requirements

Invitation for and selection of research proposals in the 2017 fiscal year are scheduled as below. Please note that "CREST," "PRESTO," and "ACT-I" have different application deadlines.

Please submit your applications via e-Rad. Congestion is expected in e-Rad immediately before the deadlines. Because the application procedures may not be completed depending on the environment of the system in which applications are prepared, please complete the application procedures well before the deadline.

No proposal for which the application procedure has not been completed via e-Rad by the deadline is subject to examination for any reason.

<table>
<tr><th>Program</th><th>Research Proposal Solicitation Period</th><th>Research Areas for which Proposals will be Solicited</th></tr>
<tr><td>CREST</td><td>From April 12th (Wed.), 2017
to 12:00 P.M. (Japan Time) on
June 6th (Tue.), 2017</td><td rowspan="3">Research Areas Established in Fiscal Years 2015, 2016 and 2017

※ Research proposal solicitation in CREST "Scientific Innovation for Energy Harvesting Technology" was terminated in Fiscal Year 2016.</td></tr>
<tr><td>PRESTO</td><td rowspan="2">From April 12th (Wed.), 2017
to 12:00 P.M. (Japan Time) on
May 30th (Tue.), 2017</td></tr>
<tr><td>ACT-I</td></tr>
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1.2 Research Areas for which Proposals will be Solicited

Under the Application Guidelines, CREST will invite research proposals for 11 Research Areas, PRESTO for 14 Research Areas and ACT-T for 1 Research area.

○ CREST

Research Areas	Strategic Objectives	Since
Elucidation of biological mechanism of extracellular fine particles and the control system (Research Supervisor: Yoshinobu Baba)	Elucidation of biological system of extracellular fine particles	FY2017
Creation of innovative core technologies for nano-enabled thermal management (Research Supervisor: Yuji Awano)	Development of innovative materials and device technologies based on understanding and manipulation of nanoscale thermodynamics	FY2017
Revolutional material development by fusion of strong experiments with theory / data science (Research Supervisor: Hideo Hosono)	Construction of revolutional material development methods through fusion among experiments and theory/data science	FY2017
Symbiotic interaction: Creation and development of core technologies interfacing human and information environment (Research Supervisor: Kenji Mase)	Advanced interaction technologies within networked intelligent information environment	FY2017
Development and application of optical technology for spatiotemporal control of biological functions (Research Supervisor: Ryoichiro Kageyama)	Development of optical control technologies and elucidation of biological mechanisms	FY2016
Development and application of intelligent measurement-analysis methods through coalition between measurement technologies and information sciences[2] (Research Supervisor: Yoshiyuki Amemiya): In charge of CREST (Deputy Research Supervisor: Genshiro Kitagawa): In charge of PRESTO	Integration of measurement technology and advanced information processing for cutting-edge R&D activities including materials science	FY2016

[2, 3] Please note the call for proposals of this research area is open for both CREST and PRESTO.

Creation of an innovative quantum technology platform based on the advanced control of quantum states (Research Supervisor: Yasuhiko Arakawa)	Development of new material properties and frontier of information sciences based on the advanced control of quantum states	FY2016
Development and Integration of Artificial Intelligence Technologies for Innovation Acceleration (Research Supervisor: Minoru Etoh) ※AIP	Creation of integration technology to enable utilizations of diverse and massive data using Artificial Intelligence core technologies rapidly growing in sophistication and complexity	FY2016
Advanced core technology for creation and practical utilization of innovative properties and functions based upon optics and photonics (Research Supervisor: Ken-ichi Kitayama)	Pioneering next-generation photonics through the discovery and application of novel optical functions and properties	FY2015
Innovative catalysts and creation technologies for the utilization of diverse natural carbon resources (Research Supervisor: Wataru Ueda)	Invention of innovative catalysts using diverse natural carbon resources	FY2015
Creation of fundamental technologies contribute to the elucidation and application for the robustness in plants against environmental changes (Research Supervisor: Satoshi Tabata)	Establishment of environmentally-adaptive-plant design systems for stable food supply in the age of climate change	FY2015

*In the two CREST research areas that belong to AIP network lab above, the two research supervisors may consult with each other to agree on changing the research areas of an applied issue halfway. See "5.1.4 About AIP projects and AIP network laboratories" for details.

○ PRESTO

Research Areas	Strategic Objectives	Since
Creation of life science basis by using quantum technology (Research Supervisor: Mitsutoshi Setou)	Innovation of Bio-Sensing, Elucidation of Dynamics and Interactions between Biomolecules by Using Quantum Technology	FY2017
Function and control of fine particles in a living body (Research Supervisor: Akihiko Nakano)	Elucidation of biological system of extracellular fine particles	FY2017

Thermal science and control of spectral energy transport (Research Supervisor: Katsunori Hanamura)	Development of innovative materials and device technologies based on understanding and manipulation of nanoscale thermodynamics	FY2017
The future of humans and interactions (Research Supervisor: Jun Rekimoto)	Advanced interaction technologies within networked intelligent information environment	FY2017
Optical control of biological functions for the elucidation of biological systems (Research Supervisor: Yoshinori Shichida)	Development of optical control technologies and elucidation of biological mechanisms	FY2016
Development and application of intelligent measurement-analysis methods through coalition between measurement technologies and information sciences[3] (Research Supervisor: Yoshiyuki Amemiya): In charge of CREST (Deputy Research Supervisor: Genshiro Kitagawa): In charge of PRESTO	Integration of measurement technology and advanced information processing for cutting-edge R&D activities including materials science	FY2016
Quantum state control and functionalization (Research Supervisor: Kohei Itoh)	Development of new material properties and frontier of information sciences based on the advanced control of quantum states	FY2016
Fundamental information technologies toward innovative social system design (Research Supervisor: Sadao Kurohashi) ※AIP	Creation of integration technology to enable utilizations of diverse and massive data using Artificial Intelligence core technologies rapidly growing in sophistication and complexity	FY2016
Fully controlled photons and their proactive usage for new era creation (Research Supervisor: Ken-ichi Ueda)	Pioneering next-generation photonics through the discovery and application of novel optical functions and properties	FY2015

[3] Please note the call for proposals of this research area is open for both CREST and PRESTO.

Scientific innovation for energy harvesting technology (Research Supervisor: Kenji Taniguchi) (Deputy Research Supervisor: Hiroyuki Akinaga)	Elucidation of principles for innovative energy conversion functions, and generation of new substance creation, new device creation, and other core technologies, that will contribute to the high-efficiency conversion and advanced application of microenergy	FY2015
Science and creation of innovative catalysts (Research Supervisor: Hiroshi Kitagawa)	Invention of innovative catalysts using diverse natural carbon resources	FY2015
Advanced materials informatics through comprehensive integration among theoretical, experimental, computational and data-centric sciences (Research Supervisor: Shinji Tsuneyuki)	Invention of innovative catalysts using diverse natural carbon resources	FY2015
	Creation of innovative core technologies by merging material technology, device technology, and nano-system optimization technology toward the realization of information devices with ultra-low power consumption and multiple functions	
	Creation, advancement, and systematization of innovative information technologies and their underlying mathematical methodologies for obtaining new knowledge and insight from use of big data across different fields	
	Establishment of molecular technology, which is the free control of molecules to bring innovation to environmental and energy materials, electronic materials, and health and medical materials	
Creation of next-generation fundamental technologies for the control of biological phenomena in field-grown plants (Research Supervisor: Kiyotaka Okada)	Establishment of environmentally-adaptive-plant design systems for stable food supply in the age of climate change	FY2015
Innovational technical basis for cultivation in cooperation with information science (Research Supervisor: Seishi Ninomiya)	Establishment of environmentally-adaptive-plant design systems for stable food supply in the age of climate change	FY2015

	Development of mathematical sciences to describe and analyze social issues in which basic principle is unclear	

*In the two PRESTO research areas that belong to AIP network lab above, the two research supervisors may consult with each other to agree on changing the research areas of an applied issue halfway. See “5.1.4 About AIP projects and AIP network laboratories” for details.

○ ACT-I

Research Areas	Strategic Objectives	Since
Information and future (Research Supervisor: Masataka Goto)	Creation of integration technology to enable utilizations of diverse and massive data using Artificial Intelligence core technologies rapidly growing in sophistication and complexity	FY2016
	Development of intelligent information processing technology to realize creative collaboration between human and machines	
	Creation, advancement, and systematization of innovative information technologies and their underlying mathematical methodologies for obtaining new knowledge and insight from use of big data across different fields	

1.3 Solicitation and Selection Schedule

1.3.1 Schedule for the acceptance and selection of research proposals

The FY2017 schedule for the acceptance and selection of research proposals is shown in the following table.

Application of proposal is implemented via e-Rad system (http://www.e-rad.go.jp/). Researchers who do not have an e-Rad login ID and password should immediately complete the researcher registration procedure. As the application deadline approaches, heavy demands on the e-Rad system could slow the application process and even cause the application deadline to be missed. Please give yourself enough time to complete submission of proposal.

No proposal for which the application procedure has not been completed via e-Rad by the deadline is subject to examination for any reason.

	CREST	PRESTO
Research proposal acceptance begins	April 12 (Wed.), 2017	
Application deadline (Deadline for submitting applications through the e-Rad system)	**12:00 P.M. (Japan time) on Tuesday, June 6 (No delays accepted)**	**12:00 P.M. (Japan time) on Tuesday, May 30 (No delays accepted)**
Document screening period	Early July – Late July	
Notification of document screening results	Middle July – Early August	
Interview screening period	Late July – Middle August	
Notification/announcement of selected Research Projects	Middle September	
Research begins	After October	

* The underlined dates are final, but all others are expected dates. They are subject to change.
* As soon as it is determined, the document screening and the interview selection schedule will be announced on the website shown below:
http://www.senryaku.jst.go.jp/teian-en.html

1.3.2 Schedule for Briefings of Solicitation

Briefings of Solicitation for each research area are planned as following dates. (NOTE: only in Japanese.)

<table>
<tr><th>Research Area</th><th>Date</th><th>Venue</th></tr>
<tr><td>Elucidation of biological mechanism of extracellular fine particles and the control system（CREST）

Function and control of fine particles in a living body (PRESTO)</td><td>April 18 (Tue)
14:00-15:30</td><td>Room Fuji, 3rd floor, Arukadia Ichigaya</td></tr>
<tr><td rowspan="2">Symbiotic interaction: Creation and development of core technologies interfacing human and information environment（CREST）

Development and integration of artificial intelligence technologies for innovation acceleration（CREST）
*A session is held for this research area on April 19 only.</td><td>April 18 (Tue)
10:00-11:30</td><td>Mielparque-kyoto, 5th floor Conference Room B</td></tr>
<tr><td>* April 19 (Wed)
9:30-11:30</td><td>JST Tokyo Headquarte ﾚﾆrs Annex, 1st Floor Hall</td></tr>
<tr><td rowspan="2">The future of humans and interactions（PRESTO）

Fundamental information technologies toward innovative social system design (PRESTO)

Information and future（ACT-I）</td><td>April 18 (Tue)
13:00-16:00</td><td>Mielparque-kyoto, 5th floor Conference Room B</td></tr>
<tr><td>April 19 (Wed)
14:00-17:00</td><td>JST Tokyo Headquarters Annex, 1st Floor Hall</td></tr>
<tr><td>Creation of an innovative quantum technology platform based on the advanced control of quantum states（CREST）

Creation of life science basis by using quantum technology (PRESTO)</td><td>April 18 (Tue)
14:00-16:20</td><td>JST Tokyo Headquarters Annex, 1st Floor Hall</td></tr>
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Quantum state control and functionalization （PRESTO）		
Creation of life science basis by using quantum technology (PRESTO)	April 21 (Fri) 13:00-14:30	Hall 5A, TKP Shin Osaka East Entrance Business Center, (Shin Osaka Learning Square Building)
Revolutional material development by fusion of strong experiments with theory / data science（CREST） *A session is held for this research area on April 19 only.	April 21 (Fri) 13:00-14:30	TKP Garden City Kyoto “Suiren”
Advanced materials informatics through comprehensive integration among theoretical, experimental, computational and data-centric sciences (PRESTO)	April 24 (Mon) 13:00-15:00	JST Tokyo Headquarters Annex, 1st Floor Hall
Scientific innovation for energy harvesting technology (CREST/PRESTO) ※The call for proposals is open for only PRESTO.	April 24 (Mon) 12:30-14:00	JST Tokyo Headquarters Annex, 4th Floor Conference Room F
Development and application of intelligent measurement-analysis methods through coalition between measurement technologies and information sciences（CREST/PRESTO）	April 24 (Mon) 15:30-17:00	JST Tokyo Headquarters Annex, 1st Floor Hall
Creation of innovative core technologies for nano-enabled thermal management（CREST） Thermal science and control of spectral energy	April 24 (Mon) 10:00-12:00	JST Tokyo Headquarters Annex, 1st Floor Hall

transport（PRESTO）		
Advanced core technology for creation and practical utilization of innovative properties and functions based upon optics and photonics（CREST）	April 26 (Wed) 13:30-16:00	TKP-Ichigaya, 3rd Floor Hall 3C
Fully controlled photons and their proactive usage for new era creation (PRESTO)	April 27 (Thu) 13:30-16:00	Campus Plaza Kyoto, 4th Floor, Lecture Room 3

Check the venue of the event; “6. Research Areas Calling for Proposals.”

＊Any relevant information may be added after the acceptance of research proposal starts. The information includes, among others distributed documents on planned explanation sessions, information on project explanation sessions for the strategic basic research programs to be undertaken separately (CREST, PRESTO). Check the website below for a research proposal invitation and updated information.

Website for Invitation of Research Proposals;

http://senryaku.jst.go.jp/teian-en.html

1.4 Submission of Research Proposal

Please see the following part of this guideline regarding how to submit research proposal and items to be considered.

- The items to be included in the research proposal of CREST:
  "Chapter 2 CREST 2.3 Research Proposal (Form) Completion Requirements"
- Regarding the items to be included in the research proposal of PRESTO:
  "Chapter 3 PRESTO 3.3 Research Proposal (Form) Completion Requirements"
- Regarding the items to be included in the research proposal of ACT-I:
  "Chapter 4 ACT-I 4.3 Research Proposal (Form) Completion Requirements"
- Regarding the way to apply the Research Proposal：
  "Chapter 10 Recruiting via the Cross-ministerial R&D Management System (e-Rad)"
- The items to be considered in application:
  "Chapter 8 Key Points in Submitting Proposals" and "Chapter 9 Limitations on the Overlap of Proposals within the Strategic Basic Research Programs."