



Japan Science and Technology Agency (JST) 5-3, Yonbancho, Chiyoda-ku, Tokyo

JST announces 17 additional Project Managers selected for the Moonshot Goals 6, 9 and 10 of the Moonshot Research and Development Program

The Japan Science and Technology Agency (JST) has announced the Project Managers (PMs) selected for the Moonshot Goals 6, 9 and 10 handled by JST under the Moonshot Research and Development Program.

The program pursues challenging R&D concepts set by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in order to solve issues facing our future society such as super-aging populations and global warming. Each of the Moonshot Goals has a Program Director (PD), under which PMs formulate an R&D scenario, design a project, and plan and manage the organization of R&D to achieve their respective Moonshot Goals. Open calls were held, and applications were reviewed by PDs in cooperation with external experts.

R&D for Moonshot Goals 6, 9 and 10 started, but in order to achieve each Moonshot Goal, R&D projects have now been added. Open calls for new projects were held for each Moonshot Goal, and a total of 64 applications were received. Applications were reviewed by PDs in cooperation with external experts, after which document and interview screening was conducted to make a final selection of 17 PMs. Under the direction of their PD, selected PMs will refine their plans to achieve their Moonshot Goal so that the R&D will be more effective and efficient. Once they have received PD approval, each PM can begin their R&D project.

For details, please refer to the website below. https://www.jst.go.jp/moonshot/en/index.html

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Contact

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"Empowering Science, Inspiring Futures"

Our world faces unprecedented global challenges — such as climate change, energy crises, and emerging infectious diseases — that demand innovative solutions. JST will rise to these challenges through "Science and Technology," as a national research and development agency that plays a central role in implementing Japan's science, technology, and innovation policy. We support fundamental research and startups to create new value, develop R&D strategies, foster the next generation of talent, disseminate vital information, and manage the Japan University Fund. Like a compass guiding ships through turbulent waters, JST will chart the way towards a vibrant and secure future by empowering science through a multifaceted approach.

Number of applications and selected PMs

| Moonshot Goal title | Application | Selected |
|---|-------------|----------|
| Moonshot Goal 6 | | |
| Realization of a fault-tolerant universal quantum computer that | 10 | 9 |
| will revolutionize economy, industry, and security by 2050. | 10 | 9 |
| (PD: KITAGAWA Masahiro) | | |
| Moonshot Goal 9 | | |
| Realization of a mentally healthy and dynamic society by | 25 | 1 |
| increasing peace of mind and vitality by 2050. | 25 | l |
| (PD: KUMAGAI Seiji) | | |
| Moonshot Goal 10 | | |
| Realization of a dynamic society in harmony with the global | | |
| environment and free from resource constraints, through | 29 | 7 |
| diverse applications of fusion energy, by 2050. | | |
| (PD: YOSHIDA Zensho) | | |
| Total | 64 | 17 |

Selected PMs and projects

Moonshot Goal 6: Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.

| Project Manager | Affiliation | Project Title |
|------------------------|--|--|
| OHMORI Kenji | Professor / Chairman, Department of Photo-Molecular Science, Institute for Molecular Science, National Institutes of Natural Sciences | Neutral Atom-Based Fault- Tolerant Quantum Computer |
| KOASHI Masato | Professor, Graduate School of Engineering, The University of Tokyo | Research and Development of Theory and Software for Fault- Tolerant Quantum Computers |
| KOBAYASHI Kazutoshi | Professor, Department of Electrical and Electronic Engineering, Kyoto Institute of Technology | Development of a Scalable, Highly Integrated Quantum Error Correction System |
| TAKAHASHI Hiroki | Assistant Professor, Experimental Quantum Information Physics Unit, Okinawa Institute of Science and Technology Graduate University | Fault-Tolerant Quantum Computer Enabled by Scalable Functionally Integrated Ion Traps and Multiplexed Photonic Interconnects |
| TARUCHA Seigo | Group Director, RIKEN Center for Emergent Matter Science / Team Director, RIKEN Center for Quantum Computing | Development of Fault-Tolerant Silicon Quantum Computers |
| FURUSAWA Akira | Professor, School of Engineering, The University of Tokyo / Deputy Director, RIKEN Center for Quantum Computing / Co-founder & Director, OptQC Corp. | Development of Fault-Tolerant All-Optical Quantum Computers |
| MITARAI Kosuke | Associate Professor, Center for Quantum Information and Quantum Biology, The University of Osaka | Application Research and Development for Fault-Tolerant Quantum Computers |
| YAMAMOTO Takashi | Professor, Graduate School of Engineering Science / Deputy Director, Center for Quantum Information and Quantum Biology, The University of Osaka | Fault-Tolerant Networked Quantum Computers |

| | Joint Appointed Fellow, Global | |
|----------|---------------------------------------|--------------------------------|
| | Research and Development Center | Development of Superconducting |
| YAMAMOTO | for Business by Quantum-Al | Fault-Tolerant Quantum |
| Tsuyoshi | technology, The National Institute of | Computer Systems |
| | Advanced Industrial Science and | Computer Systems |
| | Technology (AIST) | |

Moonshot Goal 9: Realization of a mentally healthy and dynamic society by increasing peace of mind and vitality by 2050.

| Project Manager | Affiliation | Project Title |
|--------------------|-------------------------------|-----------------------------------|
| | Professor, Graduate School of | Development of Motivation Control |
| AMANO | Information Science and | and Social Behavior Change |
| Kaoru | Technology, The University of | Technology Through Sensory |
| | Tokyo | Stimulation |

Moonshot Goal 10: Realization of a dynamic society in harmony with the global environment and free from resource constraints, through diverse applications of fusion energy, by 2050.

| Project Manager | Affiliation | Project Title |
|----------------------|---|--|
| OKADA Shinji | Professor, College of Science and Engineering, Chubu University | Innovative Muon-Catalyzed Fusion Technology for Practical Applications |
| OZAWA Tohru | Professor, School of Advanced Science and Engineering, Waseda University | Innovation in the Formulation and Solution Methods of Mathematical Models to Transform the Paradigm of Fusion Research |
| SAITOH Haruhiko | Associate Professor, Graduate School of Frontier Sciences, The University of Tokyo | Interdisciplinary Development of Advanced Fusion and Antimatter Science Using Superconducting Dipoles |
| TANAKA Hideki | Professor, Institute for Aqua Regeneration, Shinshu University | Development of Innovative Isotope Separation System for the Realization of Compact Fusion Fuel Cycle |
| TANIGAWA Hiroyasu | Deputy Director, Department of Blanket Systems Research, Rokkasho Institute for Fusion Energy, National Institutes for Quantum Science and Technology | Development of Autonomous In- Vessel Component for Compact Fusion Reactor |

| | Professor, High Energy Density | |
|-----------|---|--------------------------------|
| | Science Research Division, Institute | |
| FUJIOKA | of Laser Engineering, The University | Fusion Reactor Using Optical |
| Shinsuke | of Osaka / Director, Blue Laser | Enhancement Cavity Laser |
| | Fusion Energy Collaborative | |
| | Research Institute | |
| MODI | Founding Board Director FV | Development of Inertial Fusion |
| MORI | Founding Board Director, EX- Fusion Inc. | Modules Powered by Blue-Violet |
| Yoshitaka | | Semiconductor Lasers |

^{*} The titles of the projects are subject to change after refinement.

Experts for the evaluation

Moonshot Goal 6: Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.

(Honorifics omitted; affiliations and positions are correct as of the end of the selection process)

| (| Name | Affiliation |
|-----------------------|------------------------|--|
| Program Director (PD) | KITAGAWA Masahiro | Director, Center for Quantum Information and Quantum Biology, The University of Osaka |
| | KOZUMA Mikio * | Director / Professor, Quantum Navigation Research Center, Institute of Integrated Research, Institute of Science Tokyo |
| | NAKAMURA Yasunobu * | Professor, Graduate School of Engineering, The University of Tokyo |
| | YAMASHITA Shigeru * | Professor, College of Information Science and Engineering, Ritsumeikan University |
| ISHIUCHI Hidemi | | Former President, Evolving nano process Infrastructure Development Center (EIDEC), Inc., |
| | IMOTO Nobuyuki | Senior Professor, Office of Senior Professor, The University of Tokyo |
| Fortament Formants | UTSUNOMIYA Shoko | Principal Solutions Engineer, Go To Market, OpenAl Japan LLC. |
| External Experts | OZAWA Masanao | Professor Emeritus, Graduate School of Informatics, Nagoya University |
| | KATORI Hidetoshi | Professor, Department of Applied Physics Graduate School of Engineering, The University of Tokyo |
| | KAWABATA Shiro | Professor, Faculty of Computer and Information Sciences, Hosei University / Fellow, Technology and Innovation Strategy Center, NEDO |
| | SASAKI Masahide | Distinguished Researcher, Open Innovation Promotion Headquarters, National Institute of Information and Communications Technology |
| | SATO Mitsuhisa | Specially Appointed Professor, Faculty of Health Data Science, Juntendo University |

| SHIGEMOTO Isamu | Executive Engineer, Technology and Innovation Center, Daikin Industries, Ltd. |
|-----------------|---|
|-----------------|---|

*Sub Program Director

Moonshot Goal 9: Realization of a mentally healthy and dynamic society by increasing peace of mind and vitality by 2050.

(Honorifics omitted; affiliations and positions are correct as of the end of the selection process)

| | Name | Affiliation |
|-------------------------|-------------------|---|
| Program Director (PD) | KUMAGAI Seiji | Professor, Institute for Future Human and Social Studies, Kyoto University |
| | INOKUCHI Kaoru * | Distinguished Professor, Department of Biochemistry, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama |
| | NAGATA Tomoya * | Managing Partner, D3 LLC |
| | NISHIDA Shin'ya * | Professor, Graduate School of Informatics, Kyoto University |
| | MORITA Akira * | Professor Emeritus, The University of Tokyo |
| External Experts | ENDO Kaoru | Professor Emeritus, Gakushuin University |
| | OSAKA Naoyuki | Professor Emeritus, Kyoto University |
| | SAKURAI Takeshi | Professor, Faculty of Medicine, University of Tsukuba |
| | DOYA Kenji | Professor, Neural Computation Unit, Okinawa Institute of Science and Technology |
| HAYASHI-TAKAGI Akiko | | Team Leader, Center for Brain Science, RIKEN |
| | HORI Koichi | Executive Director, National Institutes for the Humanities |
| | MIURA Asako | Professor, Graduate School of Human Sciences, The University of Osaka |

| MURAI Toshiya | Professor, Graduate School of Medicine, Kyoto University |
|-----------------------|--|
| YOKOSAWA Kazuhiko | Distinguished Professor, Economics and Informatics Department, Japan International University |
| ISHIDA Mitsunori | Professor, Faculty of Letters, Arts and Sciences School of Culture, Media and Society, Waseda University |
| ICHINOHE Noritaka | Director, Department of Ultrastructural Research, National Center of Neurology and Psychiatry |
| KAMEDA Tatsuya | Professor, Mathematical Informatics, Meiji Gakuin University |
| KOBAYASHI Masahiro | Senior Parnter Attorney, Hanamizuki Law Office |
| TORIUMI Fujio | Professor, The Graduate School of Engineering, The University of Tokyo |
| MASUMOTO Kouhei | Professor, Graduate School of Human Development and Environment, Kobe University |

*Sub Program Director

Moonshot Goal 10: Realization of a dynamic society in harmony with the global environment and free from resource constraints, through diverse applications of fusion energy, by 2050.

(Honorifics omitted; affiliations and positions are correct as of the end of the selection process)

| | Name | Affiliation |
|------------------|------------------|--|
| Drogram Director | | Director General, National Institute for |
| Program Director | YOSHIDA Zensho | Fusion Science, National Institutes of |
| (PD) | | Natural Sciences |
| | | Director General, National Institute for |
| External Experts | YAMADA Hiroshi * | Fusion Science, National Institutes of |
| | | Natural Sciences |
| | ANDO AL | Specially Appointed Professor, Advanced |
| | ANDO Akira | Graduate School, Tohoku University |
| | | Professor, Department of Electrical and |
| | LIEDA Vechie | Electronic Engineering, Faculty of Science |
| | UEDA Yoshio | and Engineering, Otemon Gakuin |
| | | University |

| KASHIWAGI Mieko | Senior Researcher, Naka Institute for Fusion Science and Technology, National Institute for Quantum Science and Technology |
|-------------------|---|
| KAWAUCHI Tetsuya | Deputy Director-General, Headquarters of the Quantum Science and Technology Agency |
| KONDO Hiroko | Representative of Matrix K,LLC |
| TSUNETA Saku | Director, Astronomy Research Center, Chiba Institute of Technology |
| HATTORI Kenichi | Representative of Helicity X |
| MORII Takashi | Professor, Department of Health and Nutrition, Kyoto Koka Women's University |
| YAMAZAKI Yasunori | Senior Visiting Scientist, RIKEN |
| YAMADA Michio | Project Professor, RIMS, Kyoto University |

^{*}Sub Program Director

Viewpoints in Selection

Our selection was based on the following viewpoints and made in a comprehensive manner.

1. Nature as a PM

- To have a wide human network of relevant researchers within and outside of Japan and to possess specialized knowledge.
- To have the ability for management to construct an optimum R&D institution and review the organization proactively, depending on the status of the progress (including those in relation to the management and usage of research data) and to have leadership ability.

2. R&D projects proposed by PM

- Purpose and Intent
 - The project must meet the objectives of the project and be expected to produce the results that the project aims to achieve.
- Originality and Superiority
 The proposal must have originality and superiority based on domestic and international trends, etc.
- · Goals and Plan
 - The goals to be achieved during the implementation period, the implementation plan, and the budget plan must be specific and appropriate.
- · Implementation System
 - The proposal must have an implementation system that is optimized for the execution of the proposed activities.