

**Grant-in-Aid for Scientific
Research on Innovative Areas
(Research in a proposed research area)**

○ **List of the Continuing Projects (FY2020) 69**

□ Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) of KAKENHI

※A call for proposals for “Publicly Offered Research” in the on-going research areas only is put out in FY2020 and beyond.

Purpose and Description of Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) (excerpt from the “Application Procedures for Grants-in-Aid for Scientific Research”):

1) Purpose:

Research aimed at developing a new research area proposed by a researcher or a researcher group that can lead to improvement or strengthening of the scientific level of Japan, through efforts such promotion of joint research and cultivation of research personnel and joint use of facilities.

2) Total budget provided:

The budget provided per research area is set at around 10 to 300 million yen per fiscal year

3) Research period:

5 years

【Ongoing Projects】

	Number of Applications
Humanities and Social Sciences	6
Science and Engineering	28
Biological Sciences	18
Interdisciplinary Area	25
Total	77

List of the Continuing Projects for Grant-in-Aid for Scientific Research on Innovative Areas (Research in a proposed research area) of KAKENHI

Humanities and Social Sciences (6 Projects)

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
1801	SAKAI Keiko 40401442	Chiba University, Faculty of Law, Politics and Economics, Professor	Establishing a New Paradigm of Social/Human Sciences based on Relational Studies : in order to Overcome Contemporary Global Crisis	FY2016-2020	529,300
1802	NISHIAKI Yoshihiro 70256197	The University of Tokyo, The University Museum, Professor	Cultural History of PaleoAsia -Integrative Research on the Formative Processes of Modern Human Cultures in Asia	FY2016-2020	664,800
1901	YAMAGUCHI K. Masami 50282257	Chuo University, Department of psychology, Professor	Construction of the Face-Body studies in transcultural conditions	FY2017-2021	573,300
1902	ASANO Toyomi 60308244	Waseda University, Faculty of Political Science and Economics, Professor	Creation of the study of reconciliation	FY2017-2021	243,100
5001	YAMADA Shigeo 30323223	University of Tsukuba, Faculty of Humanities and Social Sciences, Professor	The Essence of Urban Civilization: An Interdisciplinary Study of the Origin and Transformation of Ancient West Asian Cities	FY2018-2022	694,500
5101	MATSUMOTO Naoko 30314660	Okayama University, Graduate School of Humanities and Social Sciences, Professor	Integrative Human Historical Science of "Out of Eurasia": Exploring the Mechanisms of the Development of Civilization	FY2019-2023	1,069,000

Science and Engineering (28 Projects)

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
2801	FUJIOKA Hiroshi 50282570	The University of Tokyo, Institute of Industrial Science, Professor	Materials Science and Advanced Electronics Created by Singularity	FY2016-2020	1,103,800
2802	SHIONOYA Mitsuhiko 60187333	The University of Tokyo, Graduate School of Science, Professor	Coordination Asymmetry: Design of Asymmetric Coordination Sphere and Anisotropic Assembly for the Creation of Functional Molecules	FY2016-2020	1,168,000
2803	ASAI Shoji 60282505	The University of Tokyo, Graduate school of Science, Professor	New expansion of particle physics of post-Higgs era by LHC revealing the vacuum and space-time structure	FY2016-2020	1,017,400
2804	OBARA Kazushige 40462501	The University of Tokyo, Earthquake Research Institute, Professor	Science of Slow Earthquakes	FY2016-2020	1,070,800
2805	ABE Ikuro 40305496	The University of Tokyo, Graduate School of Pharmaceutical Sciences, Professor	Creation of Complex Functional Molecules by Rational Redesign of Biosynthetic Machineries	FY2016-2020	1,106,300
2806	ISHIHARA Hajime 60273611	Osaka Prefecture University, Graduate School of Engineering, Professor	Nano-Material Manipulation and Structural Order Control with Optical Forces	FY2016-2020	1,049,900
2807	KAGEYAMA Hiroshi 40302640	Kyoto University, Graduate School of Engineering, Professor	Synthesis of Mixed Anion Compounds toward Novel Functionalities	FY2016-2020	1,022,800
2901	SEKINE Yasuhito 60431897	The University of Tokyo, Graduate School of Science, Associate Professor	Aqua planetology	FY2017-2021	1,079,400

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
2902	KOTANI Motoko 50230024	Tohoku University, Graduate School of Science, Professor	Discrete Geometric Analysis for Materials Design	FY2017-2021	1,002,900
2903	KATO Masako 80214401	Hokkaido University, Faculty of Science, Professor	Soft Crystals: Science and Photofunctions of Flexible Response Systems with High Order	FY2017-2021	1,012,200
2904	HAMACHI Itaru 90202259	Kyoto University, Graduate School of Engineering, Professor	Chemistry for Miscellaneous Crowding Biosystems	FY2017-2021	1,215,500
2905	TANAKA Takahiro 40281117	Kyoto University Graduate School of Pharmaceutical Sciences, Professor	Gravitational wave physics and astronomy: Genesis	FY2017-2021	1,079,000
2906	KAKEYA Hideaki 00270596	Kyoto University, Graduate School of Pharmaceutical Sciences, Professor	Frontier research on chemical communications	FY2017-2021	1,108,700
2907	KANAI Motomu 20243264	The University of Tokyo, Graduate School of Pharmaceutical Sciences, Professor	Hybrid Catalysis for Enabling Molecular Synthesis on Demand	FY2017-2021	1,224,600
6001	ORIMO Shin-ichi 40284129	Tohoku University, WPI-AIMR, Professor	HYDROGENOMICS: Creation of Innovative Materials, Devices, and Reaction Processes using Higher-Order Hydrogen Functions	FY2018-2022	1,135,000
6002	INUTSUKA Shu-ichiro 80270453	Nagoya University, Department of Physics, Professor	A Paradigm Shift by a New Integrated Theory of Star Formation: Expanding Frontier of Habitable Planetary Systems in Our Galaxy	FY2018-2022	1,109,800
6003	NAKAYA Tsuyoshi 50314175	Kyoto University, Graduate School of Science, Professor	Exploration of Particle Physics and Cosmology with Neutrinos	FY2018-2022	1,129,900
6004	ABE Eiji 70354222	The University of Tokyo, Graduate School of Engineering, Professor	Materials Science on mille-feuille structure – Development of next-generation structural materials guided by a new strengthen principle	FY2018-2022	1,179,000
6005	NAKAMURA Takashi 50272456	Tokyo Institute of Technology, School of Science, Professor	Clustering as a window on the hierarchical structure of quantum systems	FY2018-2022	1,169,700
6006	INUI Haruyuki 30213135	Kyoto University, Faculty of Engineering, Professor	High Entropy Alloys: Science of New Class of Materials Based on Elemental Multiplicity and Heterogeneity	FY2018-2022	1,169,100
6007	TAKAHASHI Tadayuki 50183851	The University of Tokyo, Kavli Institute for the Physics and Mathematics of the Universe, Professor	Toward new frontiers : Encounter and synergy of state-of-the-art astronomical detectors and exotic quantum beams	FY2018-2022	1,093,000
6101	SHIBAUCHI Takasada 00251356	The University of Tokyo, Graduate School of Frontier Sciences, Professor	Physical Properties of Quantum Liquid Crystals	FY2019-2023	1,134,000
6012	NONAKA Masami 90358771	Japan Agency for Marine-Earth Science and Technology, Application Laboratory, Group leader	Mid-latitude ocean-atmosphere interaction hotspots under the changing climate	FY2019-2023	1,138,000
6103	MATSUNAGA Katsuyuki 20334310	Nagoya University, Graduate School of Engineering, Professor	New Materials Science on Nanoscale Structures and Functions of Crystal Defect Cores	FY2019-2023	1,098,000
6104	KATO Takashi 70214377	The University of Tokyo, Graduate School of Engineering, Professor	Aquatic Functional Materials: Creation of New Materials Science for Environment-Friendly and Active Functions	FY2019-2023	1,185,200

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
6105	INOUE Kunio 10242166	Tohoku University, Research Center for Neutrino Science, Professor	Unraveling the History of the Universe and Matter Evolution with Underground Physics	FY2019-2023	1,129,500
6106	TAMURA Ryuji 50307708	Tokyo University of Science, Department of Materials Science and Technology, Professor	Hypermaterials: Innovation of materials science in hyper space	FY2019-2023	791,200
6107	IRIYAMA Yasutoshi 30335195	Nagoya University, Graduate School of Engineering, Professor	Science on Interfacial Ion Dynamics for Solid State Ionics Devices	FY2019-2023	1,127,800

Biological Sciences (18 Projects)

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
3801	MINAGAWA Jun 80280725	National Institutes of Natural Sciences, National Institute for Basic Biology, Professor	New Photosynthesis : Re-optimization of the solar energy conversion system	FY2016-2020	1,057,500
3802	EMOTO Kazuo 80300953	The University of Tokyo, Department of Biological Sciences, Professor	Dynamic regulation of brain function by scrap & build system	FY2016-2020	1,179,100
3803	KAGEYAMA Ryoichiro 80224369	Kyoto University, Institute for Virus Research, Professor	Interplay of developmental clock and extracellular environment in brain formation	FY2016-2020	1,181,800
3804	MATSUMOTO Mitsuru 60221595	Tokushima University Institute for Enzyme Research, , Professor	Creation, function and structure of neo-self	FY2016-2020	1,064,600
3805	KAWAOKA Yoshihiro 70135838	The University of Tokyo, Institute of Medical Science, Professor	Neo-virology: the raison d'etre of viruses	FY2016-2020	1,061,100
3806	HIGASHIYAMA Tetsuya 00313205	Nagoya University, Institute of Transformative Bio-molecules, Professor	Determining the principles of the birth of new plant species: molecular elucidation of the lock-and-key systems in sexual reproduction	FY2016-2020	1,208,400
3901	KURODA Shinya 50273850	The University of Tokyo, Graduate School of Science, Professor	Transomic Analysis of Metabolic Adaptation	FY2017-2021	1,224,700
3902	KURATANI Shigeru 00178089	RIKEN, Chief Scientist	Evolutionary theory for constrained and directional diversities	FY2017-2021	1,230,800
3903	UMEDA Masaaki 80221810	Nara Institute of Science and Technology, Graduate School of Biological Sciences, Professor	Principles of pluripotent stem cells underlying plant vitality	FY2017-2021	1,166,500
3904	SHIMIZU Shigeomi 70271020	Tokyo Medical and Dental University, Medical Research Institute, Professor	Toward an integrative understanding of functional zones in organelles	FY2017-2021	1,214,600
3905	TACHIBANA Makoto 80303915	Tokushima University, Institute of Advanced Medical Sciences, Professor	Spectrum of the Sex: a continuity of phenotypes between female and male	FY2017-2021	1,144,600
7001	HAYASHI-TAKAGI Akiko 60415271	Gunma University, IMCR, Full Professor	Constructive understanding of multi-scale dynamism of neuropsychiatric disorders	FY2018-2022	1,212,900

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
7002	HAYASHI Katsuhiko 20287486	Kyushu University, Graduate School of Medical Sciences, Professor	Ensuring integrity in gametogenesis	FY2018-2022	1,181,700
7003	KIMURA Hiroshi 30241392	Tokyo Institute of Technology, Institute of Innovative Research, Professor	Chromatin potential for gene regulation	FY2018-2022	1,181,500
7101	KOMATSU Masaaki 90356254	Juntendo University, Graduate School of Medicine, Professor	Multimode autophagy: Diverse pathways and selectivity	FY2019-2023	1,199,600
7102	OGURA Atsuo 20194524	RIKEN, BioResource Research Center, Division Head	Program of totipotency: From decoding to designing	FY2019-2023	1,139,100
7103	NAKANISHI Makoto 40217774	The University of Tokyo, Institute of Medical Science, Professor	Mechanisms underlying replication of non-genomic codes that mediate plasticity and robustness for cellular inheritance	FY2019-2023	1,168,000
7104	NAKAJIMA Keiji 80273853	Nara Institute of Science and Technology, Graduate School of Science and Technology, Professor	Intrinsic periodicity of cellular systems and its modulation as the driving force behind plant development	FY2019-2023	1,159,900

Interdisciplinary Area (25 Projects)

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
4801	KASAI Kiyoto 80322056	The University of Tokyo Department of Neuropsychiatry, Professor	Science of personalized value development through adolescence: integration of brain, real-world, and life-course approaches	FY2016-2020	1,112,800
4802	OSUMI Noriko 00220343	Tohoku University School of Medicine, Professor	Integrative Research toward Elucidation of Generative Brain Systems for Individuality	FY2016-2020	1,153,000
4803	HASHIMOTO Koichi 80228410	Tohoku University, Graduate School of Information Sciences, Professor	Systems Science of Bio-Navigation	FY2016-2020	1,087,100
4804	TAKEKAWA Mutsuhiro 30322332	The University of Tokyo, The Institute of Medical Science, Professor	Integrative understanding of biological signaling networks based on mathematical science	FY2016-2020	1,022,900
4805	DOYA Kenji 80188846	Okinawa Institute of Science and Technology Graduate University, Neural Computation Unit, Professor	Correspondence and Fusion of Artificial Intelligence and Brain Science	FY2016-2020	1,119,100
4806	SAKURAI Takeshi 60251055	University of Tsukuba Faculty of Medicine, Professor	Creation and Promotion of the Will-Dynamics	FY2016-2020	1,153,800
4901	MATSUSHIMA Kouji 50222427	The University of Tokyo, Graduate School of Medicine, Professor	Preventive medicine through inflammation cellular sociology	FY2017-2021	1,195,200
4902	KAWAMURA Kenji 90431478	National Institute of Polar Research, Division for Research and Education, Associate Professor	Giant reservoirs of heat/water/material : Global environmental changes driven by the Southern Ocean and the Antarctic Ice Sheet	FY2017-2021	1,156,200
4903	OKANOYA Kazuo 30211121	The University of Tokyo, Graduate School of Arts and Sciences, Professor	Studies of Language Evolution for Co-creative Human Communication	FY2017-2021	1,078,400

Number of Research Area	Head Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Total (Thousands of Yen)
4904	FUJITA Naoya 20280951	Japanese Foundation for Cancer Research, The Cancer Chemotherapy Center, Center Director	Integrated analysis and regulation of cellular diversity	FY2017-2021	1,189,600
4905	BITO Haruhiko 00291964	The University of Tokyo, Graduate School of Medicine, Professor	Brain information dynamics underlying multi-area interconnectivity and parallel processing	FY2017-2021	1,235,600
4906	SHEN Jian-Ren 60261161	Okayama University, Research Institute for Interdisciplinary Science, Professor	Creation of novel light energy conversion system through elucidation of the molecular mechanism of photosynthesis and its artificial design in terms of time and space	FY2017-2021	1,146,100
8001	SAEKI Yasushi 80462779	Tokyo Metropolitan Institute of Medical Science, Department of Advanced Science for Biomolecules, Associate Director	New frontier for ubiquitin biology driven by chemo-technologies	FY2018-2022	1,170,100
8002	KITAZAWA Shigeru 00251231	Osaka University, Graduate School of Frontier Biosciences, Professor	Chronogenesis: how the mind generates time	FY2018-2022	1,157,200
8003	SUZUMORI Koichi 00333451	Tokyo Institute of Technology, School of Engineering, Professor	Science of Soft Robot: interdisciplinary integration of mechatronics, material science, and bio-computing	FY2018-2022	1,194,200
8004	SAITOU Naruya 30192587	National Institute of Genetics, Division of Population Genetics, Professor	Deciphering Origin and Establishment of Japoneseans mainly based on genome sequences date	FY2018-2022	658,800
8005	DEMURA Taku 40272009	Nara Institute of Science and Technology, Graduate School of Science and Technology, Professor	Elucidation of the strategies of mechanical optimization in plants toward the establishment of the bases for sustainable structure system	FY2018-2022	1,180,500
8006	KINBARA Kazushi 30282578	Tokyo Institute of Technology, School of Life Science and Technology, Professor	Molecular Engine: Design of Autonomous Functions through Energy Conversion	FY2018-2022	1,193,600
8007	NAGAI Takeharu 20311350	The Institute of Scientific and Industrial Research, Osaka University, Professor	Singularity biology	FY2018-2022	1,210,100
8101	IWATA So 60452330	Kyoto University, Graduate School of Medicine, Professor	Non-equilibrium-state molecular movies and their applications	FY2019-2023	1,064,000
8102	OTA Jun 50233127	The University of Tokyo, School of Engineering, Research into Artifacts, Center for Engineering (RACE), Professor	Hyper-adaptability for overcoming body-brain dysfunction: Integrated empirical and system theoretical approaches	FY2019-2023	1,165,800
8103	TSUMOTO Kouhei 90271866	The University of Tokyo, School of Engineering, Professor	Integrated Biometal Science: Research to Explore Dynamics of Metals in Cellular System	FY2019-2023	1,166,600
8104	OKADA Yasushi 50272430	The University of Tokyo, Graduate School of Science, Professor	Information physics of living matters	FY2019-2023	1,150,100
8105	ISHIGURO Hiroshi 10232282	Department of Systems Innovation, Osaka University, Professor	Studies on intelligent systems for dialogue toward the human-machine symbiotic society	FY2019-2023	1,088,500
8106	TAKAYA Naoki 50282322	University of Tsukuba, Faculty of Life and Environmental Sciences, Professor	Post-Koch Ecology: The next-era microbial ecology that elucidates the super-terrestrial organism system	FY2019-2023	1,154,300