Grant-in-Aid for Scientific Research (S)

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☐ Distribution by Research Area of the Newly Adopted Projects

Purpose and Character of Grant-in-Aid for Scientific Research (S) (excerpt from the "Application Procedures for Grants-in-Aid for Scientific Research-KAKENHI-"):

1) **Intended for:**
Research project performed by one researcher or by a relatively small group of researchers, with the purpose of achieving a major development in creative and pioneering research, based on past research achievements

2) **Total budget provided:**
From 50 million yen to around 200 million yen

3) **Research period:**
Five years as a general rule

【 New Projects 】

	Number of Applications			Total Grant Disbursements (FY2017)	Per-project Grants (FY2017)	
	Received	Adopted	Ratio		Average	Largest
			(%)	(Thousands of Yen)	(Thousands of Yen)	(Thousands of Yen)
Integrated Disciplines	110	14	12.7	478,300	34,164	53,800
Humanities and Social	46	5	10.9	184,700	36,940	60,300
Science and Engineering	321	41	12.8	1,771,100	43,198	89,600
Biological Sciences	168	19	11.3	841,300	44,279	82,500
Total	645	79	12.2	3,275,400	41,461	89,600

【 New and Ongoing Projects 】

	Number of Applications	Total Grant Disbursements (FY2017)	Per-project Grants (FY2017)	
			Average	Largest
		(Thousands of Yen)	(Thousands of Yen)	(Thousands of Yen)
Integrated Disciplines	82	2,352,100	28,684	94,600
Humanities and Social	30	789,100	26,303	87,500
Science and Engineering	201	5,619,800	27,959	89,600
Biological Sciences	105	3,083,100	29,363	82,500
Total	418	11,844,100	28,335	89,600

※ Figure reflects only direct funding

List of the Newly Adopted Projects for Grant-in-Aid for Scientific Research (S) of KAKENHI, FY2017

(1) Integrated Disciplines (14 Projects)

○ Informatics (5 Projects) (Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06099	Zhanjiang Hu 50292769	National Institute of Informatics, Information Systems Architecture Science Research Division, Professor	Software Foundation for Interoperability of Autonomic Distributed Data based on Bidirectional Transformations	FY2017-2021	36,000 133,500
17H06100	Seiichi Uchida 70315125	Kyushu University, Faculty of Information Science and Electrical Engineering, Professor	From Text Engineering to Text Science	FY2017-2021	34,200 116,000
17H06101	Satoshi Nakamura 30263429	Nara Institute of Science and Technology, Graduate School of Information Science, Professor	Next Generation Speech Translation Research	FY2017-2021	34,700 157,100
17H06102	Hajime Nagahara 80362648	Osaka University, Institution for Datability Science, Professor	Computational Optical Imaging for Endoscopic Surgery	FY2017-2021	25,300 115,800
17H06103	Ken Satoh 00271635	National Institute of Informatics, Principles of Informatics Research Division, Professor	Advanced Reasoning Support for Judicial Judgment by Artificial Intelligence	FY2017-2021	18,800 113,600

○ Environmental Science (2 Projects) (Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06104	Ayako Abe-Ouchi 30272537	The University of Tokyo, Atmosphere and Ocean Research Institute, Professor	Understanding the interaction between ice sheets, ocean and atmosphere under large scale climate changes of the past	FY2017-2021	39,600 157,600
17H06105	Naohiro Yoshida 60174942	Tokyo Institute of Technology, School of Materials and Chemical Technology, Professor	Environmental diagnosis with isotopologue tracers	FY2017-2021	28,200 162,400

○ Complex Systems （ 7 Projects ）

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06107	Hajime Shirouzu 60333168	The University of Tokyo, Center for Research and Development on Transition from Secondary to Higher Education, Professor	Renovating Assessment for the Future: Design-Based Implementation Research for a Learning-in-Class Monitoring System Based on the Learning Sciences	FY2017-2021	38,000 154,500
17H06108	Shunichi Koshimura 50360847	Tohoku University, International Research Institute of Disaster Science, Professor	Fusion of sensing and simulation of tsunami damage assessment towards innovation of disaster medical system	FY2017-2021	34,500 156,900
17H06109	Takanori Yokota 90231688	Tokyo Medical and Dental University, Graduate School of Medical and Dental Sciences, Professor	Development of heteroduplex oligonucleotide crossing the blood-brain barrier	FY2017-2021	24,800 133,100
17H06110	Masayuki Inoue 70322998	The University of Tokyo, Graduate School of Pharmaceutical Sciences, Professor	Expanding the medicinally relevant chemical space with architecturally complex natural products and their synthetic analogues	FY2017-2021	40,600 157,800
17H06111	Mikiko C. Siomi 20322745	The University of Tokyo, Graduate School of Science, Professor	Comprehensive understanding of molecular mechanism underlying the piRNA pathway	FY2017-2021	35,200 155,800
17H06112	Hiroshi Handa 80107432	Tokyo Medical University, Department of Nanoparticle Translational Research, Professor	Search for novel modulators of cereblon, the target of thalidomide that regulates neural stem cell proliferation and differentiation	FY2017-2019	53,800 139,300
17H06113	Yuichi Iino 40192471	The University of Tokyo, Graduate School of Science, Professor	Dissection of molecules and neural circuits underlying a behavioral switch	FY2017-2021	34,600 156,800

(2) Humanities and Social Sciences （ 5 Projects ）

○ Humanities （ 5 Projects ）

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06114	Yuji Nagashima 50138137	Kogakuin University, Faculty of Informatics, Professor	Research into Constructing a Japanese Sign Language Multi-Dimensional Database	FY2017-2020	21,700 109,200
17H06115	Shigehisa Karimata 50224712	University of the Ryukyus, International Institute for OKINAWAN Studies, Professor	Comparative historical research on Ryukyuan by using linguistic family trees	FY2017-2021	34,900 135,600
17H06116	Tomoko Shiroyama 60281763	The University of Tokyo, Graduate School of Economics, Professor	The Hydrosphere and Socioeconomics in Modern Asia - Exploring a New Regional History Using a Database and Spatial Analysis	FY2017-2021	32,600 140,800
17H06117	Isao Tajima 80292796	The University of Tokyo, Historiographical Institute, Professor	Advancing Japanese Bibliographics and Improving the Accessibility of Documents Held by Royal and Aristocratic Archives - Clarifying the Structure and Transmission of Knowledge Systems	FY2017-2021	35,200 157,000
17H06118	Takeshi Nakatsuka 60242880	Research Institute for Humanity and Nature, Research Department, Professor	Reorganization of prehistorical structure of calendar age and evaluation of climate change effect in Japanese archipelago using tree ring oxygen isotope ratios	FY2017-2021	60,300 160,000

(3) Science and Engineering (41 Projects)

○ Interdisciplinary Science and Engineering (8 Projects) (Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget
					Budget throughout for the Entire Research Period
17H06119	Yasujiro Murata 40314273	Kyoto University, Institute for Chemical Research, Professor	Creation and Development of Nanoscale Laboratory	FY2017-2021	60,400 160,100
17H06120	Akira Oiwa 10321902	Osaka University, The Institute of Scientific and Industrial Research, Professor	Interconversion of Quantum States Between Photon and Electron Spin Using Electrically Controlled Quantum Dots	FY2017-2021	88,600 166,100
17H06121	Toshio Ando 50184320	Kanazawa University, Bio-AFM Frontier Research Center, Specially-Appointed Professor	Realization of nano-dynamics imaging of protein molecules in extremely soft membrane environments	FY2017-2021	37,400 126,400
17H06122	Hirofumi Yamada 40283626	Kyoto University, Graduate School of Engineering, Professor	Direct visualization of molecular recognition forces by high-resolution atomic force microscopy and spectroscopy	FY2017-2021	28,500 141,900
17H06123	Junichi Takeya 20371289	The University of Tokyo, Graduate School of Frontier Science, Professor	Giant strain effect of charge transport in organic single-crystal semiconductors and flexible mechano-electronics	FY2017-2021	64,100 163,300
17H06124	Koichiro Tanaka 90212034	Kyoto University, Graduate School of Science, Professor	New development of nonlinear photoelectronics based on terahertz strong field physics	FY2017-2021	55,900 162,300
17H06125	Susumu Noda 10208358	Kyoto University, Graduate School of Engineering, Professor	Spectral control of near-field thermal radiation for highly efficient thermo-photovoltaic power generation	FY2017-2021	35,200 154,900
17H06126	Yasuhiro Miyake 80209882	High Energy Accelerator Research Organization, Institute of Materials Structure Science, Professor	Transmission Muon Microscope by muon microbeam, realizing 3-D Imaging	FY2017-2021	26,200 159,300

○ Mathematical and Physical Sciences (14 Projects) (Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget
					Budget throughout for the Entire Research Period
17H06127	Masa-Hiko Saito 80183044	Kobe University, Graduate School of Science, Professor	Algebraic Geometry and Integrable Systems - Deepning of Theory and New Developments in Mathematics and Mathematical Physics -	FY2017-2021	15,200 92,000
17H06128	Osamu Saeki 30201510	Kyushu University, Institute of Mathematics for Industry, Professor	Innovative Research of Geometric Topology and Singularities of Differentiable Mappings	FY2017-2021	13,900 62,800
17H06129	Masayuki Akiyama 50425401	Tohoku University, Astronomical Institute, Professor	Establishing processes of galaxy structure revealed by a Subaru tomographic adaptive optics	FY2017-2021	36,200 161,300
17H06130	Kotaro Kohno 80321587	The University of Tokyo, Graduate School of Science, Professor	Study of cosmic star-formation history based on an unbiased survey of millimeter- and submillimeter-wave emission-line galaxies	FY2017-2021	65,600 163,700
17H06131	Masahiro Teshima 40197778	The University of Tokyo, Institute for Cosmic Ray Research, Professor	Study of the Extreme Universe with the CTA Large Size Telescopes	FY2017-2021	34,700 157,100
17H06132	Shigeki Aoki 80211689	Kobe University, Graduate School of Human Development and Environment, Professor	Cosmic gamma-ray observation by balloon borne emulsion telescope to study unsolved issues	FY2017-2021	32,500 153,900

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget	Budget throughout for the Entire Research Period
17H06133	Nobuyuki Kanda 50251484	Osaka City University, Graduate School of Science, Professor	Calibration Standard and High-Precision Data Analysis toward the Observational Era of Gravitational Waves	FY2017-2021	20,600	139,600
17H06134	Osamu Tajima 80391704	Kyoto University, Graduate School of Science, Associate Professor	Quest for the origin of the Big-Bang and measurements of sum of the neutrino masses by using the world's largest CMB telescope array	FY2017-2021	28,600	161,100
17H06135	Satoshi Mihara 80292837	High Energy Accelerator Research Organization, Institute of Particle and Nuclear Studies, Professor	Study on the charged lepton flavor mixing using the high-intensity pulsed muon beam	FY2017-2021	17,700	152,000
17H06136	Yoshiteru Maeno 80181600	Kyoto University, Graduate School of Science, Professor	DC Electric Field and Current: Novel Control Parameters for Strongly Correlated Electron Systems	FY2017-2021	39,000	159,000
17H06137	Hikaru Kawamura 30153018	Osaka University, Graduate School of Science, Professor	Frustration-induced spin textures	FY2017-2021	89,600	165,300
17H06138	Yasuhiro Hatsugai 80218495	University of Tsukuba, Division of Physics, Professor	Variety and universality of bulk-edge correspondence in topological phases: From solid state physics to transdisciplinary concepts	FY2017-2021	34,900	157,800
17H06139	Hajime Okamoto 10333783	Kyushu University, Research Institute for Applied Mechanics, Professor	Analysis of cloud microphysics and vertical velocity by synergy use of next generation space-borne active sensors	FY2017-2021	69,300	147,900
17H06140	Yoshiharu Omura 50177002	Kyoto University, Research Institute for Sustainable Humanosphere, Professor	Analyses and Verification of Particle Acceleration and Scattering by Electromagnetic Cyclotron Waves in Space Plasmas	FY2017-2021	22,300	133,700

○ Chemistry （ 5 Projects ）

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget	Budget throughout for the Entire Research Period
17H06141	Shin-ichi Adachi 60260220	High Energy Accelerator Research Organization, Institute of Materials Structure Science, Professor	Visualizing ultrafast dynamics of molecular structure with femtosecond X-ray solution scattering	FY2017-2021	56,900	154,400
17H06142	Hisashi Yamamoto 20026298	Chubu University, Molecular Catalyst Research Center, Professor	New Frontier of Substrate-Controlled Chemical Reaction	FY2017-2021	51,100	159,200
17H06143	Nobuharu Iwasawa 40168563	Tokyo Institute of Technology, Faculty of Science, Professor	Development of Carbon Dioxide Fixation Reactions	FY2017-2021	69,500	161,300
17H06144	Jian Ping Gong 20250417	Hokkaido University, Faculty of Advanced Life Science, Professor	Utilizing the Sacrificial Bonding Principle to Create Soft-Hard Composites with Toughness that Surpasses Metals and Novel Functions	FY2017-2021	30,700	157,000
17H06145	Ryoji Kanno 90135426	Tokyo Institute of Technology, School of Materials and Chemical Technology, Professor	Creation of superionic conductors	FY2017-2020	56,000	129,500

○ Engineering（ 14 Projects ）　　（Thousands of Yen）

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06146	Yang Ju 60312609	Nagoya University, Graduate School of Engineering, Professor	Creation and development of high-order nano-space structures through innovative control of stress field	FY2017-2021	50,700 161,000
17H06147	Atsuo Kawamura 80186139	Yokohama National University, Faculty of Engineering, Professor	Realization of Sustainable Green Society Through 99.9% Class Efficiency Electric Power Conversion	FY2017-2021	26,800 138,000
17H06148	Shinichi Takagi 30372402	The University of Tokyo, School of Engineering, Professor	Precise structure control of 3-dimensional integration CMOS using high mobility materials through layer transfer	FY2017-2021	50,900 158,900
17H06149	Takao Someya 90292755	The University of Tokyo, School of Engineering, Professor	Evaluation of Drug Response by Elastic Multipoint Electrode Array Using Cardiomyocyte Sheet	FY2017-2021	34,700 157,100
17H06150	Koichi Osuka 50191937	Osaka University, Graduate School of Engineering, Professor	Source of various behaviors of living things that understands from zombification of insects	FY2017-2021	29,200 136,800
17H06151	Toshiharu Ikaga 30302631	Keio University, Faculty of Science and Technology, Professor	Field survey on Impact of living environments on brain, cardiovascular, respiratory and locomotive system, and co-benefit evaluation of disease and long-term care prevention	FY2017-2021	46,900 159,700
17H06152	Kazuhiro Hono 60229151	National Institute for Materials Science, Research Center for Magnetic and Spintronic Materials, Fellow	Spin-dependent conduction mechanism of half-metallic Heusler alloys and applications to practical devices	FY2017-2021	73,400 162,400
17H06153	Hideo Hosono 30157028	Tokyo Institute of Technology, Institute for Innovative Research, Professor	New evolution of materials concept and application of electrides	FY2017-2021	37,900 134,600
17H06154	Akihiro Makino 30315642	Tohoku University, New Industry Creation Hatchery Center, Professor	Research and development on artificial production of next generation of Rare-Earth Free Magnets with $L1_0$ phase similar to Cosmic magnet	FY2017-2021	43,200 156,600
17H06155	Hideyuki Yasuda 60239762	Kyoto University, Graduate School of Science and Engineering, Professor	Modeling of solidification dynamics supported by 3D time-resolved in-situ observations	FY2017-2021	51,600 130,200
17H06156	Yuji Wada 40182985	Tokyo Institute of Technology, School of Materials and Chemical Technology, Professor	The Theory of Microwave-induced Nonequilibrium State and its Application to the Manipulation of Solid/Interfacial Chemical Reactions	FY2017-2021	43,900 160,200
17H06157	Takeshi Omasa 00252586	Osaka University, Graduate School of Engineering, Professor	Integrated platform for mammalian cell-based cell and bioprocess engineering	FY2017-2021	27,800 118,400
17H06158	Haruko Takeyama 60262234	Waseda University, Faculty of Science and Engineering, Professor	Development of platform for ultra high-throughput screening of novel bioactive compound producers	FY2017-2021	35,700 157,700
17H06159	Hiroyuki Takahashi 70216753	The University of Tokyo, Institute of Engineering Innovation, Professor	Study on Multi-photon gamma-ray coincidence tomography	FY2017-2021	37,800 158,300

(4) Biological Sciences (19 Projects)

○ Biological Sciences (3 Projects)

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06160	Hitoshi Sakano 90262154	University of Fukui, School of Medical Sciences, Adjunct Professor	Decision Making in the Mouse Olfactory System	FY2017-2021	39,100 158,800
17H06161	Yasushi Miyashita 40114673	Juntendo University, Graduate School of Medicine, Professor	Elucidation of cortical neural circuits for meta-memory: Optogenetic manipulation of retrospection	FY2017-2021	52,100 161,000
17H06162	Hiroyoshi Nishikawa 10444431	Nagoya University, Graduate School of Medicine, Professor	Association of immune responses with racial differences of cancer development	FY2017-2021	60,800 161,700

○ Biology (4 Projects)

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06164	Hiroyuki Arai 40167987	The University of Tokyo, Graduate School of Pharmaceutical Sciences, Professor	The roles of membrane lipids for intracellular signaling platform	FY2017-2021	35,200 156,700
17H06165	Shuji Akiyama 50391842	Institute for Molecular Science, Research Center of Integrative Molecular Systems, Professor	An Integrated Multi-scale Approach for Studying Cyanobacterial Circadian Clock System	FY2017-2021	31,700 157,400
17H06166	Yumiko Saga 50221271	National Institute of Genetics, Genetic Strains Research Center, Professor	Mechanism of sex differentiation of germ cells	FY2017-2021	24,100 156,200
17H06167	Tatsuo Fukagawa 60321600	Osaka University, Graduate School of Frontier Biosciences, Professor	Molecular mechanisms for centromere formation	FY2017-2021	34,700 157,100

○ Agricultural Sciences (5 Projects)

(Thousands of Yen)

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget / Budget throughout for the Entire Research Period
17H06168	Makoto Nishiyama 00208240	The University of Tokyo, Biotechnology Research Center, Professor	Studies on mechanisms of biosynthesis of biomolecules via amino-group carrier protein and expansion of structural diversity of secondary metabolites	FY2017-2021	50,400 160,700
17H06169	Yasuhisa Asano 00222589	Toyama Prefectural University, Faculty of Engineering, Professor	Development of soluble expression technology and utilization of enzymes from plants and animals	FY2017-2021	39,200 157,700
17H06170	Koji Uchida 40203533	The University of Tokyo, Graduate School of Agriculture and Life Sciences, Professor	Life science basis of short-lived reactive species originated from foods	FY2017-2021	34,700 157,100
17H06171	Shinya Funakawa 20244577	Kyoto University, Graduate School of Global Environmental Studies, Professor	Establishment of “Minimum-loss” agriculture	FY2017-2021	76,700 148,500
17H06172	Ken Shirasu 20425630	RIKEN, Center for Sustainable Resource Science, Group Director	Molecular elucidation of plant-pathogen interactions	FY2017-2021	26,000 156,100

○ Medicine, Dentistry, and Pharmacy（ 7 Projects ）　　（Thousands of Yen）

Research Project Number	Principal Investigator (Name, Researcher Number, Research Institution)		Title	Term of Project	Annual Budget	Budget throughout for the Entire Research Period
17H06173	Masanobu Uchiyama 00271916	The University of Tokyo, Graduate School of Pharmaceutical Sciences, Professor	New Molecular Technologies to Open Up Multiple Applications of Light in Life Science and Materials Science	FY2017-2021	71,000	163,300
17H06174	Kazuhiro Iwai 60252459	Kyoto University, Graduate School of Medicine, Professor	Extensive analyses of the LUBAC ubiquitin ligase	FY2017-2021	34,700	157,100
17H06175	Akihiko Yoshimura 90182815	Keio University, School of Medicine, Professor	Immune systems involved in the resolution of inflammation and tissue repair	FY2017-2021	39,900	158,300
17H06176	Toshiro Sato 70365245	Keio University, School of Medicine, Associate Professor	Gaining Integrative Understanding of Gastrointestinal Disease Phenotypes through Establishment of an Organoid Library	FY2017-2021	82,500	159,000
17H06177	Ryuichi Nishinakamura 70291309	Kumamoto University, Institute of Molecular Embryology and Genetics, Professor	Kidney reconstitution and disease modeling based on nephron induction methods in vitro	FY2017-2021	34,700	157,100
17H06178	Toshihide Yamashita 10301269	Osaka University, Graduate School of Medicine, Professor	Generation of neural network repair medicine	FY2017-2021	43,400	158,600
17H06179	Yumiko Imai 50231163	National Institutes of Biomedical Innovation, Health and Nutrition, Laboratory for Regulation of Intractable Infectious Diseases, Project Leader	Identification of higher-order-epigenetic modification machineries and development of potential novel therapeutics in severe virus infection	FY2017-2021	30,400	150,900