




2020 Kyoto University Amgen Scholars Program
List of Host Laboratories


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Affiliation	PI	Title	Research Area (keyword)	Index
Graduate School of Science	Hiroshi SUGIYAMA	Professor	Chemistry / Molecular Medicine / Biochemistry / Chemical and Biomolecular Engineering	1
Graduate School of Medicine	Masatoshi HAGIWARA	Professor	Drug Discovery / Molecular, Cell and Developmental Biology / Molecular Pharmacology / Immunology / Molecular, Cell and Developmental Biology	2
	Osamu TAKEUCHI	Professor	Immunology / Molecular, Cell and Developmental Biology	3
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	Yasuo MORI	Professor	Drug Discovery / Molecular, Cell and Developmental Biology / Molecular Medicine / Biochemistry / Molecular Pharmacology / Molecular Medicine / Physiological Science	10
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Institute for Advanced Study	Shuhei FURUKAWA	Assoc. Professor	Chemistry	25
	Ken-ichiro KAMEI	Assoc. Professor	Biotechnology	26
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1	Affiliation	Graduate School of Science	
	Name of PI	Hiroshi SUGIYAMA	
	Research Topic of the Lab	Chemical biology of nucleic acids.	
	Eligibility		
	Academic Research Area	Chemistry / Molecular Medicine / Biochemistry / Chemical and Biomolecular Engineering	


2	Affiliation	Graduate School of Medicine	
	Name of PI	Masatoshi HAGIWARA	
	Research Topic of the Lab	Genetic diseases caused by aberrant RNA splicing	
	Eligibility		
	Academic Research Area	Drug Discovery / Molecular, Cell and Developmental Biology / Molecular Pharmacology / Neuroscience	


3	Affiliation	Graduate School of Medicine	
	Name of PI	Osamu TAKEUCHI	
	Research Topic of the Lab	Elucidating mechanisms of immune regulation focusing on RNA metabolism.	
	Eligibility		
	Academic Research Area	Immunology / Molecular, Cell and Developmental Biology	


4	Affiliation	Graduate School of Engineering	
	Name of PI	Seijiro MATSUBARA	
	Research Topic of the Lab	Enantioselective Reaction	
	Eligibility	Experience of the organic chemistry experiment	
	Academic Research Area	Chemistry	


5	Affiliation	Graduate School of Engineering	
	Name of PI	Hiroshi KAGEYAMA	
	Research Topic of the Lab	Materials Sciences	
	Eligibility	Basic knowledge of chemistry (and/or physics)	
	Academic Research Area	Chemistry	


6	Affiliation	Graduate School of Engineering	
	Name of PI	Ryu ABE	
	Research Topic of the Lab	Water Splitting for Hydrogen Production by using Semiconductor Photocatalysis	
	Eligibility	Be interested in photocatalysis	
	Academic Research Area	Chemistry	


7	Affiliation	Graduate School of Engineering	
	Name of PI	Hirofumi SATO	
	Research Topic of the Lab	Theoretical/Computational Chemistry	
	Eligibility		
	Academic Research Area	Chemistry	


8	Affiliation	Graduate School of Engineering	
	Name of PI	Kazunari AKIYOSHI	
	Research Topic of the Lab	Biomedical Polymer Chemistry	
	Eligibility	Outstanding passion and curiosity about bionanomaterials	
	Academic Research Area	Bioengineering / Chemistry / Chemical and Biomolecular Engineering / Immunology	


9	Affiliation	Graduate School of Engineering	
	Name of PI	Itaru HAMACHI	
	Research Topic of the Lab	chemical biology	
	Eligibility	Strong interests in research between chemistry and biology	
	Academic Research Area	Chemical and Biomolecular Engineering / Biochemistry / Neuroscience	


10	Affiliation	Graduate School of Engineering	
	Name of PI	Yasuo MORI	
	Research Topic of the Lab	The laboratory focuses on Ca ²⁺ -permeable ion channels (TRP and voltage-gated Ca ²⁺ channels), redox signaling, and hypoxia to investigate the ion-mediated molecular processes, which underlie physiological/ pathophysiological phenomena, and to develop novel therapeutic strategies targeting ion channels (namely, development of channel inhibitors). We study cancer, immunology, perinatal medicine, and higher-level brain function. We utilize a wide collection of tools, including intracellular Ca ²⁺ imaging, electrophysiology, molecular cloning, cell sorting, animal models, and other advanced technologies. Findings from the laboratory have provided important insights to the understanding of physiology and diseases (Nat Chem Biol 2006&2011; Nat Neurosci 2007; Nat Med 2008; Nat Method 2013; Nat Commun 2014; Cancer Cell 2018).	
	Eligibility	Applicants must hold all of the following requirements: 1) English or Japanese conversation skill at the higher level 2) The basic concepts of biology 3) Strong curiosity about biology	
	Academic Research Area	Drug Discovery / Molecular, Cell and Developmental Biology / Molecular Medicine / Neuroscience	


11	Affiliation	Graduate School of Engineering	
	Name of PI	Yuji HARA	
	Research Topic of the Lab	Elucidating the role of mechanosensation in muscle cells	
	Eligibility		
	Academic Research Area	Biochemistry / Molecular Pharmacology / Molecular Medicine / Physiological Science	


12	Affiliation	Graduate School of Agriculture	
	Name of PI	Kiyoshi YASUKAWA	
	Research Topic of the Lab	Please see the following papers we published in 2019 doi: 10.1093/jb/mvz073 doi: 10.1016/j.enzmictec.2019.109363 doi: 10.1093/jb/mvy101.	
	Eligibility	I would like a student who is interested in an enzyme.	
	Academic Research Area	Biochemistry / Biotechnology	


13	Affiliation	Graduate School of Human and Environmental Studies	
	Name of PI	Naoki KOMATSU	
	Research Topic of the Lab	materials chemistry, medicinal chemistry, biological chemistry	
	Eligibility		
	Academic Research Area	Chemistry / Biochemistry / Drug Discovery	


14	Affiliation	Graduate School of Human and Environmental Studies	
	Name of PI	Hideaki MIYASHITA	
	Research Topic of the Lab	1) Isolation and characterization of microalgae which will be applicable for industrial use. 2) Diversity of cyanobacteria and their phylogenetic evolution 3) Diversity of photosynthesis, photosynthetic system and their phylogenetic evolution 4) Development of bioreactors for microalgae biofuel production	
	Eligibility	Basic knowledge of microbiology	
	Academic Research Area	Microbiology / Biotechnology	


15	Affiliation	Graduate School of Energy Science	
	Name of PI	Takashi SAGAWA	
	Research Topic of the Lab	Solar cells, Photocatalysts, Light-emitting materials	
	Eligibility	Unrestricted	
	Academic Research Area	Chemistry / Chemical and Biomolecular Engineering / Bioengineering	


16	Affiliation	Graduate School of Biostudies	
	Name of PI	Fuyuki ISHIKAWA	
	Research Topic of the Lab	Telomere, Stress Response, Cancer Progression	
	Eligibility	Applicants need English skills for communication.	
	Academic Research Area	Biochemistry / Microbiology / Molecular, Cell and Developmental Biology / Molecular Genetics	


17	Affiliation	Graduate School of Biostudies	
	Name of PI	Hideya FUKUZAWA	
	Research Topic of the Lab	Molecular Biology by using a model photosynthetic eukaryote, <i>Chlamydomonas reinhardtii</i> . (1) Carbon-concentrating mechanism supporting photosynthetic carbon fixation, bioenergy production, and cell proliferation, (2) Environmental signaling mechanisms, which control photosynthesis by sensing changes in CO ₂ level and light, (3) Production of neutral lipids (biofuel) and carbohydrates under nutrient-starvation stress conditions, (4) Phase transition between vegetative and sexual reproduction by nutrient starvation.	
	Eligibility	Basic knowledge in Molecular Biology and scientific curiosity are essential.	
	Academic Research Area	Molecular Genetics / Microbiology / Biotechnology / Bioengineering	


18	Affiliation	Graduate School of Biostudies	
	Name of PI	Naoki WATANABE	
	Research Topic of the Lab	Live-cell single molecule imaging for mechanotransduction studies. Multi-target super-resolution microscopy IRIS.	
	Eligibility	Requires basic knowledge in molecular and cell biology. We will offer the opportunity to learn how to conduct fluorescence single-molecule imaging and related techniques to challenge basic biological problems.	
	Academic Research Area	Biotechnology / Molecular, Cell and Developmental Biology / Molecular Pharmacology / Neuroscience	


19	Affiliation	Graduate School of Biostudies	
	Name of PI	Shige H. YOSHIMURA	
	Research Topic of the Lab	protein and lipid dynamics in the plasma membrane live-cell imaging of protein, lipid and viruses imaging signal transduction pathway	
	Eligibility	having interest on life science having strong eager to become international scientist	
	Academic Research Area	Biochemistry / Bioengineering / Molecular, Cell and Developmental Biology / Molecular Medicine	


20	Affiliation	Graduate School of Biostudies	
	Name of PI	Peter CARLTON	
	Research Topic of the Lab	Recombination and segregation of chromosomes during meiosis	
	Eligibility	Students who have taken genetics and have some experience in molecular biology laboratory techniques	
	Academic Research Area	Molecular, Cell and Developmental Biology / Molecular Genetics / Bioinformatics	


21	Affiliation	Graduate School of Biostudies	
	Name of PI	Hiroshi HARADA	
	Research Topic of the Lab	Molecular mechanisms underlying malignant progression of cancer cells under tumor-specific microenvironment, hypoxia	
	Eligibility	basic knowledge of biology	
	Academic Research Area	Microbiology / Molecular Genetics	


22	Affiliation	Institute for Chemical Research	
	Name of PI	Masaharu NAKAMURA	
	Research Topic of the Lab	Exploring Best Synthetic Organic Chemistry for Better Society and Humanity	
	Eligibility	basic organic chemistry	
	Academic Research Area	Chemistry / Molecular Medicine	


23	Affiliation	Institute of Advanced Energy	
	Name of PI	Takashi MORII	
	Research Topic of the Lab	Chemistry of spatially organized enzymes and receptors	
	Eligibility	Students who love pursuing scientific research	
	Academic Research Area	Chemistry / Biochemistry / Drug Discovery / Chemical and Biomolecular Engineering / Biotechnology	


24	Affiliation	Center for iPS Cell Research and Application	
	Name of PI	Wataru FUJIBUCHI	
	Research Topic of the Lab	1. Spatio-temporal analysis of cell differentiations to construct fundamental theories 2. Design of 3D tissues derived from iPS cells by single-cell analysis 3. Development of human cell database and its medical application 4. Establishment of drug screening system for cell therapy based on artificial intelligence	
	Eligibility	Programming skills	
	Academic Research Area	Bioinformatics / Molecular, Cell and Developmental Biology / Statistics	

25	Affiliation	Institute for Advanced Study	
	Name of PI	Shuhei FURUKAWA	
	Research Topic of the Lab	We study chemistry of porous materials and transform them into game-changing solutions for health, environment and energy issues.	
	Eligibility	We look for students who are full of curiosity and do not hesitate to challenge crossdisciplinary science and innovations.	
	Academic Research Area	Chemistry	

26	Affiliation	Institute for Advanced Study	
	Name of PI	Ken-ichiro KAMEI	
	Research Topic of the Lab	We study nano/microengineering to recapitulate physiological situations in a microdevice by utilizing stem cells. This technology development are applicable for drug development.	
	Eligibility	We are looking for the students who are willing to break the boundaries of traditional research disciplines to explore our new research.	
	Academic Research Area	Biotechnology	

27	Affiliation	Institute for Advanced Study	
	Name of PI	Jun SUZUKI	
	Research Topic of the Lab	Based on the unbiased screening technique, we try to identify the genes regulating the interesting biological phenomenon. Currently, we are interested in lipid dynamics.	
	Eligibility	Motivated enough to learn new things	
	Academic Research Area	Biochemistry / Immunology / Molecular Genetics / Molecular Medicine	

28	Affiliation	Institute for Advanced Study	
	Name of PI	Fuyuhiko TAMANOI	
	Research Topic of the Lab	Cancer Research and Nanotechnology	
	Eligibility	Familiar with biological topics	
	Academic Research Area	Biochemistry / Drug Discovery / Molecular Medicine	

29	Affiliation	Institute for Advanced Study	
	Name of PI	Motomu TANAKA	
	Research Topic of the Lab	Bioengineering, Biophysics, Medical Physics	
	Eligibility	Have had some practical training in a wet laboratory Ability to communicate well in English Interested in interdisciplinary research	
	Academic Research Area	Bioengineering / Biotechnology / Chemical and Biomolecular Engineering / Molecular, Cell and Developmental Biology	