

List of Faculty Members, Graduate School of Life Science(As of June 1, 2018)

Transdisciplinary Life Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
Bioinformation and Molecular Science	Professor	Min Yao	structural biology, protein crystallography, protein science, biophysics, nucleic acid, translation, pathogenic bacteria, SBDD http://altair.sci.hokudai.ac.jp/g6/
	Associate Professor	Toyoyuki Ose	
	Specially Appointed Assistant Professor	Jian Yu	
	Associate Professor	Ryota Uehara	cell division, cytoskeleton, motor proteins, mitotic spindle, contractile ring, self-organization, phenotypic plasticity, live cell imaging, cell manipulation http://tenure-track.cris.hokudai.ac.jp/lab/uehara/
	Assistant Professor	Goro Nishimura	theory, single molecular biophysics, systems biology, time series analysis, protein functions, plant cell biology, nonribosomal peptide synthetase http://mlns.es.hokudai.ac.jp/
Biomaterials Science	Professor	Kenji Monde	chemical biology, chirality, vibrational circular dichroism, bio organic chemistry, organic synthesis, chiroptical spectroscopy http://altair.sci.hokudai.ac.jp/infchb/
	Assistant Professor Assistant Professor	Tohru Taniguchi Yuta Murai	
	Professor	Nobuyuki Tamaoki	motor protein, synthetic molecular machine, organic synthesis, photochemistry, smart molecules, molecular assembly, light energy, nano machine http://tamaoki.es.hokudai.ac.jp/
	Assistant Professor Assistant Professor Assistant Professor	Yuna Kim Kazuya Matsuo Yoshimitsu Sagara	
	Professor	Tokiyoshi Ayabe	
Functional Cellular Science	Associate Professor	Kiminori Nakamura	mucosal immunity, innate immunity, Paneth cell, antimicrobial peptide, α -defensin, dysbiosis, microbiota, ulcerative colitis, Crohn's disease, lifestyle disease http://altair.sci.hokudai.ac.jp/infsig/
	Professor Assistant Professor	Masataka Kinjo Akira Kitamura	fluorescence correlation spectroscopy, cell biology, live cell imaging, biophysics, protein aggregation, protein misfolding, nuclear receptor, wavefront control http://altair.sci.hokudai.ac.jp/infmcd/
Functional and Regulatory Life Science	Professor	Shin-Ichiro Nishimura	drug discovery, biopharmaceuticals, antibody, glycoconjugates, glycomics, biomarkers, chemical biology http://altair.sci.hokudai.ac.jp/g4/
	Associate Professor Assistant Professor	Hiroshi Hinou Fayna Maria Garcia Martin	
	Professor	Toshiaki Koda	disease model mice, poly-glutamine disease, Huntington's disease, embryonic engineering http://altair.sci.hokudai.ac.jp/infemb/index.html
Biomolecular Adaptation Science (Inter-field Cooperation with AIST)	Visiting Professor Visiting Professor	Sakae Tsuda Yasuo Komatsu	antifreeze protein, gene expression analysis, protein structure, oligonucleotide, functional RNA, oligonucleotide therapeutics http://altair.sci.hokudai.ac.jp/g_renkei/top.html https://unit.aist.go.jp/bpri/bpri-bimo/research_kakusan.html
	Visiting Associate Professor Visiting Associate Professor	Hidemasa Kondo Yu Hirano	
Frontier Biomaterials Science Inter-Field Cooperation with National Institute for Material Science (NIMS)	Visiting Professor	Nobutaka Hanagata	nanomedicine, DNA drug, toll-like receptors, cytosolic DNA-binding proteins, immune system, nanomaterials, drug delivery http://www.nims.go.jp/hokudai/life/index.html http://www.nims.go.jp/group/nanomedicine/english/index.html
	Visiting Associate Professor	Tomohiko Yamazaki	

Biosystems Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
Higher Order Cellular Functions	Professor Assistant Professor Assistant Professor	Kazuma Tanaka Tetsuo Mioka Takuma Kishimoto	cell polarity, phospholipid asymmetry, membrane traffic, flippase, yeast http://www.igm.hokudai.ac.jp/molint/index.html
	Professor Assistant Professor	Tomomichi Fujita Ooikock Teh	land plants, moss, evolutionary development, stem cell, cell polarity, asymmetric cell division, cell cycle, cell proliferation and differentiation, environmental stress, abscisic acid, a crosstalk between plant development and stress responses, space utilization science http://www.sci.hokudai.ac.jp/PlantSUGOIne_en/
	Associate Professor	Masaaki Watahiki	auxin, feedback gene regulation, live imaging, plant morphogenesis http://www.sci.hokudai.ac.jp/watahiki/mkwhp/index.html
	Professor	Sanae M. M. Iguchi-Ariga	protooncogene, mutagen, oxidative stress, cancer, neurodegenerative disease, cellular and molecular biology, proliferation, transformation, apoptosis http://www.agr.hokudai.ac.jp/emolb/index.html
Environmental Life Science	Professor Assistant Professor	Atsushi Kato Hidetaka Ito	gene expression, genome evolution, non-coding RNAs, retrotransposon, heat stress, epigenetic effects, plants, arabidopsis http://www.sci.hokudai.ac.jp/grp/keitai/sci.hokudai/KeitaiIII_mail.htm
	Professor Assistant Professor	Junji Yamaguchi Takeo Sato	environmental adaptation, ubiquitin-proteasome system, nutrient metabolism, signal transduction, nutrient stress, plant immunity, proteomics http://www.sci.hokudai.ac.jp/CSF2-web/
	Associate Professor	Yukako Chiba	mRNA stability, stress response, arabidopsis https://www.sci.hokudai.ac.jp/~yukako/
	Associate Professor	Yasuhiro Takada	psychrophilic bacteria, cold-adapted enzymes, enzyme activity at low temperatures, cold-induced gene expression, regulation of gene expression http://www.sci.hokudai.ac.jp/~ytaka/takada.html
	Professor	Satoshi Naito	<i>Arabidopsis thaliana</i> , translation arrest, mRNA degradation, methionine biosynthesis http://www.agr.hokudai.ac.jp/arabi/
	Specially Appointed Professor Associate Professor Assistant Professor Assistant Professor	Ayumi Tanaka Ryouichi Tanaka Hisashi Ito Atsushi Takabayashi	photosynthesis, chlorophyll, cyanobacteria, algae, higher plants, arabidopsis, plant molecular biology, plant biochemistry http://www.lowtem.hokudai.ac.jp/plantadapt/ayumi/

Biosystems Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
Animal Behavior and System Control	Professor Assistant Professor	Toshiya Matsushima Nina Patzke	neuro-economics and foraging theory, impulsiveness and risk sensitivity, birds, imprinting (Toshiya Matsushima); comparative neuroanatomy, encephalization, large brains of whales and cetaceans, cognitive hypothesis, thermogenesis hypothesis (Nina Patzke) http://www.sci.hokudai.ac.jp/~matusima/chinou3/Welcome.html https://patzkelab.org/home/
	Professor Assistant Professor	Makoto Mizunami Hiroshi Nishino	learning, olfaction, memory, insect, microbrain, neuroethology, physiology, genetics, pest control https://www.sci.hokudai.ac.jp/~mizunami/MICROB~2/ http://www.es.hokudai.ac.jp/labo/nishino/
	Professor	Hiroto Ogawa	brain, neuroscience, electrophysiology, imaging, information processing, neural circuit, coding, sensorimotor integration, insect https://www.sci.hokudai.ac.jp/~hogawa/index2.html
	Associate Professor	Kazuhiro Wada	vocal learning, critical period, epigenetics, neural activated gene, songbird, neuroethology, genome, behaviour, DNA methylation, stuttering http://www.wada-lab.org/
	Associate Professor	Masayo Soma	behavior, cognition, communication, bird song, learning, life history http://www.lfsci.hokudai.ac.jp/search/system/soma.html
	Associate Professor	Hitoshi Aonuma	Synthetic neuroethology, neurobiology, electrophysiology, biomechanics, robotics inspired biology, neurogenetics, neuromodulation, social behavior, aggression, ultra fast movement, insect http://ncmac2.es.hokudai.ac.jp/index.html
	Associate Professor	Nobuaki Tanaka	sensory processing, neuroendocrine system, Drosophila genetics, pygmy squid https://www.sci.hokudai.ac.jp/grp/tanaka/lab/index.html
Reproductive and Developmental Sciences	Professor	Masakane Yamashita	oocyte maturation, spermatogenesis, meiosis, translational control, transgenic fish https://www.sci.hokudai.ac.jp/~myama/index_e.html
	Professor	Yoshinao Katsu	endocrinology, steroid hormone, nuclear receptor, thermoreceptor, evolution, endocrine disruptor https://www.repdev-katsu.jp/index.html
	Professor Assistant Professor Assistant Professor	Asato Kuroiwa Ikuya Yoshida Shusei Mizushima	sex determination, sex chromosome, X chromosome inactivation, fertilization, evolution, the spiny rat, chicken, quail, mouse https://sites.google.com/site/kuroiwagroup/home
	Associate Professor	Kazuhiro Kitada	model animals, human diseases, genome modification, gene function, mouse, rat https://sites.google.com/site/kitadalab/
	Associate Professor	Tomoya Kotani	oocyte, embryonic development, maternal factor, real-time imaging, zebrafish, mouse
	Associate Professor	Atsushi Kimura	transcription, epigenetics, gene regulation, long noncoding RNA, dual promoter-enhancer, reproduction, spermatogenesis, protease https://www.sci.hokudai.ac.jp/~akimura/Molecular/Welcome.APK.html
	Associate Professor	Katsueki Ogiwara	ovary, ovulation, follicle selection, endocrine regulation, mouse, zebrafish, medaka https://www.sci.hokudai.ac.jp/~kogi/Reproductive2/Welcome.html

Biomedical and Pharmaceutical Science Course, Division of Life Science

Fields	Supervisors		Research Topics
Biochemistry	Professor Associate Professor Assistant Professor	Akio Kihara Takayuki Sassa Yusuke Ohno	lipid, membrane, biochemistry, metabolism, lipid mediator, barrier formation http://www.pharm.hokudai.ac.jp/seika/index.html
RNA Biology	Professor Lecturer Assistant Professor	Shinichi Nakagawa Hiroshi Maita Saori Yokoi	noncoding RNA, epigenetics, nuclear structures, RNA processing https://sites.google.com/site/hokudairnabiologyj/home
Neuroscience	Professor Associate Professor Assistant Professor Assistant Professor	Toshiharu Suzuki Hidenori Taru Saori Hata Tadashi Nakaya	cell biology, alzheimer's disease, synapse formation, vesicular trafficking by kinesin motor, alcadein, X11L, app, als, gene expression. http://www.pharm.hokudai.ac.jp/shinkei/index.html
Immunology	Professor Lecturer Lecturer Assistant Professor	Tadashi Matsuda Ryuta Muromoto Junichi Kashiwakura Yuichi Kitai	host defense, immunity, inflammation, infection, cytokine, oncogenesis, signal transduction http://www.pharm.hokudai.ac.jp/eisei/
Biomolecular Science	Professor Associate Professor Assistant Professor	Katsumi Maenaka Kimiko Kuroki Atsushi Furukawa	immunology, infectious disease, cell surface receptor, X-ray crystallography, protein engineering, biologics, drug discovery, chemical library screening, in silico screening, virology, microbiology http://convallaria.pharm.hokudai.ac.jp/bunshi/
Natural Products Chemistry	Professor Assistant Professor	Toshiyuki Wakimoto Kenichi Matsuda	bioactive natural products, isolation, structure elucidation, stereochemistry, structure-activity relationship, molecular targets, biosynthesis, drug leads, bioprobes http://www.pharm.hokudai.ac.jp/tennen/index.html
Fine Synthetic Chemistry	Professor Associate Professor Assistant Professor Assistant Professor	Yoshihiro Sato Yoshihiro Oonishi Tsuyoshi Mita Ryohei Doi	organic synthesis, organometallic chemistry, transition-metal catalysis, asymmetric catalysis, natural product synthesis, utilization of gaseous molecules, green chemistry http://gouka.pharm.hokudai.ac.jp/
Synthetic and Industrial Chemistry	Professor Assistant Professor Assistant Professor	Shigeki Matsunaga Tatsuhiko Yoshino Masahiro Kojima	synthetic organic chemistry, asymmetric catalysis, bimetallic cooperative catalysis, natural product synthesis, oligosaccharide synthesis based on new glycosidation method http://www.pharm.hokudai.ac.jp/yakuzou/
Organic Chemistry for Drug Development	Professor Lecturer	Satoshi Shuto Mizuki Watanabe	medicinal chemistry: drug design http://www.pharm.hokudai.ac.jp/yuuki/index.html
Pharmacology	Professor Lecturer Lecturer Assistant Professor	Masabumi Minami Taiju Amano Hiroshi Nomura Natsuko Hitora	neuropharmacology, electrophysiology, emotion, pain, addiction, BBB http://www.pharm.hokudai.ac.jp/yakuri/index.html

Biomedical and Pharmaceutical Science Course, Division of Life Science

Fields	Supervisors		Research Topics
Molecular Design of Pharmaceutics	Professor Associate Professor Assistant Professor Assistant Professor	Hideyoshi Harashima Yuma Yamada Kouji Nakamura Yusuke Sato	drug delivery system, organelle-targeting, nanomedicine, gene delivery, siRNA delivery, intracellular trafficking, imaging, vaccine, cancer therapy http://www.pharm.hokudai.ac.jp/yakusetu/index.html
(Innovative Nanomedicine)	Professor Specially Appointed Assistant Professor	Hideyoshi Harashima Ikramy Abdel Raheem Khalil Ibraheem	vascular-targeted drug delivery, nanomedicine, active targeting, tumor, liver, adipose tissue, specific ligand http://www.pharm.hokudai.ac.jp/mirai/
Molecular Imaging	Professor Lecturer Assistant Professor	Mikako Ogawa Hideo Takakura Yusuke Kono	molecular imaging, imaging probe, PET, optical imaging, MRI http://www.pharm.hokudai.ac.jp/bunseki/index.html
Clinical Pharmaceutics & Therapeutics	Professor Associate Professor Assistant Professor Assistant Professor	Ken Iseki Masaki Kobayashi Katsuya Narumi Ayako Furugen	transporter, clinical research, cancer pharmacotherapy, infection control http://rinshoyakuzaigaku.pharm.hokudai.ac.jp/
Pathophysiology & Therapeutics	Professor Lecturer Specially Appointed Assistant Professor	Hiroshi Takeda Kouji Nakagawa Naoto Okubo	inflammatory bowel disease, MIF, hypoxia, ghrelin, anorexia http://www.pharm.hokudai.ac.jp/byoutai/index.html
Pharmacokinetics	Professor Associate Professor Assistant Professor	Mitsuru Sugawara Yoh Takekuma Izumi Kato	pharmacokinetics, transporter, drug metabolism, pharmaceutics http://www.pharm.hokudai.ac.jp/doutai/index.html
Center for Research and Education on Drug Discovery (Synthetic Drug Discovery)	Professor Lecturer Assistant Professor	Satoshi Ichikawa Fumika Yakushiji Akira Katsuyama	organic synthesis, natural products, drug discovery, chemical library screening, in silico screening, intractable disease, chemical biology https://japanese-apricot.pharm.hokudai.ac.jp/gouseiyaku/index.php
Center for Research and Education on Drug Discovery (Biologics and Drug Development)	Professor Specially Appointed Associate Professor Assistant Professor Specially Appointed Assistant Professor Specially Appointed Assistant Professor Specially Appointed Assistant Professor	Katsumi Maenaka Naoyoshi Maeda Masato Sumi Takao Nomura Hideo Fukuhara Syunsuke Kita Takashi Tadokoro	biologics, drug discovery, chemical library screening, in silico screening, intractable disease http://japanese-apricot.pharm.hokudai.ac.jp/

Division of Soft Matter, Graduate School of Life Science

Laboratory	Supervisors		Research Topics
Soft Matter Materials Science	Professor Professor	Jian Ping Gong Takayuki Kurokawa	Our laboratory deals with soft matter "gel". In addition to soft and large deformation, we aim to create polymer gels with superior functions as like living body, especially mechanical function, elucidate the principle of its function expression, and apply gel to biological substitute soft tissues such as cartilage. We also aim to extend the results of these gel studies to other soft matter materials and apply them to industrial materials. Typical research topics are 1) design and creation of high strength · high toughness gels and elastomers, 2) elucidation of dynamics and fracture mechanism of soft matter, 3) creation of low friction gels, clarification of friction and lubrication mechanism of gels, 4) creation of high-toughness soft composite materials and clarification of fracture mechanism, 4) gel mechanochemistry, 5) biomineralization and soft ceramics, 6) biomaterials and artificial cartilages. URL: http://altair.sci.hokudai.ac.jp/g2/index_e.html
	Assistant Professor Assistant Professor	Tasuku Nakajima Daniel R King	
	Specially Appointed Assistant Professor	Takayuki Nonoyama	
	Professor	Kuniharu Ijiro	development of DNA-based nanodevices, creation of biotemplated nanoarchitecture for bioapplications, controlled self-assembly of metal nanoparticles for photonics applications, dynamic structure control using soft matters such as hydrogel URL: https://chem.es.hokudai.ac.jp/en/
	Associate Professor	Hideyuki Mitomo	
	Assistant Professor	Yusuke Yonamine	
Biomolecular Soft Matter	Professor	Makoto Demura	Proteins play fundamental roles for cellular and therefore life activities in all living organisms on earth. Our research interests are to understand how the proteins make their own structures, how the structures change over time, and how the structural dynamics leads individual protein functions. By using several spectroscopic and electrochemical techniques, we are analyzing the functional mechanisms of photoactive proteins, which are the molecular devices developed by organisms to utilize sunlight for cellular metabolic processes. Our goal is to develop the novel photoactive proteins applicable to environmental and medical problems. URL: http://altair.sci.hokudai.ac.jp/infana/
	Lecturer	Takashi Kikukawa	
	Assistant Professor	Takashi Tsukamoto	
	Associate Professor	Tomoyasu Aizawa	protein engineering, structural biology, protein, peptide, NMR metabolomics URL: http://altair.sci.hokudai.ac.jp/g5/
Soft Matter Biophysics	Professor	Hisashi Haga	collective cell migration, 3D morphogenesis, cancer invasion, collagen gel, matrigel, anisotropic gel, molecular cell biology, mechanobiology, biomechanics, polymer physics URL: http://altair.sci.hokudai.ac.jp/g3/
	Assistant Professor	Seiichiro Ishihara	
	Professor	Toshiyuki Nakagaki	soft matter physics, active soft mater, cell movement, biomechanics, ethology, behavioral intelligence, contractile protein, rheology, amoeboid movement, ciliary motion, nematoda, peristaltic locomotion, development, morphogenesis, transport network, model simulation, mathematical modeling, slime mold, ciliate, flagellate URL: http://pel.es.hokudai.ac.jp/
	Associate Professor	Katsuhiko Sato	
Soft Matter Medical Science	Associate Professor	Masumi Tsuda	biomaterial, artificial cartilage, cancer stem cell, molecular targeted therapy, regenerative medicine, neuroregeneration URL: http://patho2.med.hokudai.ac.jp
	Lecturer	Tomohiro Onodera	Orthopaedic Surgery, Tissue Engineering, Cartilage Biology, Glycobiology, Clinical application, Alginate Gel, Human Clinical Trial. URL: http://www.hokudaiseikei.jp/
Functional Soft Matter Inter-Field Cooperation with National Institute for Materials Science (NIMS)	Visiting Professor	Takashi Nakanishi	molecular liquid, ionic liquid, polymer gel, block copolymer, stimuli-responsive materials, optoelectronic function, self-assembly, dynamic biomimetics, sensor, actuator https://life.sci.hokudai.ac.jp/en/sm/lab/functional-soft-matter http://www.nims.go.jp/hokudai/life/index_en.html
	Visiting Associate Professor	Takeshi Ueki	

Division of Clinical Pharmacy, Graduate School of Life Science

Fields	Supervisors		Research Keywords (lower case)
Department of Clinical Pharmaceutics	Professor Associate Professor	Ken Iseki Masaki Kobayashi	transporter, clinical research 【Laboratory of Clinical Pharmaceutics & Therapeutics】 http://rinshoyakuzaigaku.pharm.hokudai.ac.jp/
	Professor	Mikako Ogawa	molecular imaging, imaging probe, PET, optical imaging, MRI, Theranostics
	Professor Associate Professor	Mitsuru Sugawara Yoh Takekuma	pharmacokinetics, transporter, drug metabolism, pharmaceutics 【Laboratory of Pharmacokinetics】 http://www.pharm.hokudai.ac.jp/lab_17.html
	Associate Professor	Yuma Yamada	gene delivery, nanotechnology, liposome, vaccine, intracellular trafficking 【Laboratory for Molecular Design of Pharmaceutics】 http://www.pharm.hokudai.ac.jp/yakusetu/index.html
	Associate Professor	Takehiro Yamada	infection control 【Department of Pharmacy, Hokkaido University Hospital】 http://www2.huhp.hokudai.ac.jp/~pharm-w/
Department of Pharmacotherapy & Clinical Informatics	Professor Lecturer	Hiroshi Takeda Kouji Nakagawa	inflammatory bowel disease, MIF, hypoxia, ghrelin, anorexia 【Laboratory of Pathophysiology & Therapeutics】 http://www.pharm.hokudai.ac.jp/byoutai/index.html