

List of Supervisors and Research Fields

Master's Course

Transdisciplinary Life Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
Bioinformation and Molecular Science	Professor Associate Professor Specially Appointed Assistant Professor	Min Yao Toyoyuki Ose Jian Yu	Protein, nucleic acid, transcription / translation control, disease related factor, signal transduction, infection regulation, X-ray structural biology, protein crystallography, computer science, protein science, biophysics, http://altair.sci.hokudai.ac.jp/g6/
	Associate Professor	Ryota Uehara	Cell division, ploidy, cytoskeleton, motor protein, self organization, cancer, aging, liver disease, microscopic analysis, biochemistry, molecular biology, cell culture, mouse model, transcriptome, mathematical modeling, compound screen http://tenure-track.cris.hokudai.ac.jp/lab/uehara/
	Specially Appointed Lecturer	Shinji Nakaoka	mathematical biology, systems biology, bioinformatics, microbial ecology, precision medicine, multi-omics, mathematical modeling, machine learning, big data analysis http://altair.sci.hokudai.ac.jp/infmcb/
Biomaterials Science	Professor Assistant Professor Assistant Professor	Kenji Monde Tohru Taniguchi Yuta Murai	Chemical Biology, Chirality, Organic Synthesis, Inhibitors, Vibrational Circular Dichroism, Helix, Lipid Mediator, Glycoconjugate, Immune System, Medicinal Chemistry http://altair.sci.hokudai.ac.jp/infchb/
	Professor Assistant Professor Assistant Professor Assistant Professor	Nobuyuki Tamaoki Yuna Kim Kazuya Matsuo Yoshimitsu Sagara	molecular machine, motor protein, photochromic compound, azobenzene, liquid crystal, self-organization, inter-molecular interaction, organic synthesis, nano bio-machine, single molecular measurement, chirality http://tamaoki.es.hokudai.ac.jp/
Functional Cellular Science	Professor Associate Professor	Tokiyoshi Ayabe Kiminori Nakamura	innate immunity, antimicrobial peptide, mucosal immunity, intestinal epithelial cell, Paneth cell, inflammatory bowel disease, defensin, molecular targeted therapy, stem cell, regenerative medicine, intestinal microbiota, life-style disease, food and medicine http://altair.sci.hokudai.ac.jp/infsig/
	Professor Assistant Professor	Masataka Kinjo Akira Kitamura	Fluorescence Correlation Spectroscopy, Fluorescence Cross Correlation Spectroscopy, single molecule detection, ALS, molecular interaction, Live cell imaging, FCS, FCCS http://altair.sci.hokudai.ac.jp/infmcd/

Transdisciplinary Life Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
Functional and Regulatory Life Science	Professor Associate Professor Assistant Professor	Shin-Ichiro Nishimura Hiroshi Hinou Fayna Maria Garcia Martin	Chemical biology, Medicinal chemistry, Glycomedicine, Automated glycosynthesis, Glycomics, Glycobiology, Biomarker discovery, Dynamic epitope, Glycopeptide, Antibody drug http://altair.sci.hokudai.ac.jp/g4/
	Professor	Toshiaki Koda	neurodegenerative disease, poly-glutamine disease, autophagy, model mice, embryonic engineering http://altair.sci.hokudai.ac.jp/infemb/index.html
Biomolecular Adaptation Science (Inter-field Cooperation with AIST)	Visiting Professor Visiting Professor Visiting Associate Professor Visiting Associate Professor	Sakae Tsuda Yasuo Komatsu Hidemasa Kondo Yu Hirano	Antifreeze protein, Ice-binding function, Snow mold fungi, Gene expression, Biomolecular NMR, X-ray structural analysis, Biodiversity, Cell-preservation peptide, Reporter Assay, 3D molecular structure, Gene detection, Nucleic acid drugs, Functional DNA/RNA, Molecular detection, Cell-function evaluation, Electrochemistry http://altair.sci.hokudai.ac.jp/g_renkei/top.html https://unit.aist.go.jp/bpri/bpri-bimo/research_kakusan.html

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List of Supervisors and Research Fields

Master's Course

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	plant, evolutionary development, stem cell, cell polarity, cell cycle, cell proliferation and differentiation, environmental stress, abscisic acid, moss, space utilization science http://www.sci.hokudai.ac.jp/PlantSUGOIne/
	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/
	Professor	Satoshi Naito	<i>Arabidopsis thaliana</i> , translation arrest, mRNA degradation, methionine biosynthesis http://www.agr.hokudai.ac.jp/arabi/
	Associate Professor Assistant Professor Assistant Professor	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
	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

Biosystems Science Course, Division of Life Science

Laboratory	Supervisors		Research Topics
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 Shusei Mizushima Ikuya Yoshida	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

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List of Supervisors and Research Fields

Master's Course

Division of Soft Matter, Graduate School of Life Science

Laboratory	Supervisors		Research Topics
Soft Matter Materials Science	Professor Professor	Jian Ping Gong Takayuki Kurokawa	Polymer gel, Double network gel, Soft & wet matter, Sacrificial bond, High strength, High toughness, Composite, Friction, Lubrication, Liquid crystal, Structure color, Self-organization, Biomaterial, Artificial cartilage, Cell scaffold 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	Self-organization, self-assembly, biomimetics, functional device, biosensor, DNA, protein, biomolecule, cell, molecular recognition, drug delivery system, vaccine, gold nanoparticle, surface plasmon, stimulus-response, nanocapsule URL: https://chem.es.hokudai.ac.jp/en/
	Associate Professor	Hideyuki Mitomo	
	Assistant Professor	Yusuke Yonamine	
Biomolecular Soft Matter	Professor	Makoto Demura	Peptides, proteins, membrane proteins, functional analysis, NMR, photobiology, rhodopsin, photoactive proteins, biomimicry, biomaterials, soft matters, bioinformatics, ion transport, membrane transporters URL: http://altair.sci.hokudai.ac.jp/infana/
	Lecturer	Takashi Kikukawa	
	Assistant Professor	Takashi Tsukamoto	
	Associate Professor	Tomoyasu Aizawa	protein science, structural biology, protein engineering, NMR, metabolome, biomarker research, biological defense, innate immunity, antimicrobial peptides, cytokines, microbiological control URL: http://altair.sci.hokudai.ac.jp/g5/
Soft Matter Biophysics	Professor	Hisashi Haga	Mechanobiology, Cancer Invasion and Metastasis, Collective Cell Migration, 3D Morphogenesis, Atomic Force Microscopy, Confocal Laser Scanning Microscopy, Regenerative Medicine URL: http://altair.sci.hokudai.ac.jp/g3/
	Assistant Professor	Seiichiro Ishihara	
	Professor	Toshiyuki Nakagaki	mathematical modeling, nonlinear dynamics, far from equilibrium, slime mold, ciliate, nematoda, field work, biomechanics, locomotion, Belousov-Zhabotinski reaction, pattern formation, scaling theory, evolutionary ecology, live cell imaging, memory and learning, metabolic network, electro-physiology, primitive nervous system, computer simulation URL: http://pel.es.hokudai.ac.jp/
	Associate Professor	Katsuhiko Sato	
	Assistant Professor	Yukinori Nishigami	

Division of Soft Matter, Graduate School of Life Science

Laboratory	Supervisors		Research Topics
Soft Matter Medical Science	Associate Professor	Masumi Tsuda	biomaterial, cancer stem cell, molecular targeted therapy, regenerative medicine, cartilage regeneration, neuroregeneration URL: http://patho2.med.hokudai.ac.jp
	Lecturer	Tomohiro Onodera	Orthopaedic Surgery, Joint Surgery, Regenerative Medicine, Musculoskeletal System, Animal Model, Scaffold, Cartilage, Bone, Meniscus, Biomaterials, Soft Matter, Clinical Application, Translational Research URL: http://www.hokudaiseikei.jp/

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