Faculty and Research Guide of the Graduate School of Natural Science and Technology, Gifu University

【Department of Life Science and Chemistry】

Molecular Life Science Division

Name	Research Field	Research Topics
Professor **ANDO, Hiromune**	Carbohydrate-Oriented Life Science	Chemical Syntheses of Natural Glycoconjugates Creation of Versatile Carbohydrate Probes
Professor **ISHIDA, Hideharu**	Bioactive Materials Science	Chemical biology on bioactive glycoconjgates Chemical biology on bioactive lipids
Associate Professor **IMAMURA, Akihiro**	Applied Carbohydrate Chemistry	Chemical Syntheses of Biologically-relevant Glycans Development of Novel Glycosylation Methods
Professor **IWAHASHI, Hitoshi**	Applied Microbiology	OMICS studies on environmental stress Studies on microbial control using environmental stress
Associate Professor **IWAMA, Tomonori**	Microbial Biochemistry	Structure and function of bacterial chemoreceptor
Professor **UENO, Yoshihito** ※	Nucleic Acid Chemistry	Design and chemical synthesis of functional nucleic acids for gene therapy and genetic diagnosis
Associate Professor **KIZUKA, Yasuhiko**	Glycobiology	Biochemical analysis of physiological and pathological functions of mammalian glycans
Assistant Professor **SHIMADA, Atsuhiro** ※	Enzyme Science	Structure-based understanding the chemical reaction mechanism driven by enzymes
Professor **SUZUKI, Kenichi**	Cell Biophysics	Studies on cell membrane structures and signal transduction by single-molecule imaging
Professor **SUZUKI, Tohru**	Genome Microbiology	A new aspect of microbiology using genome science and bio-informatics
Associate Professor **TERAMOTO, Yoshikuni**	Chemistry of Biomass-based Materials	Structural designing and functionalization of cellulose and related polysaccharide derivatives and their hyperfine composites Material functionalization of wood components
Professor **NAKAGAWA, Tsutomu**	Molecular Cellular Biology	Molecular biology of the renin-angiotensin system
Associate Professor **NAKAMURA, Kohei**	Molecular Microbial Ecology	Syntrophic methanogenesis Prokaryotic diversity on anaerobic metabolism in carbon cycle
Professor **MITSUNAGA, Tohru**	Natural Products Chemistry	Bioactivity of plant polyphenols Anti-obesity effects of terpenoids contained in a higher plant Physiological activity of hydrolysable and condensed tannins against microorganisms
Associate Professor **YANASE, Emiko**	Bio-organic Chemistry	Isolation, structure determination and synthesis of Natural products
Assistant Professor **YAMAUCHI, Kosei**	Natural Products Chemistry	Isolation and identification of ingredients from natural products Investigation of physiological activity of ingredients in animal cells

「※」: No student recruitment for 2019

Life Science for Food Division

Name	Research Field	Research Topics
Assistant Professor **INAGAKI, Mizuho**	Food Material Chemistry	Biochemistry and Molecular Biology on cellular responses and functions using the food components, Research on food components and gut microbiota
Assistant Professor **IMAIZUMI, Teppei**	Process Engineering for Agriproducts	Studies on structural and physical properties in processed fruit and vegetables
Professor **IWAMOTO, Satoshi**	Food Engineering	Encapsulation of antioxidative compounds for making fine food and/or medicals by emulsification Application of self-assembly of natural amphiphilic substance to create functional interface Sol-gel and/or grass transition of food materials
Assistant Professor **KATSUNO, Nakako**	Food Processing Chemistry	Study of dispersion stability of particles in nonaqueous food slurry
Assistant Professor **KITAGUCHI, Kohji**	Functional Food Biochemistry	Molecular and cellular studies on the interaction between immune cells and food components Studies on inhibitory effect of food on allergic diseases
Associate Professor **SHIMADA, Masaya**	Molecular Nutrition	Regulation of metabolic diseases (fatty liver, diabetes, hypertension etc.) by nutrients and food components
Assistant Professor **THAMMAWONG , Manasikan**	Postharvest Physiology	Understanding of Quality Change Mechanisms and Development of the Novel Postharvest Technology for Fresh Produces
Professor **NAKAGAWA, Tomoyuki**	Molecular Function of Food	Molecular cell biology of yeasts Molecular breeding of yeasts Development of industrial enzymes
Professor **NAGAOKA, Satoshi**	Molecular Function of Food	Studies on the functional and nutraceutical food components in health promotion and life-style related disease (eg. hypercholesterolemia, hyperlipidemia, obesity) prevention. Studies on the novel signalling pathway related to the expression of food function by functional and nutraceutical food components, and the development of new fundamental strategies for the development of functional food.
Professor **NAKANO, Kohei**	Postharvest Engineering	Postharvest Physiology and Technology of Fresh Agricultural produces
Professor **NISHIZU, Takahisa**	Food Process Engineering	Studies on physical properties of food Development of food process monitoring technique Studies on food freezing
Professor **MAEZAWA, Shigenori**	Food Logistics Science	Studies on the Food Distribution Science Analysis for Food Distribution Mechanism through Wholesale Market Optimization of Distribution System of Fresh Food
Professor **YABE, Tomio**	Food Chemistry and Biochemistry	Glycobiological studies on function control through proteoglycans. Structural analysis of a dietary fiber in food and studies on physiology.

【Department of Agricultural and Environmental Science】

Plant Production Division

Name	Research Field	Research Topics
Professor **OBA,** **Shinya**	Plant Production control	Study on the genetical and the physiological properties of field crop plants such as rice, soybean, buckwheat etc. Study on the plant production systems and the field control based on low input agriculture from soil science and ecological aspects
Assistant Professor **OCHIAI,** **Masaki**	Horticultural Biotechnology and Bioengineering	Molecular and biological properties of horticultural plants under environmental control. Breeding of horticultural varieties suitable for protected cultivation.
Professor **KAGEYAMA,** **Koji**	Vegetation Ecology	Environment Assessment Using Soil Microorganisms Molecular Ecology of Soil Microorganisms Molecular Diagnosis of Plant Pathogens
Associate Professor **KAJIKAWA,** **Chikako**	Food Economics	Econometric Research on Supply-Demand Structure of Agricultural Products and Structure of the Food Industry
Associate Professor **KOBAYASHI,** **Yuriko**	Molecular Plant Nutrition	Genetics and Molecular Biology of Plant Mineral Nutrition and Environmental Stress Tolerance Mechanisms in Plant using Genetic Diversity
Professor **KOYAMA,** **Hiroyuki**	Plant Cell Technology	Molecular Physiology in the plant responses to aluminum toxicity and Pi deficiency Plant molecular breeding to improve growth performance in the acid soil Applied genomics approaches for "gene-fishing" that can utilize plant breeding
Associate Professor **SHIMAZU,** **Teruaki**	Environmental Control Engineering	・Development of environmental control on plant production systems ・Analysis of greenhouse microclimate ・Analysis of the environmental response of plant physiological process
Associate Professor **SHIMIZU,** **Masafumi**	Plant Pathology	Biological control of plant diseases Analysis of tri-trophic interactions among plants, pathogens and plant probiotics
Associate Professor **SUGA,** **Haruhisa**	Molecular Plant Pathology	Molecular Ecology of Plant Pathogens Producing Mycotxins Pathogenicity Mechanisms of Plant Pathogens Genome Evolution of Plant Pathogens
Professor **MATSUI,** **Tsutomu**	Crop Production Science	Heat induced floret sterility in rice Mechanics of anther dehiscence in grain crops Life cycle assessment in agriculture
Associate Professor **MATSUBARA,** **Yoichi**	Horticultural Plant Production	Bioregulation of environmental stress tolerance in horticultural plants Antioxidative ability in horticultural plants Herb plants with antifungal and antioxidative ability
Professor **YAMADA,** **Kunio**	Horticultural Science	Postharvest Physiology of Cut Roses Plant Physiology in the Petal Growth Phytoremediation using Ornamental Plants
Associate Professor **YAMANE,** **Kyoko**	Genetics and Plant Breeding	Origin, Evolution, and Conservation of Wasabi Breeding of Buckwheat- Related Species. Molecular Cloning of Adaptation Characters in Triticum/ Aegilops Species, Wheat-Related Species.
Professor **YAMAMOTO,** **Yoshiharu Y.**	Plant Genome Science	Environmental Stresses and Photosynthesis Genome-wide Analysis of Plant Promoter Photosynthetic Sea Slug
Associate Professor **LEE,** **Younmi**	Agricultural Policy	The influence by which agricultural policy gives to agricultural structure

Animal Science Division

Name	Research Field	Research Topics
Associate Professor **ASANO,** **Makoto**	Zoo and Wildlife Medicine	Population analysis on Wild Mammals Population Control of Invasive Alien Mammals Reproductive Research on Wild Mammals
Professor **IWASAWA,** **Atsushi**	Comparative Biochemistry (Animal Physiological Chemistry)	Ontogeny of the pituitary-thyroid axis in chicken embryo Development of sensitive, non-radioisotopic immunoassays for avian pituitary hormones Mechanism of avian glucose homeostasis
Assistant Professor **OTSUKA,** **Tsuyoshi**	Animal Productive Management	Biological rhythms and animal productivity Effects of environmental changes on animal physiology
Associate Professor **KUSUDA,** **Satoshi**	Zoo Animal Reproduction	Reproductive physiology in zoo and wild animals Development of non-invasive endocrine monitoring techniques for endangered animals
Professor **SUZUKI,** **Masatsugu**	Wildlife Biology	Reproductive Biology of Wildlife Management Techniques of Wildlife Wildlife Diseases
Associate Professor **TADANO,** **Ryo**	Animal Genome Diversity	Study on genetic diversity of livestock and poultry
Professor **DOI,** **Osamu**	Animal Reproduction	Reproductive Physiology of Endangered Animals
Associate Professor **NINOMIYA,** **Shigeru**	Animal Welfare & Behaviour	Animal management and welfare Investigation of mechanism of animal behaviour
Assistant Professor **HIMAKI,** **Takehiro**	Animal Developmental Engineering	Artificial controls of the generative cells Development of the techniques to produce the high valuable animals
Professor **MATSUMURA,** **Shuichi**	Animal Genetics	Evolutionary genetics of domestic and wild animals Evaluation and conservation of genetic diversity in domestic and wild animals
Professor **YAMAMOTO,** **Akemi**	Animal Nutrition	Response of poultry to energy and amino acids Estimation of digestibility for pigs and poultry
Associate Professor **YAMAMOTO,** **Kenya**	Animal development Animal reproduction	Early developmental processes in echinoderms
Professor **YAYOTA,** **Masato**	Animal Feeding and Nutrition	Nutritional ecology of grazing ruminants on semi-natural grasslands Digestive physiology of grazing ruminants

Environmental Science and Ecology Division

Name	Research Field	Research Topics
Associate Professor **ANDO, Masaki**	Wildlife Ecology and Management	Interactions between Food Habit of Wildlife and Forest Ecosystem Wildlife Ecology and Management Resolving Conflicts between Wildlife and Human
Professor **AWAYA, Yoshio**	Forest management and remote sensing of vegetation	Vegetation mapping (type, biomass, production) Forest ecosystem management (zoning of management type) Forest resource planning
Professor **HIRAMATSU, Ken**	Water Resources and Environmental Engineering	Ecological and environmental hydraulics Conservation of aquatic ecology and environment in a rural area Water resources management
Assistant Professor **HIROTA, Isao**	Regional Resource Ecology	Regional plant utilization and management in Southeast Asia and Japan Agricultural system and ecology in Southeast Asia and Japan.
Associate Professor **ISHIDA, Megumi**	Forest Management	Management of artificial and natural forests(regeneration, silviculture, conservation) Forest construction and its environments(biomass, 3D architecture, climates)
Associate Professor **ITO, Kengo**	Aquatic Biology and Environmental Science	Conservation of Aqua Biological Ecology Irrigation and Drainage Analysis of Plants Sap Flow
Assistant Professor **KATAHATA, Shin-Ichiro**	Tree Ecophysiology	Environmental Response of Tree Flowering Mechanism of Tree
Associate Professor **KATO, Shogo**	Forest Ecology	Spatial pattern and process in woody plants (Hemiparasitic plant, understory plant, Liana and Japanese fir) Positive and negative phototropism of root climber
Professor **KAWAKUBO, Nobumitsu**	Biodiversity Conservation	Plant Taxonomy Evolutionary Ecology Biodiversity Conservation
Associate Professor **MUKAI, Takahiko**	Biogeography	Research on the diversity of aquatic animals, and on their conservation.
Professor **MUKAI, Yuzuru**	Forest Molecular Ecology	Analysis of the factors affecting genetic structure and gene flow in natural tree populations Genetic diversity at the loci relating to self-incompatibility and/or inbreeding depression in tree species Eco-physiological studies on the photoprotection in woody plants
Professor **MURAOKA, Hiroyuki**	Plant and ecosystem physiological ecology	Light acquisition and utilization of vascular plants Plant growth and light environment in forest ecosystems Ecohysiological process in terrestrial ecosystem carbon cycle
Associate Professor **NISHIMURA, Naomasa**	Environmental Engineering for Land Resource	Water movement ant mass transport through soil Environmental improvement of water quality in agricultural region
Professor **NISHIMURA, Shin-ichi**	Agricultural Structures and Environment Engineering	Safety and effective use of agricultural structures for water supply
Associate Professor **NISHIYAMA, Tatsuro**	Mechanics for Agricultural Dams	Estimation of strength of rock foundations for dam safety
Assistant Professor **NODA, Keigo**	Water Resources and Environemt Design	Watershed hydrology and material dynamics focused on agricultural activities in Monsoon Asia an Asia Pacific Islands.
Professor **OHTSUKA, Toshiyuki**	Ecosystem ecology	Carbon sequestration in forest ecosystems Community structure and ecosystem function Dynamics of detritus pools in forest ecosystems
Assistant Professor, **OKAMOTO, Tomoko**	Chemical Ecology	Insect pheromone Research Role of plant volatiles in plant-animal interaction Speciation mechanisms
Associate Professor **ONISHI, Takeo**	Hydrology	Dissolved iron production and transport mechanism in natural environment Comparison of hydrological characteristics of deciduous forest and coniferous forests Anthropogenic impacts on hydrological cycle in terrestrial area in the Ili River

Assistant Professor **SAITOH, Taku**	Environmental biophysics	Study on carbon, water and heat cycles in terrestrial ecosystems based on field measurements and ecosystem modelling
Professor **TSUCHIDA, Koji**	Insect Ecology	Colony and population structures of social insects Genetic population structures of insects in the wild
Associate Professor **TSUDA, Satoshi**	Management of Resources and Environment	Field: fire ecology, vegetation science, plant ecology or botany Material: burn sites following forest fire, secondary grasslands maintained by burning, slash and burn agricultural fields, etc. Interest: vegetation recovery, seedling emergence, soil seedbank, disturbance
Associate Professor **Wei Yongfen**	Environmental monitoring	Monitoring and assessment of Nitrogen, Carbon and environmental pollutants in natural environment (forest, agricultural land and water systems)