

Division of Social Engineering and Environmental Management

Department of Urban Environment Development

Research Areas	Instructors	Theme
Hydraulic Engineering	Prof. (Special appointment) MAENO Shiro	Evaluation of nature oriented hydraulic structures
	Assoc. Prof. YOSHIDA Keisuke	Study on prevention and mitigation of fluvial disasters
	Assoc. Prof. AKOH Ryosuke	Development of practical hydraulic model and numerical simulation for water disaster prevention
Geotechnical and Groundwater Engineering	Prof. TAKESHITA Yuji	Geotechnical site characterization by in-situ non-destructive testing
	Prof. KOMATSU Mitsuru	Research on investigation of groundwater flow and preservation of geoenvironment
	Assoc. Prof. KIM Byeongsu	Study on mechanical behavior for prevention and mitigation of soil-structure's disasters (Natural slope, Embankment, etc.)
Design of Steel Structures	Prof. NISHIYAMA Satoshi	Development of modeling and analytical methods for reducing the risk of geohazard
	Prof. HIEJIMA Shinji	Study on wind and tidal current power generation
	Assoc. Prof. KIMOTO Kazushi	Application of vibration and wave propagation theories to the monitoring of civil infrastructures
Design of Concrete Structures	Prof. AYANO Toshiki	Durability of concrete structures
	Assoc. Prof. FUJII Takashi	Development of environment conscious materials for construction works
Architecture and Urban Spatial Planning	Assoc. Prof. HORI Hirofumi	Architecture and urban spatial planning for creating good quality of living environment as housing stock, and Area-based management/ Business Improvement District

Department of Rural Environment Management

Research Areas	Instructors	Theme
Vegetation Management	Asst. Prof. NAKASHIMA Yoshitaka	Function and management of weed vegetation
Applied Ecology	Prof. NAKATA Kazuyoshi	Ecology and conservation of freshwater animals
	Asst. Prof. KATSUHARA Koki	Creation and maintenance of plant diversity
Soil Management	Prof. MAEDA Morihiro	Soil and water quality management in agricultural land
Agricultural Land Engineering	Prof. MORI Yasushi	Conservation and restoration of soil environment
	Asst. Prof. TSUJIMOTO Kumiko	Study on soil-plant-atmosphere interaction through integrating ground observation, satellite observation, and numerical models
Terrestrial Information Management	Prof. MORITA Hidenori	Study on rural environment applying terrestrial information processing
Irrigation and Drainage	Prof. MOROIZUMI Toshitsugu	Movement of water, heat, and chemicals in soil-atmosphere continuum
	Assoc. Prof. SOMURA Hiroaki	Study on efficient use of water resources by appropriate irrigation management
Catchment Hydrology	Prof. CHIKAMORI Hidetaka	Future prediction of change in basinwide circulation of water
	Assoc. Prof. KUDO Ryoji	Hydrological analysis of catchment responses to environmental changes
Design of Environmental Infrastructures	Prof. NISHIMURA Shin-ichi	Prediction and risk evaluation in geotechnical problems
	Assoc. Prof. SHUKU Takayuki	Studies on inverse analysis in geotechnical engineering
Management of Environmental Infrastructures	Assoc. Prof. SHIBATA Toshifumi	Analysis of nonlinear soil-structure interaction problems
Environmental Economics	Prof. UBUKATA Fumikazu	Economic development, natural resources, and environmental governance in developing countries
International Rural Studies	Prof. KIM Doo-Chul	Depopulated rural studies in Japan, China and Korea, Area study of Vietnam
	Assoc. Prof. HONDA Yasuko	Community-based management of rural resources, Community renewable energy
Rural Planning	Prof. KUKI Yasuaki	Establishment of comprehensive rural planning theory in community and municipality levels

Division of Biological and Human Environment

Department of Environmental Ecology

Research Areas	Instructors	Theme
Physiological Plant Ecology	Prof. SAKAMOTO Keiji	Ecological studies on stand dynamics and population dynamics in forests
	Prof. MIKI Naoko	Ecophysiological analysis of water use mechanism in woody species
Environmental Soil Science	Prof. SHIMA Kazuto	Nutrient dynamics in soil-plant ecosystems

Research Areas	Instructors	Theme
Forest Ecology	Prof. HIROBE Muneto	Nutrient dynamics in forest ecosystems
	Assoc. Prof. HYODO Fujio	Functional roles of consumer organisms in forest ecosystems
	Assoc. Prof. MIYAZAKI Yuko	Ecological studies on forest dynamics and reproductive system of forest tree
Conservation of Aquatic Biodiversity	Assoc. Prof. FUKUDA Hiroshi	Systematics and conservation of molluscs
Evolutionary Ecology	Prof. MIYATAKE Takahisa	Ecological evolutionary studies on insect population dynamics
	Assoc. Prof. OKADA Kensuke	Evolutionary studies on morphology and behavior in insects
Bioproduction Systems Engineering	Prof. MONTA Mitsui	Robotics for bio-production
	Assoc. Prof. NAMBA Kazuhiko	Plants growth control using the speaking plant approach
Resources Management	Assoc. Prof. DATAI Hisashi	Strategic policies for rural resource planning and rural resource management system
Farm Management Systems and Information Processing	Assoc. Prof. OHNAKA Katsutoshi	Research on the farm management and agricultural policy

Department of Human Ecology

Research Areas	Instructors	Theme
Mathematical Science for Data Engineering	* Prof. OBAYASHI Ippei	Topological data analysis, especially persistent homology, from mathematical theory, software development to applications to materials science
Applied Mathematics	Assoc. Prof. HAYASAKA Futoshi	Theory of multiplicities, graded rings and integral closure of modules
	Assoc. Prof. AOYAMA Takahiro	Developing and analyzing stochastic models in environmental and life science
Mathematical Analysis of Models	Prof. SASAKI Toru	Mathematical analysis and its applications to mathematical biology
	Assoc. Prof. OBUSE Kiori	Mathematical understanding and descriptions of hierarchical structures in fluid systems
Numerical Analysis of Flow Phenomena	Prof. ISHIHARA Takashi	Computational science and numerical analysis for understanding turbulent flow phenomena in environmental and life science
	Assoc. Prof. SEKIMOTO Atsushi	Data-driven computing for turbulent heat and mass transfer and dynamical system for mathematical modeling and control for nonlinear phenomena
Environmental Statistics	Prof. SAKAMOTO Wataru	Statistical modeling and computing for analyzing data in environmental and life science
	Assoc. Prof. YAMAMOTO Michio	Statistical data analysis for environmental and life sciences
Design and Analysis of Environmental Survey and Experiments	Prof. KURIHARA Koji	Statistical approaches for spatio-temporal data
	Prof. IIZUKA Masaya	Development of variable selection in multivariate method and its software for environmental data
	Assoc. Prof. ISHIOKA Fumio	Detection of spatial, temporal and space-time clustering for environmental and life science data
Environmental Epidemiology	Prof. TSUDA Toshihide	Health effects induced by environmental pollution (various pollutants); Epidemiologic investigation on a food borne disease outbreak; Causal inference in medical and environmental sciences

*Affiliation Cyber-physical engineering informatics research core

Division of Sustainability of Resources

Department of Sustainable Society Studies

Research Areas	Instructors	Theme
Solid Waste Management and Recycling	Prof. FUJIWARA Takeshi	Research on development of solid waste management towards sound material-cycle society
	Assoc. Prof. MATSUI Yasuhiro	Research on system analysis for waste management
	Asst. Prof. HABUER	Study on material flow and environmental and resource impact analysis for strategic waste management
Environmental Measurement and Control	Prof. KAWAMOTO Katsuya	Effective and safe disposal of solid/liquid wastes, and development of material and/or energy recovery
Urban and Transport Planning	Prof. HASHIMOTO Seiji	Urban Transportation planning for sustainable society

Research Areas	Instructors	Theme
Urban and Transport Planning	Assoc. Prof. HIGUCHI Teruhisa	Study on technological histories of civil engineering
	Assoc. Prof. UJIHARA Takehito	Urban and regional planning in an era of population decrease and environmental constraints
Water Environment and Sanitation	Prof. NAGARE Hideaki	Water treatment, phosphorous resource recovery, water environment management in lakes and wetlands
	Assoc. Prof. SAITO Mitsuyo	Nutrient transport, transformation and biogeochemical process in surface and ground water in coastal watershed

Department of Material and Energy Science

Research Areas	Instructors	Theme
Ceramic Materials	Prof. NANBA Tokuro	Development of ceramic materials for reducing environmental burden
	Assoc. Prof. BENINO Yasuhiko	Morphology control of functional glass and glass-ceramic materials
Inorganic Functional Material Chemistry	Prof. KAMESHIMA Yoshikazu	Development of eco-friendly inorganic materials
	Assoc. Prof. NISHIMOTO Shunsuke	Development of functional inorganic materials for environmental protection and energy conversion
Advanced Organic Materials	Sr. Asst. Prof. TAJIMA Tomoyuki	Development of organic molecular devices containing main group elements
Environmental Polymer Chemistry	Prof. KIMURA Kunio	Creation of environmentally benign polymerization system and polymer materials
	Assoc. Prof. YAMAZAKI Shinichi	Design of high-performance environmental polymeric materials based on high-order structural control
	Asst. Prof. ATARASHI Hironori	Development of low environmental load polymer materials
Environmental Process Engineering	Prof. KIMURA Yukitaka	Design for environmental process using subcritical water
	Assoc. Prof. SHIMANOUCHI Toshinori	Design and Development of Novel Separation Process, Associating with Formation of Heterogeneous Phase at Interface with Dynamic Ordered-Structure
Environmental Reaction Engineering	Prof. UDDIN Md. Azhar	Development of catalysts for the recycling of energy and resources
	Prof. (Special appointment) KATO Yoshiei	Material processing by environmentally benign reaction

Division of Science for Bioresources

Department of Biofunctional Chemistry

Research Areas	Instructors	Theme
Applied Natural Product Chemistry	Prof. KIYOTA Hiromasa	Synthesis of Bioactive Compounds and Development of New Methodologies in Organic Synthesis
	Assoc. Prof. IZUMI Minoru	Synthesis of Bioactive Compounds and Development of New Methodologies in Organic Synthesis
Chemistry of Bioactive Compounds	Prof. KANZAKI Hiroshi	Search and Production of Useful Bioactive Compounds Using Cells or Enzymes
	Prof. NITODA Teruhiko	Search for Natural Bioactive Compounds
Functional Glycobiology	Prof. KIMURA Yoshinobu	Functional Analysis and Application of Bioactive Glycoconjugates
	Assoc. Prof. MAEDA Megumi	Immunomodulatory Effects on Antigenic <i>N</i> -glycans of Plant Glycoproteins
Applied Enzyme Chemistry	Prof. INAGAKI Kenji	Structural and Functional Analysis of Useful Enzymes from Extremophiles
	Assoc. Prof. MORIYA Hisao	Analysis of Consequences of Protein Overexpression
	Asst. Prof. NEMOTO Michiko	Understanding of molecular mechanisms of biomineralization
Food Biochemistry	Prof. NAKAMURA Yoshimasa	Molecular Basis for Physiological Functions of Food Chemicals
	Asst. Prof. NAKAMURA Toshiyuki	Functional Mechanism and Bioavailability of Food Factors
Chemistry of Bio-signalling	Prof. MURATA Yoshiyuki	Elucidation of Mechanisms of Response and Tolerance to Environmental Stresses in Plants
	Assoc. Prof. MUNEMASA Shintaro	Elucidation of Molecular Mechanisms Controlling Environmental Stress Responses in Plants
Microbial Function	Prof. TAMURA Takashi	Structure-Function Study on Selenium-Containing Enzymes
	Assoc. Prof. KANAO Tadayoshi	Physiological, Biochemical and Molecular biological Research on Acidophilic Chemoautotrophic Bacteria

Department of Plant Stress Science

Research Areas	Instructors	Theme
Plant Genetics and Physiology	Prof. SAKAMOTO Wataru	Characterization of molecular mechanisms controlling photosynthesis and other important agronomical traits
	Assoc. Prof. MATSUSHIMA Ryo	Plant cell biology about cereal seed storage material
	Asst. Prof. OKEGAWA Yuki	Study on the regulatory mechanism of photosynthesis in plants
Signaling Mechanisms	Prof. HIRAYAMA Takashi	Understanding of molecular mechanisms for responses to plant hormones and environment stresses and signal intergration system in higher plants
	Assoc. Prof. MORI Izumi	Studies on environmental signal integration systems of stomatal guard cells
	Assoc. Prof. IKEDA Yoko	Study on epigenetic gene regulation in plants
Plant Cytomolecular Biochemistry	Assoc. Prof. SUGIMOTO Manabu	Characterization of plant biomacromolecular responding to extreme environment and its application to the development of stress-tolerant plants
	Asst. Prof. RIKIISHI Kazuhide	Genetic and physiological studies on the regulation of pre-harvest sprouting in cereals
Plant Stress Responses	Prof. MA Jian Feng	Molecular mechanisms of plant mineral stress tolerance and transporter identification
	Assoc. Prof. YAMAJI Naoki	Studies on mineral distribution control systems in plants
	Assoc. Prof. MITANI Namiki	Studies on mineral transporters in plants
Plant Molecular Physiology	Prof. KATSUHARA Maki	Plant molecular, cellular, and physiological studies of water and ion transports under environmental (especially salt and osmotic) stresses
	Assoc. Prof. SASAKI Takayuki	Analyses of plant growth mechanism regulated by ion transporters under acid soil and environmental stresses
	Asst. Prof. UTSUGI Shigeko	Study on regulation of seed germination by plant hormones
Molecular Virology	Prof. SUZUKI Nobuhiro	Elucidation of molecular mechanisms underlying replication and symptom induction of agriviruses
	Assoc. Prof. KONDO Hideki	Molecular biology of plant-virus interactions
	Assoc. Prof. HYODO Kiwamu	Molecular mechanisms of plant-virus interactions
Plant-Insect Interactions	Prof. GALIS Ivan	The role of plant hormones, genes and metabolites in defense of plants against herbivorous insects
	Assoc. Prof. SHINYA Tomonori	Molecular mechanism of herbivory perception in plants
Plant-Pathogen Interactions	Prof. KAWANO Yoji	Molecular mechanisms of plant-pathogen interactions
Plant-Environmental Microbiology	Assoc. Prof. TANI Akio	Physiology and application of plant-associated bacteria
	Assoc. Prof. UEKI Shoko	Study on interaction between plant viruses and their hosts at molecular and cellular level
Plant Diversity Analysis	Prof. SATO Kazuhiro	Evaluation and utilization of plant genetic resources based on genetic analysis and genome diversity analysis
	Assoc. Prof. SAISHO Daisuke	Research on genetic diversity and adaptive evolution in barley
	Assoc. Prof. HISANO Hiroshi	Study for the genetic diversity of agronomically-important traits in plants and application to plant breeding
Plant Functional Genomics	Prof. TAKETA Shin	Identification of genes controlling morphology, seed nutrients and disease resistance in barley and grasses
Integrated Genomic Breeding	Prof. YAMAMOTO Toshio	Development of genomics-assisted breeding in rice
	Assoc. Prof. NAGAKI Kiyotaka	(1) Analyses of plant centromeres, and (2) Analyses of relationship between chromosome structure and repetitive DNA sequences.
	Asst. Prof. FURUTA Tomoyuki	Establishment of a high-efficiency breeding method driven by bioinformatics and statistical genetics
Plant Diversity and Evolution	Assoc. Prof. IKEDA Hajime	Geographic structure of genetic diversity and local adaption in plants
	Asst. Prof. YAMASHITA Jun	Plant systematics based on morphology and molecular phylogeny, and conservation of local populations of endangered plants

Division of Science for Bio-Production

Department of Plant Science

Research Areas	Instructors	Theme
Genetic Engineering	Prof. ICHINOSE Yuki	Virulence of phytopathogenic bacteria and plant non-host resistance
	Prof. YAMAMOTO Mikihiro	Plant-phytopathogenic fungi interactions
	Assoc. Prof. MATSUI Hidenori	Functional analysis of plant immune regulators and plant breeding for disease resistance
Plant Genome Dynamics Analysis	Assoc. Prof. MONDEN Yuki	Genetic analysis based on plant genome informatics
Plant Pathology	Prof. TOYODA Kazuhiro	Molecular biology of parasitism and immunity in plant-microbe interactions
	Assoc. Prof. NOUTOSHI Yoshiteru	Plant disease resistance mechanism and immune-priming chemicals

Department of Plant Science

Research Areas	Instructors	Theme
Plant Genetics and Breeding	Prof. KATO Kenji	Molecular genetic studies on diversity and agronomical traits of crop genetic resources
	Assoc. Prof. NISHIDA Hidetaka	Molecular genetic study on heading-related traits in wheat and barley
Postharvest Horticulture	Assoc. Prof. AKAGI Takashi	Molecular physiology, genomics/genetics and evolution for fruits and flowers
Postharvest Physiology	Prof. KUBO Yasutaka	Molecular analysis of fruit ripening and its application for postharvest technology
	Assoc. Prof. USHIJIMA Koichiro	Molecular biology and genetic engineering for horticultural crops
Plant Production Science	Prof. SAITOH Kuniyuki	Development and systematization of production technology for crop cultivation, and analysis of eco-physiological characteristics of crop varieties for high-yielding and high-quality
Pomology	Assoc. Prof. HIRANO Ken	Physiological and morphological studies on berry growth and maturation of grape
	Assoc. Prof. FUKUDA Fumio	Physiological analysis of fruit quality and development of new growing system on fruit trees
	Asst. Prof. KAWAI Takashi	Development of a gene evaluation system for Prunus fruit tree species with virus vector
Vegetable Crop Science	Prof. YOSHIDA Yuichi	Control of growth and flowering in horticultural plant production
	Prof. YASUBA Ken-ichiro	Improvement of growth of vegetables with controlling environment
Control of Flowering	Prof. GOTO Tanjuro	Flowering control and production of floriculture
	Assoc. Prof. KITAMURA Yoshikuni	Flowering control and production of floriculture
Crop Science	Prof. HIRAI Yoshihiko	Improvement of crop productivity and quality under environmental stress
	Asst. Prof. TOMITA Asami	Breeding study for tolerance to abiotic stress and root morphological trait in rice

Department of Animal Science

Research Areas	Instructors	Theme
Reproductive Physiology	Prof. KIMURA Koji	Establishment of pregnancy in farm animals
	Assoc. Prof. YAMAMOTO Yuki	Mechanisms of oviductal function in mammals
Animal Development and Reproductive Biotechnology	Prof. FUNAHASHI Hiroaki	Maturation and fertilization of mammalian gametes and the applied manipulation
	Assoc. Prof. WAKAI Takuya	Basic and applied research on organelles in mammalian oocytes and embryos
Animal Physiology	Prof. SAITO Noboru	Study on the mechanism of homeostatic function and reproduction of birds
	* Prof. ANDO Motonori	Studies on structure-function relationship of the mammalian stria vascularis, and of the avian tegmentum vasculosum, in the cochlear duct
	Assoc. Prof. HATABU Toshimitsu	Pathophysiological and immunological studies on host-pathogen relationships in domestic animals and fowls
Animal Breeding and Genetics	Assoc. Prof. IBI Takayuki	Genetic analysis and breeding for quantitative traits in Livestock
Applied Animal Genetics	Assoc. Prof. TSUJI Takehito	Studies on genes regulating body growth and reproductive functions in mammals
Animal Nutrition and Feed Science	Prof. NISHINO Naoki	Microbial ecology associated with feed preservation and animal health
	Assoc. Prof. TSURUTA Takeshi	Research on the underlying mechanism of disease preventive effects exerted by food bacteria and dietary fiber
Animal Applied Microbiology	Prof. MORITA Hidetoshi	Studies on human microbiome and comparative genomics of bacteria
	Assoc. Prof. ARAKAWA Kensuke	Processing and quality control of animal food products using lactic acid bacteria
Assisted Reproductive Medicine	Assoc. Prof. OTSUKI Junko	Research on the culturing of human embryos and ICSI technology, and the meiotic abnormalities and dysmorphic phenotypes in human oocytes
	Asst. Prof. TASAKI Hidetaka	Development research on advanced technology of mammalian germ cells

* Affiliation Graduate School of Education

Woman-Tenure-Track Staff

Research Areas	Instructors	Theme
Resources Management	Asst. Prof. HIGASHIGUCHI Akiko	Establishment of rural environmental management system principally involving wildlife management
Plant-Pathogen Interactions	Asst. Prof. FUKADA Fumi	Analysis of plant defense mechanism regulated by endogenous peptides

Tenure-Track-Junior Staff

Research Areas	Instructors	Theme
Forest Ecology	Asst. Prof. MATSUMOTO Tetsuya	The contribution of small pollinators to the diversification of flowering plants
Architecture and Urban Spatial Planning	Asst. Prof. PARK Minjeong	The historical transition and conservation of modern architecture