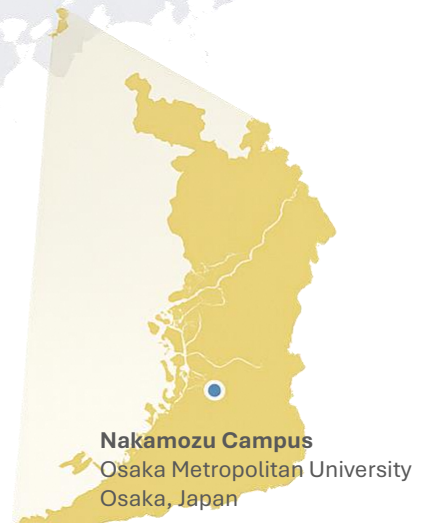


Graduate School of Agriculture

We conduct research aimed at understanding the biological phenomena of diverse organisms at the molecular and cellular levels and applying this knowledge to the fields of life science, biotechnology, and the environment. We also address issues related to farmland, natural ecosystems, and urban green spaces through interdisciplinary approaches such as landscape architecture, agricultural engineering, ecology, and environmental studies. Through these efforts, we aim to develop human resources with an international perspective who can contribute to the realization of a sustainable society.



Contact

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Name

Email



Department of Agricultural Biology



We provide education and research related to green biotechnology and agri-innovation to understand the potential of living organisms, especially plants, and to produce and secure food, resources, and useful substances for the construction of a sustainable society.

Plant Molecular Breeding

Nozomu KOIZUMI
Yuji IWATA

Molecular breeding of eggplant, Science communication, Regulatory science
Gene regulation, Stress response, microRNA, Cell signaling

Functional Genomics

Koh AOKI
Yoshiyuki OGATA
Ayako TSUSHIMA

Parasitic plants, Plasmodesmata, Plant-plant interaction
Gene evolution, Data science, Bioinformatics
Filamentous plant pathogen, Genome evolution, Diagnosis

Cell Molecular Biology

Noriko INADA
Takashi FUKADA

Cytoskeleton, Cellular temperature
Cytoskeleton, Actin-binding protein, Mechanobiology

Cellular Metabolism

Atsushi OKAZAWA
Takumi OGAWA

Biotic Interactions, Plant Biomanufacturing, Chemical Biology
Lipid Metabolism, Bioproduction, Metabolomics

Plant Nutrition

Junpei TAKANO
Naoyuki SOTTA

Transporters, Sensing, Endocytosis, Boron, Phosphorus
Transport, Plant-insect interaction, Translation, Bioinformatics

Plant Pathology

Motoaki TOJO
Tomofumi MOCHIZUKI
Sayo KODAMA

Disease control, Diagnosis, Oomycete, Vermicompost
Virus pathogenicity, Virus engineering, Virus ecology
Phytopathogenic fungi, Fungal morphogenesis, Fungal-plant interaction

Breeding and Genetics

Shuji YOKOI
Takahiro TEZUKA
Kumpei SHIRAGAKI

Plant Breeding, Phase transition, Urban Farming
Plant Breeding, Wide Hybridization, Reproductive Isolation
Plant Breeding, Stress resilience, Hybrid vigor

Food Safety

Nobuhiro SASAKI
Yube YAMAGUCHI

Plant specialized metabolism, Plant pigment, Regulatory Science
Plant stress responses, Plant factory, Science communication

Horticultural Sciences

Shuji SHIOZAKI
Teruo WADA
Ryota ARAKAWA

Enology, Fruit quality, Viticulture, Wild grape
Greenhouse, Hydroponics, Vegetables, Vertical farming
Physiological disorders, Soil microorganisms, Soil phosphorus

Crop Production Science

Masamichi OHE
Masanori YANASE

Deep-flood irrigation, Irrigation, Rice, Tiller
Abandoned land, Direct seeding of rice, Regeneration of sorghum

Department of Applied Biological Chemistry



We provide education and research intending to understand the biological phenomena of various living organisms at the molecular and cellular levels and apply the knowledge to the sustainable development of human society. We aim to develop graduates with an international and interdisciplinary perspective.

Fermentation Chemistry

Michihiko KATAOKA
Natsuko MIURA
Hiromi TAKADA

Application of microbial enzymes to the production of useful compounds
Enzyme evolution, Molecular basis of microbial metabolic regulation under stress
Gut microbiota-host crosstalk and human health

Biocycle Engineering

Tatsuji SAKAMOTO
Mitsuhiro UEDA
Masami NAKAZAWA

Analysis of fungal plant cell wall-degrading enzymes, Biomass utilization
Biomass, Biological waste treatment, Bioenergy, Biotransformation, Bioremediation
Biochemistry and metabolic engineering of Euglenoids (Euglena and Rapaza)

Natural Products Chemistry

Kohki AKIYAMA
Takahiro MASUYA

Identification and functional analysis of mycorrhizal signalling molecules
Elucidation of the bioenergy production systems by synthetic organic molecules

Biological Macromolecules

Shigenori NISHIMURA

Kinetic study and structure biology of amylase and related enzymes

Nutrition Chemistry

Ryoichi YAMAJI
Naoki HARADA
Tomoya KITAKAZE

Food component-mediated signaling mechanisms regulating skeletal muscle health
Hormones, functional foods, and the regulation of metabolic homeostasis
Carotenoid and retinoid signaling, Molecular nutrition, Myokine

Food Material Chemistry

Yoshiyuki WATANABE
Shisei TAKASHIGE

Process engineering for effective use of food materials
Food materials design based on structural control and drying

Applied Microbiology

Shuji TANI
Jun-ichi SUMITANI

Molecular genetics in Fungi and Oomycetes, Plant-microbe interactions
Functional improvements of microbial enzymes

Synthetic Bioorganic Chemistry

Kenji KAI
Motohiro SONODA

Bioactive natural products chemistry, Chemical communication among microbes
Designing and synthesis of heteroatom-contained bioactive aromatic compounds

Physical Biochemistry

Nobutaka FUJIEDA
Yoshitsugu MORITA

Creation of enzymes, peptzymes, and nanozymes
Design and functional tuning of protein-based artificial enzymes

Food Bioavailability

Kaeko MUROTA
Yasuyuki FUJII

Bioavailability of functional food factors;
Digestion, absorption and metabolism of food ingredients
Bioavailability, physiological activity, and preference regulation of foods

Department of Environmental Sciences and Technology



We provide education and research related to the environment surrounding agricultural land, natural land, and urban green space from multiple perspectives including landscape architecture, agricultural engineering, ecology, and environmental studies, and to concretely address these issues.

Ecological Meteorology

Hiroyuki YAMADA Urban climate, Urban greening
Masahito UEYAMA Micrometeorology, Ecosystem ecology, Urban climate, Greenhouse gas

Environmental Control in Biology

Toshio SHIBUYA Plant-environment interactions, Controlled-environment horticulture
Ryosuke ENDO Circular bioresource systems, Resource recovery and reuse from organic residues

Geo-environmental Engineering

Torahiko TANIGAWA Subsurface irrigation, Smart farming
Takashi KIMATA Geotechnical engineering, Construction and materials, Soil test, Numerical analysis
Yosuke KUDO Irrigation pond, Maintenance for infrastructures, Multifunctionality

Science and Engineering of Hydrological Environment

Takao NAKAGIRI Watershed hydrological cycle, Water resources and environmental conservation, Hydrological model, Irrigation and drainage engineering
Shinji SAKURAI Water quality management, Hydrological cycle, Material dynamics in the water-soil-plant continuum, Watershed environmental conservation

Environmental Engineering in Biological Production

Satoshi SAKATA Agricultural water management, Adaptation to climate change, Smart agriculture
Yoshifumi NISHIURA Systematization and robotization for environment-conscious bioproduction, Bioinstrumentation and control engineering, Phytotechnology

Landscape Planning and Design

Shigeaki TAKEDA Urban landscape design, Interaction between public spaces and public life
Kaoru MATSUO Landscape planning and design, Ecological planning, Urban environment, GIS

Landscape Architecture and Conservation

Akihiro NAKAMURA Revegetation, Forest ecology, Forest and tree management, 3D analysis
Moeko UEDA Landscape ecology, Vegetation management, Historic greenery, Satoyama conservation

Regional Landscape Management

Hiroyuki KAGA Landscape management, Ecological planning, Symbiotic society
Yoshitaka OTSUKA Urban green space, Social determinants of health, Social capital, Behavioral change, Probabilistic modeling
Saeko TERADA Conservation science, Biodiversity conservation, Wildlife management, Human-wildlife conflict, Wildlife trade governance, Sustainable use of wildlife

Environmental Entomology and Zoology

Norio HIRAI Life history of insects, Conservation biology of animals, Management of alien species and insect pests
Shouhei UEDA Species interaction, Assessment and management of alien insects, Conservation biology of animals
Naoyuki NAKAHAMA Conservation ecology, Conservation genetics, Pollination ecology, Restoration ecology