

Laboratory List

Civil and Environmental Engineering, Graduate School of Engineering

Graduate School	Department	Research Group	Research Area	Job title	Name	Research Interests
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Structural Analysis	Professor	Junji Kato	Numerical simulation and optimal design for structures; Topology optimization for advanced material design; Finite element method for material/kinematic nonlinearity and dynamics; Innovative design and manufacturing with 3D printer; Reduced order-based data science
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Infrastructure System Design	Professor	Kazuo Tateishi	Steel bridge engineering; Maintenance of steel structures; Fatigue and fracture of steel bridges; Mechanics of steel-concrete composite structures
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Infrastructure System Design	Assoc. prof.	Takeshi Hanji	Steel structures; Fatigue and fracture of steel structures; Repair and retrofitting technique for cracked steel members; Seismic assessment and rehabilitation of steel bridges; Applications of image technique to infrastructures; Welding
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Concrete Materials and Structures	Professor	Hikaru Nakamura	Concrete structure; Seismic design of concrete structure; Maintenance and durability of concrete structure; Nonlinear analysis of concrete structure; Nondestructive test of concrete
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Concrete Materials and Structures	Assoc. prof.	Taito Miura	Multi-scale mechanical modelling for cementitious materials; Mesoscale chemo-mechanical analysis for chemical deterioration and fracture of cementitious materials; Expansion cracking mechanism due to ASR/DEF Reduction mechanism of compressive behaviors of concrete due to cracks with different directionality and discernibility.
Engineering	Civil and Environmental Engineering	Structural Engineering, Materials, and Informatics	Steel Structures	Assoc. prof.	Koji Nishiguchi	Numerical simulation of structural dynamics, nonlinear materials, and fluid-structure interaction problems; High-performance computing
Engineering	Civil and Environmental Engineering	Hydraulics, Hydrology, Coastal, and Ocean Engineering	Coastal and Ocean Engineering	Professor	Norimi Mizutani	Stability of coastal structures; Wave deformation due to coastal and offshore structures and wave forces; Tsunami disaster and mitigation; Sediment transport and beach deformation
Engineering	Civil and Environmental Engineering	Hydraulics, Hydrology, Coastal, and Ocean Engineering	Coastal and Ocean Engineering	Assoc. prof.	Tomoaki Nakamura	Stability of coastal structures and their foundation considering dynamic interaction between waves, structure motion, sediment transport, and seabed response; Tsunami-induced topographic change
Engineering	Civil and Environmental Engineering	Hydraulics, Hydrology, Coastal, and Ocean Engineering	River Engineering	Professor	Yuji Toda	River engineering; Fluvial hydraulics with riparian vegetation; Ecohydraulics; Numerical modeling of river eco-system
Engineering	Civil and Environmental Engineering	Hydraulics, Hydrology, Coastal, and Ocean Engineering	River Engineering	Assoc. prof.	Ryota Tsubaki	Advanced field monitoring of fluid flow and sediment transport; Development of river channel morphology control approach; High resolution inundation flow simulation and its application to mitigate physical and environmental risks

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Engineering	Civil and Environmental Engineering	Geotechnical Engineering	Geomaterials and Geotechnical Engineering	Professor	Masaki Nakano	Mechanical evaluation and quality certification for natural and artificial soil materials based on soil skeleton structure concept; Interpretation of the soil strengthening methods such as solidification, compaction etc. of various soil materials; Constitution of "sediment circulation system" considering utilization of soil materials at ordinary times as well as disaster periods
Engineering	Civil and Environmental Engineering	Geotechnical Engineering	Geomechanics	Professor	Toshihiro Noda	Soil-water-air coupled finite deformation analysis of saturated/unsaturated soils taking into consideration inertial forces; Interpretation/development of the countermeasure principles of ground improvements, Seismic response analysis of natural deposited and artificial grounds, Numerical replication of natural deposited grounds
Engineering	Civil and Environmental Engineering	Geotechnical Engineering	Geo-Disaster Prevention Engineering	Assoc. prof.	Kentaro Nakai	Comprehension of dynamic/static behavior of various soils and their elasto-plastic description, Seismic response analysis of groundstructure interaction systems, Influence of stratum irregularity on subsurface seismic damage
Engineering	Civil and Environmental Engineering	Transportation, Infrastructure, and Environmental Planning	Network Systems	Professor	Toshiyuki Yamamoto	Vehicle ownership and use, Travel behavior analysis, Environmentally sustainable transport (EST), Intelligent transport system (ITS), Traffic safety
Engineering	Civil and Environmental Engineering	Environmental Engineering and Environmental System Engineering	Environmental and Energy Biosystems	Professor	Kiichiro Hayashi	Renewable energy; Biodiversity and ecosystem service assessment; Environmental assessment, Environmental policy; International environmental cooperation
Engineering	Civil and Environmental Engineering	Land and Infrastructure Design	Land and Infrastructure Design	Professor	Takashi Tomita	Disaster risk estimation; Disaster risk management methodology; Development of disaster resilient ports; Regional potential development for sustainable and resilient society; Tsunamis, Storm surges
Engineering	Civil and Environmental Engineering	Land and Infrastructure Design	Land and Infrastructure Design	Assoc. prof.	Shinichiro Nakamura	Climate change adaptation in developing country; Land design on river basin; Green infrastructure design
Engineering	Civil and Environmental Engineering	Land and Infrastructure Design	Land and Infrastructure Design	Lecturer	Mutsumi Tashiro	Road design on soft ground; Traffic management; Mobility services

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Department of Environmental Engineering and Architecture, Graduate School of Environmental Stud

Graduate School	Department	Research Group	Research Area	Job title	Name	Research Interests
Environmental Studies	Environmental Engineering and Architecture	Transportation, Infrastructure, and Environmental Planning	Carbon Free, Safe, and Smart Society (Transportation Engineering)	Professor	Hideki Nakamura	Traffic Engineering; Urban transport policy; Road geometric design; Traffic operation; Traffic safety; User behavior modeling; Traffic simulation model; ITS
Environmental Studies	Environmental Engineering and Architecture	Transportation, Infrastructure, and Environmental Planning	Carbon Free, Safe, and Smart Society (Transport and Environmental Planning, Strategy for Local Transport Systems)	Professor	Hirokazu Kato	Low carbon & sustainable transport system; Environmental life cycle assessment of social stock; Resilient national & urban design; Region revitalization strategies
Environmental Studies	Environmental Engineering and Architecture	Transportation, Infrastructure, and Environmental Planning	Land, Urban and Mobility Design (Transportation Systems Analysis)	Professor	Tomio Miwa	Transportation planning; Travel behavior analysis; Intelligent transport systems; Traffic assignment models and traffic simulators
Environmental Studies	Environmental Engineering and Architecture	Transportation, Infrastructure, and Environmental Planning	Land, Urban and Mobility Design (Transportation Engineering)	Assoc. prof.	Miho Iryo	Traffic flow and safety analysis of vehicles, pedestrians and micromobility; Road design for multimodal transport; Traffic simulation development
Environmental Studies	Environmental Engineering and Architecture	Transportation, Infrastructure, and Environmental Planning	Carbon Free, Safe, and Smart Society (Transportation Engineering)	Lecturer	Xin Zhang	Evaluation of junction design and traffic signal control; Road user maneuver modeling; Traffic simulation
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Environmental System for Stock-type Society (Engineering of Environmental Systems)	Professor	Hiroki Tanikawa	Environmental system analysis; Resource and Energy Flow for Sustainable Cities; Material Stock and Flow analysis; Weight of cities overtime with 4d-GIS; Socio economical metabolism; Industrial Ecology
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Material and Energy Design (Environmental Studies of Materials)	Professor	Takashi Hibino	Electricity and hydrogen generation technology, Municipal solid waste treatment, Multifunctional cementitious materials design
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Environmental System for Stock-type Society (Environmental Economics, Resource Economics)	Assoc. prof.	Hiroaki Shirakawa	Analysis for economic and environmental interdependency among countries in the world, Evaluation of efficiency of urban environmental management, Economic evaluation of environmental policy
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Environmental System for Stock-type Society (Environmental and Sanitary Engineering, Environmental Emergency Management)	Assoc. prof.	Nagahisa Hirayama	Disaster prevention & preparedness in water system, Business continuity planning & risk communication for water utility, Redesign for water distribution system, Disaster debris management system
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Environmental System for Stock-type Society (Energy System)	Assoc. prof.	Hiroto Shiraki	Energy consumption behavior analysis, Technological and economic assessment of climate change mitigation measures, Power and energy system analysis using mathematical models
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Carbon Free, Safe, and Smart Society (Environmental Studies of Materials)	Assoc. prof.	Sho-ichi Iwamatsu	Transformation technologies for organic substances; Greener synthetic methodologies of artificial materials; Sustainable utilization of materials
Environmental Studies	Environmental Engineering and Architecture	Environmental Engineering and Environmental System Engineering	Material and Energy Design (Environmental Studies of Materials)	Assoc. prof.	Anatoly Zinchenko	Functional materials from biomass and plastic waste; Environmental pollution cleaning; Nanomaterials and environmental nanotechnologies; Sustainable chemical processes and materials upcycling technologies