8 April 2020

Degree Programs in Systems and Information Engineering
Graduate School of Science and Technology

Faculty member list （Doctoral programs）

Doctoral Program in Engineering Mechanics and Energy

Field of Research	Faculty	Detailed Description of Research Field
Solid and Structural Engineering	ISOBE Daigoro	Numerical and experimental studies on impact and collapse problems of structures, Development of computer simulation techniques aiming disaster prevention and mitigation, Application of computational mechanics and structural engineering essence to robotics.
	KANAKUBO Toshiyuki	Studies on structural performance of seismic, isolated or controlled structures. Development of high performance structural materials and new techniques for buildings and infrastructures.
	SAKAI Yuki	Studies on relationship between characteristics of strong ground motions and damage to structures and its application to earthquake damage mitigation.
	SHOJI Gaku	Earthquake engineering and structural dynamics. Clarification on nonlinear seismic response of infrastructure subjected to extreme ground motions, development of seismic retrofit technologies, structural reliability assessment
	MATSUSHIMA Takashi	Mechanics of granular materials. Mechanics of liquefaction and debris flow. Mechanics of long-term geological formation. Mechanics of planetary surface processes.
	ENAMI Kazuhiro	Studies on three-dimensional shape measurement of various objects
	KAMEDA Toshihiro	Innovative engineering combining computational mechanics and new devices such as high-power laser, high-speed camera, based on applied mechanics theory handling mechanical behavior of inelastic and/or inhomogeneous material.

Field of Research	Faculty	Detailed Description of Research Field
Solid and Structural Engineering	NISHIO Mayuko	Structural engineering, Applied mechanics. Structural health monitoring, inverse analysis, data assimilation, model V&V for the maintenance and operation, and the disaster reduction of infrastructures
	MATSUDA Akihiro	Study on development of design tool for sportswear and sports equipment using computational mechanics. Aging estimation of rubberlike material for electric power industry.
	MATSUDA Tetsuya	Study of multi-scale simulation techniques. Property evaluation of solid materials that exhibit microscopic internal structures using homogenization theory / finite element method based computational mechanics.
	YASOJIMA Akira	Studies on performance evaluation and seismic evaluation technology of reinforced concrete buildings with focuses on maintenance and life extension
	【ASAI Takehiko】	Smart structural vibration control and self-powered control systems with energy harvesting technologies
	【SHINTAKU Yuichi】	Numerical and experimental study on fracture mechanism of materials, development of crack propagation analysis using enhanced finite element method (FEM) such as finite cover method and s-version FEM, and strength evaluation on engineering product by its application.
	【MITSUME Naoto】	Development of coupled analysis systems and methods for complicated/complex phenomena, Applications to real-world problems such as tsunami-resilient design of structures
	【MORITA Naoki】	Development of analysis systems and parallel computing libraries for numerical simulation. A study on the strength evaluation of structures using multi-scale simulation.
	【YAMAMOTO Kyosuke】	Studies on “Partial Safety Factor Method” , “Efficiency of Updraft Tower Power Generator” and “Structure Health Monitoring based on Vibration Analysis” for civil structures.
Fluid and Environmental Engineering	△KYOTOH Harumichi	Micro-bubble generating devise; Curtain coating; Pulsation suppression of diaphram pump
	TAKEWAKA Satoshi	Field survey, numerical computations and remote sensing on coastal environments.
	SHIRAKAWA Naoki	River basin management with engineering and socioeconomic approaches. Environmental flow, environmental economics, decision making process.

Field of Research	Faculty	Detailed Description of Research Field
Fluid and Environmental Engineering	DAIRAKU Koji	Regional climate and water cycle modeling, Environmental disaster resilience (Hydrometeorological hazard and risk information)
	【KANAGAWA Tetsuya】	Physico-mathematical analyses on basic fluid physics: Bubble dynamics and Nonlinear thermo-acoustics.
	ISHIDA Masayoshi	Development of high voltage insulation technique at high temperatures and high output generation systems using fuel cells are being studied to improve efficiency on energy conversion and transmission, and also ultra long HVDC.
	NISHIOKA Makihito	Based on reactive gasdynamics and aerothermochemistry, stabilities of fundamental laminar flames, formation mechanisms and reduction methods of pollutants such as NOx in flames are studied.
	MONJI Hideaki	Basic study and its application on dispersed two-phase flow; Drag force acting on a car in a line arrangement, Bubbly flow.
	AKI Hirohisa	Power and energy systems engineering: studies on demand-side oriented energy systems.
	KANEKO Akiko	Research on flow phenomena of various multiphase flows with a view to energy and environmental issues.
	FUJINO Takayasu	Research on application of magnetohydrodynamics and plasmadynamics to energy and aerospace engineering.
	YOKOTA Shigeru	Advanced space propulsion systems, such as electric propulsion or laser propulsion.
	【SHEN Biao】	Development of next-generation high-performance cooling system for electronic devices using hierarchical nanostructure engineering and surface wettability patterning
	【SHIMAMURA Kohei】	Aerospace and aeronautical engineering in terms of advanced energy technology: 1.Space propulsion (Laser propulsion) 2.Wireless power transmission for a flight object via magnetic coupling resonance.
	【TAKAHASHI Toru】	Research and development on predictive design techniques for power conversion circuits.
Professors of Cooperative Graduate School	ZHOU Haoshen (National Institute of Advanced Industrial Science and Technology)	Research on electrode active materials and electrolytes for energy storage technology.
	SUGITA Hiroyuki (Japan Aerospace Exploration Agency)	Research on active thermal control devices and efficient space cryocoolers for innovative spacecrafts.

Field of Research	Faculty	Detailed Description of Research Field
Professors of Cooperative Graduate School	HARADA Yoshihisa (National Institute of Advanced Industrial Science and Technology)	Research and development of materials reliability performance based on damage evaluation for structural and processing components such as transportation, industrial machinery, and etc.
	MATSUMOTO Satoshi (Japan Aerospace Exploration Agency)	Study on thermo-fluid phenomena utilizing the International Space Station, Non-linear dynamics of levitating drop.
	YOSHIDA Hiroyuki (Japan Atomic Energy Agency)	Research on evaluation of multi-phase flow behavior for improvement of nuclear reactor safety
	SAKAKITA Hajime (National Institute of Advanced Industrial Science and Technology)	Research on medical, aerospace, energy and environmental applications using plasma technologies.
	SATO Hiroyuki (Japan Atomic Energy Agency)	Researches on High Temperature Gas-cooled Reactor hydrogen electricity cogeneration systems
	DENDA Masatoshi (The Public Works Research Institute)	Field survey, remote sensing analyses and numerical simulations on problems of river environments.
	MIZUTANI Tadahito (Japan Aerospace Exploration Agency)	Research on smart structures and structural health monitoring both for spacecraft and space transportation vehicles utilizing precise measurement technologies

△: Appointed until 31 March 2023

(Note)

Applicants cannot choose faculty members written in square brackets as a prospective supervisor directly, but, can choose them with the cooperation of faculty members who are not written in square brackets.

Applicants have to contact a prospective supervisor (a faculty member from whom you wish to receive academic instruction) and obtain his/her consent to your application in advance.

[Contact Information]

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