工学専攻

Department of Engineering Science

As of June 1, 2019

役職 Title	教員名 Name	教育・研究分野 Educational and Research Area	
		名称 Specialization	内容 Theme
Professor	Masato Aoki	Computational Materials Science	Modeling and prediction of materials by theoretical and computational methods
Professor	Hiroshi Asano	Energy systems engineering	System analysis and evaluation of energy systems including distributed energy resources and power systems
Professor	Hiroki Ishikawa	Power Electronics	Reseach and education on power conversion and the related applications.
Professor	Yoshinori Itaya	Energy Process Engineering	Education and Research on environmental friend efficient energy process utilizing thermal equilibrium or thermodynamically non-equilibirum states
Professor	Satoshi Ito	Engineering of intelligent control systems	Education and research on motor control systems of humans and robots
Professor	Takashi Itoh	Electronic Materials Engineering	Study and education on evaluation of fundamental properties of electronic materials mainly semiconductors and their application to devices such as solar cells
Professor	Yoshihiko Uematsu	Strength and Fracture of Materials	Research and education for the understanding of fracture mechanisms of engineering materials, improvement of structural reliability and fracture prevention.
Professor	Shigeyuki Uemiya	Reaction and separation engineering	Research and education on reaction and separation materials for environmentally-friendly chemical reaction processes
Professor	Hiroyuki Usami	Differential equations	Asymptotic analysis of ordinary differential equations and partial differential equations
Professor	Yuichi Uchida	Concrete structures	Education and research on the behavior of reinforced concrete elements and of structures
Professor	Masahiro Ebihara	Physicochemical Properties of Coordination Compounds	Structure and physicochemical properties of coordination compounds and their assembled ones
Professor	Daohong Wang	Electric energy engineering	Lightning physics, Lightning protection, Photovoltaic power
Professor	Tomoyuki Ohtani	Engineering Geology	Geothermal resource geology and fault rock study of active fault
Professor	Yutaka Ohya	Inorganic Materials Chemistry and Engineering	Education and researches on processing and properties of ceramics
Professor	Hiroshi Kamabe	Information Theory and Coding Theory	Information Theory and Coding Theory for Input Constrained Channels and Application of Theory of Symbolic Dynamical System
Professor	Kohji Kamiya	Groundwater engineering	Education and research for groundwater resources management
Professor	Atsushi Kameyama	Dynamical Systems	Mathematics of vector fields, discrete dynamical systems, and chaos
Professor	Shinji Kambara	Energy and Environmental Engineering	R&D of energy and environmental engineering by plasma chemistry and photochemistry.
Professor	Keiichirou Kusakari	Program Theory	Research on computational models that are mathematical models and define the semantics of functional programs, and formal verification of functional programs
Professor	Shoichi Kutsumizu	Soft Matter Chemistry	Development of self-assembled materials such as liquid-crystalline and polymeric materials and elucidation of their structure-property relationship
Professor	Minoru Kunieda	Construction Materials	Advanced construction materials and structures for resilient infrastructures
Professor	Fumitaka Kurauchi	Transport System Design	Research and education on planning, designing and evaluating transport system for improving its efficiency, safety and sustainability
Professor	Mamoru Koketsu	Functional Organic Molecular Chemistry	Study on preparation, analysis and characterization of functional organic molecule
Professor	Hiroyuki Kousaka	Functional Surface Manufactureing	Resrach and education on functional surface manufacturing focusing on tribology and plasma technologies
Professor	Satoru Kojima	Engineering Geology	Education and research on geological process and natural hazard characteristic of mobile belt like Japanese Islands
Professor	Koichi Kobayashi	Maintenance Engineering	Education and research on evaluation of materials and their deterioration for building infrastructure maintenance systems
Professor	Tomonao Kobayashi	Natural Energy	Evaluation and prediction of electric power generation of photovoltaic systems based on weather forecasting, and prediction of waves and physical processes in the ocean
Professor	Masaharu Komiyama	Thermal Engineering	Education and research on development of measuring method of thermal fluid including reactivity and investigation of real phenomena and its application
Professor	Fumihiko Saitoh	Image Engineering	Learning and research for image sensing system and image recognition algorithm
Professor	Osamu Sakurada	Processing of Inorganic Materials	Study and education on processing, characterization and analysis of inorganic materials
Professor	Shigeo Sasaki	High Pressure Materials Science	Education and study of the exploration of novel phenomena for molecular solids and gas hydrate compounds by using high pressure generation technique and the estimation of their physical and electronic properties
Professor	Kazuhide Sawada	Geotechnical Engineering	Engineering technique and information for prevention or reduction of geo-disaster
Professor	Seirou Shinoda	Water environmental system dynamics	Education and research work on a system dynamics for the transfer and circulation of water and substance in the water environment
Professor	Mutsuhiro Shima	Materials Science	Materials science with particular focus on investigating structure-property relationships in functional magnetic nanomaterials and composites
Professor	Takashi Sugiura	Photoelectrochemistry	Synthesis and characterization of semiconductors for photoelectrochemical application

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As of June 1, 2019

役職 Title	教員名 Name	教育・研究分野 Educational and Research Area	
		名称 Specialization	内容 Theme
Professor	Akiyoshi Takagi	Regional Planning	Education and research on regional planning based on socio-economic evaluation of safety, comfort and convenience
Professor	Nobuyuki Takagi	High voltage engineering	High voltage testing and measurement, Lightning overvoltage, Protection against lightning
Professor	Shuhei Takahashi	Reacting Thermo-fluid Engineering	Education and research on thermo-fluid phenomena with chemical reaction
Professor	Akiyoshi Takeno	Functional polymer materials	Education and research on the functional polymer materials covering structure-property relationship and control
Professor	Masahiro Tanaka	Computer Simulation	Education and research on computational methods, numerical techniques, and algorithms in computer simulation
Professor	Ichiro Tamagawa	Hydrometeorology	Energy and water exchange betweem land and atmosphere and atmospheric boundary layer
Professor	Takamichi Terao	Computational science and engineering	Computational physics (colloids, soft materials, metamaterials), molecular simulations, high-performance computing
Professor	Asami Nakai	Engineering of Composites	Education and research on basic theory on molding, structure, properties, and functions of composite materials and its application
Professor	Tsuguhiko Nakagawa	Energy Systems Engineering	Education and research on innovative processes and energy systems integrated with mutual energy conversion of chemical energy, heat and electricity
Professor	Kazuma Nakazawa	Particle Physics	Education ans research on fundamental physics to clarify interaction of elementary particles and/or nuclei with cosmic radiation and particle making an impact on global environment
Professor	Makoto Nakamura	Integrated Circuit Engineering	Studies on optical-electrical interface circuits for optical communication systems
Professor	Nobuoto Nojima	Earthquake Engineering	Seismic Hazard and Risk Assessment and its Application to Earthquake Disaster Prevention and Mitigation
Professor	Chuzo Ninagawa	Smart Grid	Smart grid, Fast automated demand response, Virtual power plant, Building facilities, Machine Learning
Professor	Takeshi Hara	Medical Image Analysis and Processing	Quantitative imaging and computerized analysis for medical images
Professor	Takayuki Ban	Inorganic Materials Chemistry	Education and research on the syntheses of ceramic nanomaterials by solution processes and their characterization methods
Professor	Yoshinobu Fujishiro	Material Science for Energy Technology	From the standpoint of effective utilization and sophistication of energy technology, education and research on development of functional materials by newly controlled structures and new functions development
Professor	Tetsuro Fujisawa	Structural Biophysics	Education and research on protein dynamics probed by synchrotron radiation
Professor	Hiroyuki Fujiwara	Semiconductor Device Engineering	Fabrication of solar cells based on new materials and construction of solar cell device simulators
Professor	Kazumasa Funabiki	Design of Functional Organic Molecule	Study and education on the synthesis of useful organic molecules and evalution of their properties
Professor	Yuichi Matsumura	Vibration Engineering	Education and research on the elucidation and its application of the occurrence mechanism of acoustics and vibration
Professor	Miwako Mishima	Discrete Mathematics and its Applications	Education and research on digital communications, cryptography, and their underlying algebra and combinatorics
Professor	Takeshi Miyasaka	Space Propulsion Engineering	Education and Research on plasma and physical gas dynamics of space propulsion systems
Professor	Toshiaki Murai	Synthetic Organic Chemistry	Education and research of syntheses of valuable organic compounds and development of synthetic reactions
Professor	Shigeyuki Murakami	Bridge Engineering	Education and Study on Satability, Ductility and Maintainance of Bridge Structures
Professor	Kisaragi Yashiro	Computational Materials Science	Research and education on various computational approaches for deformation and fracture of solid materials
Professor	Tadashi Yamaguchi	Numerical Analysis	Education and Research on Coupled Analysis between Recent Finite Element Method and Various Equations
Professor	Minoru Yamashita	Plasticity engineering	Research and education of elastic plastic deformation and plastic forming process of solid materials, and their numerical simulation
Professor	Takayoshi Yamada	Industrial Robotics and Mechatronics	Education and Research on Robotics, Mechatronics, and Robotic Assembly
Professor	Hironao Yamada	Computer Control Engineering	Education and research on computer control engineering, image processing, human support engineering
Professor	Yasunari Yokota	Signal and Image Processing	Education and study related to processing and analysis for sound, biological signals, images, and videos.
Professor	Toyokazu Yoshida	Bioprocess engineering	Education and research on functional analysis of novel enzymes and application to the synthesis of useful compounds
Professor	Hiroki Yoshida	Energy Generation and System	Laser engineering, fusion related quantum optics, renewable energy generation and system
Professor	Fusheng Li	Environmental and water quality engineering	Water quality; Water and wastewater treatment; Pollution control; Solid waste treatment and reuse
Professor	Zhigang Wang	Combined forming processes	Development of combined forming processes to make precise products with complicated shapes

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Department of Engineering Science

As of June 1, 2019

役職 Title	教員名 Name	教育・研究分野 Educational and Research Area	
		名称 Specialization	内容 Theme
Associate Professor	Kazuhiro Uemura	Coordination Chemistry	Education and Studies on the Synthesis and Physical Properties of Novel Assembled Coordination Compounds
Associate Professor	Yasunori Oumi	Separation materials and engineering	Development of the design method and function elucidation of separated materials for realizing low environmental load process
Associate Professor	Hidehiro Ohwa	Dielectric Engineering	Education and research on basic characteristics and applications of electronic materials centering on dielectrics
Associate Professor	Natsuhisa Oka	Design of functional molecules	Education and research on design, synthesis, and applications of functional organic molecules
Associate Professor	Toshifumi Kakiuchi	Strength and Fracture of Materials	Education and study on evaluation of strength in materials used for machine structures.
Associate Professor	Kunihito Kato	Computer Vision	Image processing, Image recofnition, Computer Vision
Associate Professor	Yoshihiro Kaneko	Network Theory	Education and research based on graph-theoretic network system
Associate Professor	Satoshi Kikuchi	Fluid Engineering	Education and research of investigations and control of fluid flow phenomena
Associate Professor	Ryugo Kijima	Human Computer Interaction	Human sensation and perception for interfacing to computer, especially for Virtual Reality.
Associate Professor	Hiroshi Kimura	Polymer&Surface Chemistry	Education and research relevant to behavior and functional development of surface in polymeric system
Associate Professor	Koji Kinoshita	Steel Structural Engineering, Fracture Mechanics, Earthquake Engineering	Seismic performance and fatigue performance of bridges: linear and nonlinear analytical techniques for bridges subject to dynamic loads, earthquake and aging protective systems, and experimental large-scale bridges testing
Associate Professor	Toshiharu Kojima	Hydrology	Education and investigation of rainfall-runoff process and related various phenomena with remote sensing and GIS
Associate Professor	Takako Kuzumaki Kobayashi	Number theory	Education and the study on classical algebraic number theory and analytic number theory
Associate Professor	KOBAYASHI Nobusuke	Energy conversion process	Study and Education on High Efficiency Energy Conversion Process with Solid-Gas Reaction
Associate Professor	Kenichi Komura	Materials for Catalyst & Catalysis Chemistry	Education and research on catalyst design for environmental benign chemical process.
Associate Professor	Maki Koyama	Disaster Risk Reduction, Earthquake Engineering	Mechanism of human casualties and building disaster resilient communities
Associate Professor	Okihiro Sawada	Partial Differential Equations	Research and Education on the mathematical analysis to the Navier-Stokes equations and related topics
Associate Professor	Motoki Shiga	Data Science	Theory of statistical data analysis and its applications on science and engineering
Associate Professor	Fumitoshi Shibahara	Design of Transformation in Organic Synthesis	Education and research on design of transformations for organic synthesis of valuable compounds
Associate Professor	Yu Suzuki	Data Engineering	Education and research of data analysis based on data centric approach
Associate Professor	Hirotaka Takano	Power Engineering	Energy Management Technologies for Electric Power Suppliers and Consumers
Associate Professor	Yasuhiro Takahashi	VLSI design	Low-voltage and Low-power digital/analog design of cryptographic VLSI using adiabatic logic, and front-end ICs for optical communication
Associate Professor	Hirohisa Tamagawa	Polymeric materials	Education and Research on Fabrication of electroactive polymer, Elucidation of electric characteristics of hydrophillic polymer
Associate Professor	Satoshi Tamura	Multimodal processing	Integration, application and information processing of multiple modalities such as audio and visual ones
Associate Professor	Yoshifumi Demura	Urban History, Landscape Planning	Spatial and Historical Study of Urban and Humanized Landscape, Landscape Design
Associate Professor	Kazunori Terada	Intelligent Interaction	Education and research on intelligent interaction between human-human and human-machine
Associate Professor	Yuji Naruse	Structual organic chemistry	Research and education on design of molecules and reactions and their applications for materials
Associate Professor	Takahiro Nitta	Biophysics, Polymer physics	Research and education on soft materials and biomaterials
Associate Professor	Morihiro Harada	River Engineering	River basin management harmonized with disaster prevention and environmental conservation
Associate Professor	Shintaro Hisatake	Terahertz Photonics	Generation, manipulation, and detection of millimeter-wave and terahertz wave based on photonics technology
Associate Professor	Tadahiro Matsumoto	Natural Language Processing	Education and research on computer processing and representations of natural language
Associate Professor	Kazuhiro Manseki	Materials science for photoenergy conversion	Development of solar cells and photocatalysts using organic-inorganic hybrid systems
Associate Professor	Manabu Miyamoto	Reaction and Separation Engineering	Catalysis, adsorption and membrane separation using porous materials
Associate Professor	Yohei Miwa	Chemistry in Molecular Assembly	Research and Education in Field of Self-Assemble Polymers and Liquid Crystals
Associate Professor	Masami Mohri	Coding Theory and Network Security	Fundamental theory for improving security and reliability of media communications and its application to communication service
Associate Professor	Tetsuya Mouri	Intelligent Machanical Engineering	Education and Research on System Integration of Robotics and Virtual Reality
Associate Professor	Toshiro Yamada	Environmental and Sanitary Engineering	Evaluation and control of diffuse water pollution, source water quality control and management for safe drinking water
Associate Professor	Kouji Yamamuro	The theory of stochastic processes	Education and the study of mathematical theory of additive processes
Associate Professor	Kyyoul YUN	Soft magnetic material science	Dissimilar metal bonding and soft magnetic material properties measurement & applications
Associate Professor	Norimitsu Yoshida	Energy-Conversion Optoelectronic Engineering	Education and rearch on optical and electronic properties of semiconductors for thin film solar cells
Associate Professor	Yoshinori Yoshida	Advanced Structural Materials	Study on engineering stractural materials and its control deformation processing technology
Associate Professor	Jun Yoshino	Natural Energy	Estimation, prediction, and control on natural energy and environment based on high-resolution meteorological and oceanographic models

岐阜大学・インド工科大学グワハティ校　国際連携統合機械工学専攻

International Joint Department of Integrated Mechanical Engineering between Indian Institute of Technology Guwahati and Gifu University

As of June 1, 2019

役職 Title	教員名 Name	教育・研究分野 Educational and Research Area	
		名称 Specialization	内容 Theme
Professor	Tetsuji Kume	Solid State Physics and Engineering in High Pressure	Education and Investigation on Optical Properties in Functional Materials of Condensed Matter under High Pressure
Professor	Yoshinori Itaya	Energy Process Engineering	Education and Research on environmental friend efficient energy process utilizing thermal equilibrium or thermodynamically non-equilibirum states
Professor	Satoshi Ito	Engineering of intelligent control systems	Education and research on motor control systems of humans and robots
Professor	Takashi Itoh	Electronic Materials Engineering	Study and education on evaluation of fundamental properties of electronic materials mainly semiconductors and their application to devices such as solar cells
Professor	Yoshihiko Uematsu	Strength and Fracture of Materials	Research and education for the understanding of fracture mechanisms of engineering materials, improvement of structural reliability and fracture prevention.
Professor	Daohong Wang	Electric energy engineering	Lightning physics, Lightning protection, Photovoltaic power
Professor	Shinji Kambara	Energy and Environmental Engineering	R&D of energy and environmental engineering by plasma chemistry and photochemistry.
Professor	Masaharu Komiyama	Thermal Engineering	Education and research on development of measuring method of thermal fluid including reactivity and investigation of real phenomena and its application
Professor	Shuhei Takahashi	Reacting Thermo-fluid Engineering	Education and research on thermo-fluid phenomena with chemical reaction
Associate Professor	Nobusuke Kobayashi	Energy conversion process	Study and Education on High Efficiency Energy Conversion Process with Solid-Gas Reaction
Associate Professor	Yasuhiro Takahashi	VLSI design	Low-voltage and Low-power digital/analog design of cryptographic VLSI using adiabatic logic, and front-end ICs for optical communication

岐阜大学・マレーシア国民大学　国際連携材料科学工学専攻

International Joint Department of Materials Science and Engineering between Universiti Kebangsaan Malaysia and Gifu University

As of June 1, 2019

役職 Title	教員名 Name	教育・研究分野 Educational and Research Area	
		名称 Specialization	内容 Theme
Professor	Lee Wah Lim	Instrumental and separation chemistry	Education and research on optimization and application of separation and instrumental analytical systems/devices
Professor	Shigeyuki Uemiya	Reaction and separation engineering	Research and education on reaction and separation materials for environmentally-friendly chemical reaction processes
Professor	Masahiro Ebihara	Physicochemical Properties of Coordination Compounds	Structure and physicochemical properties of coordination compounds and their assembled ones
Professor	Yutaka Ohya	Inorganic Materials Chemistry and Engineering	Education and researches on processing and properties of ceramics
Professor	Shoichi Kutsumizu	Soft Matter Chemistry	Development of self-assembled materials such as liquid-crystalline and polymeric materials and elucidation of their structure-property relationship
Professor	Mamoru Koketsu	Functional Organic Molecular Chemistry	Study on preparation, analysis and characterization of functional organic molecule
Professor	Mutsuhiro Shima	Materials Science	Materials science with particular focus on investigating structure-property relationships in functional magnetic nanomaterials and composites
Professor	Akiyoshi Takeno	Functional polymer materials	Education and research on the functional polymer materials covering structure-property relationship and control
Professor	Takayuki Ban	Inorganic Materials Chemistry	Education and research on the syntheses of ceramic nanomaterials by solution processes and their characterization methods
Professor	Toshiaki Murai	Synthetic Organic Chemistry	Education and research of syntheses of valuable organic compounds and development of synthetic reactions
Associate Professor	Natsuhisa Oka	Design of functional molecules	Education and research on design, synthesis, and applications of functional organic molecules
Associate Professor	Kunihito Kato	Computer Vision	Image processing, Image recofnition, Computer Vision
Associate Professor	Takahiro Nitta	Biophysics, Polymer physics	Research and education on soft materials and biomaterials