Information of the Researchers

Main Research Themes

2023

Faculty of Environmental Engineering and
Graduate School of Environmental Engineering, The University of Kitakyushu

Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology

Graduate School of Information, Production and Systems, Waseda University

Fukuoka University Graduate School of Engineering

Fukuoka Research Commercialization Center for Recycling Systems

KITAKYUSHU SCIENCE AND RESEARCH PARK

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Kitakyushu Foundation for the Advancement of Industry, Science and Technology
FAIS

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Position	Name	Main Research Theme
Department of Chemical and Environmental Engineering		
Chemical Processes		
Professor	Kenji Asami	Development of Novel Processes for the Production of Synthetic Clean Fuels and their Utilization
Professor	Xiao-Hong Li	I am working on the development of catalysts for synthesis of high-quality gasoline, diesel, jet fuel, methanol, hydrogen from natural gas, biomass, and carbon dioxide.
Professor	Kazuharu Yoshizuka	1. Lithium recovery from various resources 2. Recycle system of rare metals from various wastes 3. Removal system of arsenic and boron from various water environments
Professor	Syouhei Nishihama	1. Separation and recovery process of rare metals from waste materials 2. Removal process of toxic compounds in water environment
Lecturer	Takao Gunji	I am working on the development of new materials based on nano-particles, such as fuel cell catalysts and electrocatalysts for CO_2 reduction reaction.
Advanced Materials		
Professor	Isamu Akiba	1. Synthesis, Properties and Structures of Organic Polymers 2. Mesomorphic Phase Formation of Multicomponent Polymer Materials
Professor	Seung-Woo Lee	1. Nano-structured materials 2. Fabrication and application of chemical sensors 3. Analysis of disease odors
Professor	Katsutoshi Yamamoto	1. Synthesis and application of new structures of porous materials 2. Development of new synthesis routes for porous materials 3. Development of catalysts for bio-fuel synthesis
Associate Professor	Hiroyuki Imai	1. Development of novel catalysts for application to catalytic reaction processes 2. Synthesis and functionalization of porous materials as a solid catalyst in processes of effective utilization of petroleum resources and production of chemicals from non-petroleum resources
Environmental Processes		
Professor	Hitoshi Ohya	Development of recycling technology and its system design
Professor	Hidenari Yasui	1. Activated Sludge Population Dynamics 2. Anaerobic Digestion 3. Nutrient Removal and Recovery 4. Pretreatment of Industrial Wastewaters
Professor	Masahide Aikawa	Atmospheric Science(Acid Deposition (Acid Rain, Acid Fog), Air Pollution(Gaseous compounds, Particulate matter))
Professor	Mitsuharu Terashima	1. Modeling and simulation of water and wastewater treatment process 2. Hydrodynamics in wastewater treatment plant
Associate Professor	Takashi Miyawaki	1. Development of comprehensive analysis method for chemicals using mass spectrometry 2. Environmental pollution survey and ecological effect evaluation in Japan and overseas 3. Study on source analysis of chemicals in the environment
Lecturer	Kazuki Sugawara	Development of environmental remediation technology for heavy metal contaminated soil and water utilizing biological functions 2. Establishment of highly efficient carbon dioxide fixation technology using fast-growing tree species 3. Clarification of elemental dynamics in the environment related to the above processes
Department of Mechanical Systems Engineering		
Energy Systems		
Professor	Masaaki Izumi	1. Study on Improvement of Performance and Endurance of Solid Oxide Fuel Cells 2. Study on Inspection and Diagnosis for Fuel Cell Performance 3. Study on Manufacturing of Fuel Cells by 3D Printing Technique
Professor	Yoshiaki Miyazato	Research on application for supersonic flows of rainbow schlieren tomography and laser interferometry
Professor	Sadami Yoshiyama	1. Development of Combustion Diagnostics Method Using Ion Sensor 2. Combustion and Ignition of Carbon-free fuel 3. Development of Heat cycle for Waste Heat Recovery System
Professor	Koichi Inoue	1. Electronics cooling 2. Condensation heat transfer on a large tube bank 3. Heat spreader 4. Internal natural convection
Associate Professor	Shinichiro Nakao	1. Research on numerical analysis of interference between shockwave and boundary layer 2. Research on application of laser interferometry to flow field accompanied by shockwaves
Design and Manufacturing System		
Professor	Takanori Kiyota	1. Study on Mechanical System Control Method based on Inherently Safe Design 2. Development of Power Assist Systems based on Inherently Safe Control 3. Study on Safe and High-Performance Control of Pneumatic Systems
Professor	Nobuhiro Okada	1. 3D visual measurement 2. Robotics 3. System engineering
Professor	Changhee Cho	Study on the Wear of Ultra-High Molecular Weight Polyethylene for Artificial Joints
Professor	Hiroshi Murakami	1. Development of a System for 3-D Micro Metrology Using an Optical Fiber Probe 2. Study on an intelligent machine tool 3. Development of a high-speed air turbine microspindle for monitoring machining processes
Associate Professor	Takumi Sasaki	1. Development of Nonlinear Vibration Isolator 2. Development of Vibration Analysis Method for Large Scale Systems 3. Development of Vibration Control Device using MR Fluid
Associate Professor	Hiroki Cho	1. Research for performance improvement of shape memory alloy 2. Research and development of actuator and medical equipment using shape memory alloy 3. Research and development of the heat-engine using shape memory alloy
Associate Professor	Takuya Ikeda	1. Sparse modeling 2. Optimal control 3. Multi-agent system
Associate Professor	Takeshi Miyaguni	1. Development of small wind turbine with high efficiency and high selfstart ability 2. Study on waste collection system of a waste cleaning ship
Department of Information Systems Engineering		
Signal Processing		
Associate Professor	Ryo Matsuoka	Study on signal processing, image processing, and computer vision based on mathematical modeling, artificial intelligence, optimization/convex analysis
Systems Control		
Professor	Lianming Sun	1. Modeling and system design for control and communication systems 2. Adaptive signal processing
Associate Professor	Yusuke Fujimoto	My research interests include 1. identification of linear or nonlinear systems, 2. data-driven controller designs, and 3. applications to practical systems.
Networking		
Associate Professor	Hiroyuki Koga	1. Computer Communication Networks 2. Internet Architecture
Lecturer	Yusuke Ito	1. Edge cloud computing 2. Information-centric networking

Security		
Professor	Satoshi Uehara	Sequence design for communications applications
Professor	Yasushi Yamazaki	1. Biometrics 2. Information security 3. Pattern recognition 4. Time series analysis
Integrated Systems		
Dean, Professor	Shigetoshi Nakatake	1. VLSI Physical Design 2. Mixed Signal LSI Design 3. Sensor System Integration 4. Analog Reconfigurable Device
Professor	Makoto Sugihara	1. VLSI design technique 2. Embedded system designs 3. IT system design for advanced driver assistance
Professor	Yasuhiro Takashima	1. Algorithms to VLSI system layout design 2. Optimization Method 3. Mathematical Programming
Sensing and Robotics		
Professor	Takeshi Nishida	1. Research on AI robots for smart factories 2. Research on intelligent robots by integrating cyberspace and real space
Software		
Associate Professor	Susumu Yamazaki	1. System and code optimization for Elixir 2. Light-weight fault-tolerant machine learning basis 3. Computers for space rovers and satellites 4. Concurrent development of domain-specific architecture
Biomedical Engineering and Human Information Processing		
Professor	Masayuki Sato	Psychophysics on human visual perception, especially on depth perception and visual stability during eye movements
Associate Professor	Takehito Hayami	Medical equipment based on electric and optic technology to diagnose and treat nervous functions (neurosurgical, ophthalmological and orthopedic applications) Psychological equipment to test human behaviour
Associate Professor	Yasuaki Tamada	1. Proposition of multi-modal stimulation method for 3D or VR contents 2. Development of applications for visual function diagnosis
Department of Architecture		
Structure and Construction		
Professor	Masae Kido	Seismic Design and Frame Stability of Steel and Concrete Filled Steel Tubular Structures
Associate Professor	Kazuaki Hoki	1. Evaluation of Seismic Performance of Old Building 2. Development of Seismic Retrofit
Associate Professor	Shinnosuke Fujita	Research on application of the optimization method into practical design, Development of the computational design tool based on mathematical engineering, Research on mechanical/structural characteristics of shell & spatial structures, Structural design and digital fabrication
Building and Construction Materials		
Professor	Koji Takasu	1. Development of cement-free concrete contributing to CO_2 reduction targets of the Paris Agreement 2. Study on modification of recycled building materials 3. Study on properties of labor-saving construction type low carbon concrete 4. Study on properties of the concrete using recycled aggregate and high volume by-products particles 5. Environmental impact assessment considered performance of building material 6. Study on analysis and test method of concrete by various analysis devices
Professor	Hidehiro Koyamada	1. Safety management in buildings 2. Hot weather concreting 3. Medium fluidity concrete 4. Sustainable system of forest resources 5. Building resource supply system in Japan 6. Research and maintenance of existing and aged buildings
Associate Professor	Hiroki Suyama	1. Performance of concrete containing by-product powder 2. Pore structure in concrete 3. Composition of different concrete 4. New building material made from by-product
Building Environment and Energy System		
Professor	Yuji Ryu	1. Natural energy utilization technologies in buildings 2. Analysis on thermal storage HVAC systems 3. Field study on Sick House in the Kyushu District
Professor	Weijun Gao	1. Architectural/urban environment planning/design 2. Building/city energy and resource planning 3. Study on urban environment in Asia
Professor	Yasuyuki Shiraishi	1. Advanced air-conditioning system to realize energy saving and comfort 2. Development of performance prediction method of various passive environmental control systems 3. Environmental control engineering for large scale building based on CFD analysis
Associate Professor	Shintaro Ando	1. Effect of thermal environment on health (e.g. blood pressure, physical activity, sleep quality, and body temperature) 2. Effect of community environment on physical activity
Architectural Design		
Professor	Hiroatsu Fukuda	1. Architectural Design 2. Design of Recyclable Houses, Low-Energy Houses, Recycle of Construction Materials 3. High-Rise Residences 4. Urban Environment, Urban Design, Compact City 5. New construction methods of Japanese cedar 6. Historical Architecture
Professor	Bart Julien Dewancker	1. Research on urban planning and citizen involvement in urban planning 2. Research on Sustainable Architecture and Urban Design 3. Landscape planning, green buildings
Associate Professor	Yumi Fukuda	1. Study on light regulating human biological rhythms 2. Study on light environment and color planning which develop vision 3. Lighting design in public spaces 4. Study on illumination
Lecturer	Hiroshi Yamada	1. Composition of industrialization and humanity, Life image drawn by modern architecture 2. A new learning space that makes use of the surrounding nature, Proposals for awareness and emotional education in childhood 3. Correlation between traditional settlements and urban development in Asia 4. Urban farms and dwelling forms, Expansion of production green space in rural residential area
Department of Life and Environment Engineering		
Life Science and Biomaterials		
Executive Director, Vice-president, Professor	Kazuya Uezu	1. Biosensors utilizing the structures and functions of living organisms 2. Biomaterials for capturing the intracellular messengers 3. Design of functional materials with computational chemistry 4. Environmentally-friendly firefighting foam for forest fire
Professor	Kohji Nakazawa	1. Development of cell array 2. Development of sensing technology of cell functions 3. Study of tissue engineering using cultured cells
Professor	Takaaki Isoda	Development of a new bio sensor and the application, 1. Food poisoning tests 2. Skin allergy tests 3. Infection test kit
Associate Professor	Shinichi Mochizuki	1. Development of drug delivery system 2. Novel immunotherapy 3. Glycoengineering 4. Nucleic acid chemistry

Biological and Ecological Engineering		
Professor	Akira Haraguchi	1. Evaluation of the soil - water - plants interaction in the terrestrial and wetland ecosystems and the rehabilitation of the damaged ecosystems 2. Eco-physiological study on aquatic plants and their function on environmental protection 3. Chemical process of limnological ecosystems with special reference to redox reaction and decomposition of organic materials
Professor	Hiroshi Morita	1. Study on physiological function of IGUSA 2. Bio-control science of mold spores and mites 3. Study on novel co-culture Koji for Sake brewing 4. Development of submerged culture system for brewing
Professor	Tomonori Kawano	1. Plant and microbial biology (photosynthesis, plant immunity, environmental response, cell signaling) 2. Plant-production factory-related technology (light source, monitoring, mathematical models) 3. Redox biochemistry (ROS) 4. Environmental assessment 5. Metallic ecotoxicity 6. Bioengineering with protists 7. Fire-fighting agents and environment 8. Science history 9. Biochemistry of blood 10. Fish and the environment
Associate Professor	Takanori Kihara	1. Biomineralization in our body 2. Phenotypic regulation of smooth muscle cells 3. Tissue formation with stem cells
Associate Professor	Katsunori Yanagawa	Microbial distribution, community composition and biogeochemical cycles in the geobiosphere including extreme environment
Environmental Management		
Professor	Takaaki Kato	1. Economic evaluation of environmental and energy policy 2. Evaluation and governnance of risk
Associate Professor	Atsushi Fujiyama	1. Study on energy management systems 2. Study on using information technology in the environmental field
Associate Professor	Katsushige Uranishi	1. Transboundary Air Pollution from Biomass burning 2. Regional and transboundary pollution in terms of air quality 3. Analysis of chemical substances (pesticides, PPCPs) using mass spectrometry 4. Understanding the actual state of microplastics in the atmosphere

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Position	Name	Main Research Theme
Professor	Takuya Oda	1. Research on supply and demand management for renewable energy introduction 2. Development of energy management technology through energy demand activation
Professor	Kazuo Sakurai	1. Polymer Physics 2. Biopolymer 3. Biochemistry
Professor	Tsuruo Matsuda	Biomedical Eng., and so on Magnetic and Electrical stimulation of the Human Brain, peripheral nervas system and Blood flow system
Professor	Toru Matsumoto	1. Sound material-cycle society and industrial symbiosis 2. Urban environmental management in Asia 3. Servicing as sustainable business models 4. Environmentally conscious life style

Center for Fundamental Education, Hibikino Campus, The University of Kitakyushu

Position	Name	Main Research Theme
English Education		
Professor	Tetsuya Kashiwagi	1. Learner Corpus Compilation and Analysis for Pedagogical Application in Mitigating L1 Interference 2. Grammar Teaching as a Clue to Output Pedagogy 3. Contrastive Rhetoric Study in Variation and Context
Professor	Masanobu Ueda	A quantitative and qualitive analysis of verb semantics and construtions
Associate Professor	Eiichiro Tsutsui	1. English education 2. EFL with information and communication technology 3. Creating web apps for Japanese learners of English 4. Analyzing computer-mediated communication data
Associate Professor	Roger J.A. Prior	Translation studies, particularly the potential for translating jokes and humour
Associate Professor	Anne Marie Crescini	1. Research on the Effectiveness of Using Study Abroad as One Way to Improve Language Ability and Increase Cultural Awareness 2. Research on the Relationship between Foreign loanwords and the English Pronunciation of Native Japanese Speakers
Associate Professor	Naoki Kiyama	Multi-factorial analysis on the English Quotative Constructions
Japanese Education		
Professor	Ryusuke Ikeda	1. Japanese for Specific Purpose 2. Analysis of The Features of Language Adjustment of Japanese Native Speakers 3. Development of Learning Resources for International Students Majoring in Environmental Engineering 4. Research on Academic Writing Education in Japanese
Liberal Arts		
Professor	Hiroyuki Tsujii	Research on Management for Sustainability 1. Corporate Environmental Management 2. Engineering Ethics Education 3. Business Education
Professor	Miyuki Nakaoka	I am engaged in a comparative study of urban mechanisms and urban structures in Asian countries, focusing especially on China. I am also interested in the differences between the Japanese economy during its rapid growth period and the present Chinese economy.
Professor	Takayuki Ishikawa	1. Human Resouce Development 2. Development of PBL Education Program 3. Social Innovation
Associate Professor	Fumitoshi Murae	I am studying the way education should be for solving various social issues, including environmental problems.

Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology

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Position	Name	Main Research Theme
Department of Biological Functions Engineering		
Green Electronics		
Professor	Tsuyoshi Hanamoto	Development of human-friendly and environmentally friendly electrical power conversion systems and application for motor control systems

Professor	Ichiro Omura	Development of ultimate power semiconductor devices aimed at achieving extreme energy conservation, development of integrated power electronics to realize micro-miniaturization, development of real-time monitoring technology to detect failure causes of power semiconductor devices, and research of power electronics control and its integration with the digital network
Professor	Tingli Ma	1. Development of functional nano materials 2. Organic and inorganic molecular devices 3. Fuel Cell 4. Na and Li ion battery 5. Supercapacitor
Professor	Shyam Sudhir Pandey	1. Development of functional dyes and polymers 2. Research on next generation solar cells 3. Development high performance bio-image sensors
Associate Professor	Akihiko Watanabe	Power Device Applications of Diamond
Biological Mechanics		
Professor	Hiroshi Yamada	1. Mechanical evaluation of human vascular diseases and its application to medical treatment 2. Macroscopic and microscopic studies of soft tissues to avoid pressure injury, mechanical evaluation of pressure redistribution mattresses 3. Computer simulation to improve the tooth repair technique
Professor	Masaaki Tamagawa	1. Drug Delivery Systems by Shock Waves 2. Bioprocess by Shock Waves 3. Prediction of Haemolysis and Thrombus in Blood Pumps 4. Application to tissue engineering by shock waves 5. Development of shock wave generator 6. Multi-fractal analysis for branch flow of blood pipe using medical image data 7. Water Treatment Systems by shock waves and cavitation flows
Dean, Professor	Takashi Yasuda	Using techniques of microfabrication and cell culture, we are developing biomedical microdevices such as microfluidic devices for single cell analysis, microelectrode array devices for extracellular potential measurement, microhole array devices for production/separation of extracellular vesicles, etc.
Professor	Toshiki Miyazaki	Development of functional biomaterials for tissue repairing
Associate Professor	Kazuto Takashima	1. Development of soft tactile sensor 2. Development of device placement simulator for endovascular treatment 3. Applications of shape-memory polymer and artificial muscle to human-interactive robot
Associate Professor	Momoko Kumemura	Applying MEMS (Micro Electro Mechanical Systems) technology to biological research at the molecular, cellular, and tissue level Development and characterization of novel micro-devices for mechanical, chemical, and genetic assays for oncological studies.
Associate Professor	Jin Nakamura	1. Synthesis of organic-inorganic hybrid materials for promoting regenerations of bone and blood vessels 2. Evaluation of mammalian cell response to material decomposition products 3. Synthesis of carbonate fine particles for purification of seawater
Environmentally-Conscious Chemistry and Bioengineering		
Professor	Tetsuya Haruyama	We are conducting research and development of chemical technologies that contribute to the realization of a sustainable society through elemental circulation. We are working on research topics such as "conversion of CO_2 to resources", "efficient nitrogen fixation", "high concentration generation of active oxygen", and application of active oxygen to industrial processes. We are developing from basic research to applied technology (commercialization).
Professor	Toshinari Maeda	1. Microbial biodegradation of environmental pollutants 2. Bioenergy production and low-carbon technologies using bacterial functions 3. Reduction and recycling of excess sludge to construct an environmentally-friendly technology 4. Probiotics for periodontal pathogens 5. New anti-microbial technologies by predatory bacteria
Associate Professor	Tamaki Kato	Study on the functioning structures of biopolymers and the building superstructures
Professor	Naoya Murakami	1. Development of photo-functional nanomaterials for photocatalyst and photovoltaic cell 2. Spectroscopic analysis for elucidation of photoreaction mechanism over semiconductors
Associate Professor	Shinya Ikeno	1. Bioassay by using functional gold nanoparticles 2. Spore detection using nanoparticles to enhance the Raman signal 3. Boost protein expression system by co-expression of functional peptide 4. Development of functional peptides to improve stress tolerance
Associate Professor	Yoshito Ando	Fabrication of functional materials through up-graded recycle of biomass and waste materials aiming to be sustainable materials society 1. Development of sustainable bioplastics 2. Nano-fibrization of unutilized agricultural wastes 3. Developments of high-performanced functional material made from biomass/industrial waste 4. Functional materialized biomass and industrial waste through surface modification
Associate Professor	Yoshiyuki Takatsuji	Development of electrode for efficient conversion between energy and substance about environment We have developed research to convert atmospheric substances such as carbon dioxide and nitrogen into useful substances such as industrial raw materials by using electrochemical approach.
Green Technology		
Visiting Professor	Iwao Sasaki	Research on the optimization of the control mechanisms for mechatronics systems and human-friendly supporting devices
Visiting Professor	Hideki Honda	Realization of high-performance Mechatronics control system
Visiting Professor	Toru Kato	Development of the electrochemical energy devices such as the solid oxide fuel cells (SOFC), the high temperature steam electrolysis cells (HTSE) Study of evaluation and the simulation techniques for the electrochemical energy devices and systems
Collaborative Research Laboratory		
Specially Appointed Associate Professor	Masahiro Nakano	Plant Life Cycle Engineering (Research on autonomously controlled robot welding, and Research on thermal elasto-plastic analysis of welds and optimization of welding order)
Department of Human Intelligence Systems		
Human Intelligence and Machines		
Professor	Kazuo Ishii	1. Robotics 2. Intelligent Mobile Robot 3. Control System based on Neural Network
Professor	Hirofumi Tanaka	We try to decrease power consumption of AI computation by developing device mimicking biosignals based on material science. 1. Brain signal reproducing using nanocarbon network AI devices 2. Development of metallic and metal-oxide nanoparticles utilized for brain type AI computing 3. Haptic sensor for robot and artificial skin 4. Development of low dimensional nanomaterials for next generation electric wiring
Professor	Chikamune Wada	1. Research on human characteristics in order to develop assistive devices for the disabled 2. Application of the results to human interface, virtual reality and robotics
Professor	Hakaru Tamukoh	A brain-like computer system laboratory aims to realize a brain-like computer and its application to human-friendly systems. We integrate state-of-the-art devices, such as field programmable gate arrays, many-core central processing units, and Internet, to achieve high performance, low-power consumption, and flexible processing. To enable a brain-like computer, we integrate it with an artificial model of learning and growing structures. Furthermore, we widely apply the brain-like computer to an autonomous robot for supporting daily life and a human-friendly interface system including intelligent image processing and recognition.

Associate Professor	Hiroyuki Miyamoto	Generation of arm movement trajectory based on minimization principle, Robot learning by watching
Associate Professor	Shinsuke Yasukawa	Development of living creature observation / manipulation technique using robot, Development of bio-inspired sensor and embedded system, Trials of their techniques in field, etc…
Associate Professor	Yuuya Nishida	1. Marine resource survey using autonomous underwater robots 2. Automation of aquaculture industry 3. Underwater image processing using AI technology
Assistant Professor	Yuki Usami	1. Study of the fundamental physical properties of conductive polymers and metal nanoparticles 2. Development of evolutional electronic devices for information processing inspired by brain using physical resource
Specially Appointed Professor	Osamu Nomura	Research and development of brain-like AI models and circuit architectures
Specially Appointed Professor	Takashi Morie	VLSI circuits, devices and systems for brain-like artificial intelligence
Specially Appointed Assistant Professor	Seiji Uenohara	1. Development of neuromorphic CMOS integrated circuits 2. Development of neural network models suitable for circuit implementation 3. Nonlinear circuits and time-series analysis
Intelligence Systems and Emergent Design		
Professor	Tetsuo Furukawa	1. Meta-modeling method to discover general model and representation from multiple datasets 2. Visual analytics of data complex 3. Interactive intelligence that learns various dynamics and kinematics
Professor	Tomohiro Shibata	Basic and applied research, as well as social implementation on Robotics, behavioral neuroscience, and smart life care Other keywords include machine learning, artificial intelligence, biological signal measurement, soft robotics, medical care, etc.
Professor	Keiichi Horio	1. Measurement and analysis of human behavior and internal state 2. Modeling and analysis of influence of human internal state on behavior and performance 3. Development of intelligent information processing method that imitates expert reasoning mechanism 4. Application of image processing, signal processing and optimization to real problems
Professor	Sozo Inoue	<Human Activities in the World and Curing Future Diseases> We research technologies to recognize human activities from sensor data gathered from smartphones/devices and utilize them for various healthcare services. We also cultivate AI while gathering medical and nursing care big data.
Professor	Hiroaki Wagatsuma	1. Bio-medical signal processing, efficient sparse coding and the applications 2. Artificial intelligence, system design, rehabilitation supports inspired from non-linear dynamics in the brain-body-environment coordination 3. Sport dynamics and synergy analysis based on mathematical methods focusing on the non-linearity 4. Computational neuroscience based on theta phase coding and brain-inspired robotics
Associate Professor	Kaori Yoshida	She is engaged in research on Human-Computer Interaction, especially Kansei information processing that treats human subjective information, to design human-friendly information systems.
Associate Professor	Shuuhei Ikemoto	His research interests includes biologically inspired robotics and algorithms and physical human-robot interaction.
Assistant Professor	Hideaki Ishibashi	1. Theory construction for meta-learning 2. Algorithm development for general rule estimation and meta knowledge discovery based on meta-learning theory 3. Applying to cognitive science such as mathematical modeling of self-understanding and cognitive viewpoint analysis
Human Interaction and Brain Functions		
Professor	Kiyohisa Natsume	1. Electrophysiological and computer simulation studies on the role of brain rhythm or neuronal oscillation in the information processing 2. Glial [Ca^{2+}]i oscillation and wave 3. E-learning system for English rhythm using Brain Computer Interface 4. Detection of Music preference using Brain Wave
Professor	Doosub Jahng	1. Occupational Health Marketing 2. Health Resources Management 3. Team Management 4. Communication
Associate Professor	Katsumi Tateno	1. Hippocampal neural network 2. Electroreception of glass catfish
Associate Professor	Yoshitaka Otsubo	Research for taste transduction mechanisms
Human Technology		
Visiting Professor	Hiroshi Nakajima	Research and development on algorithms of intelligent systems by studying soft computing, statistical analysis, and social intelligence in human-machine collaboration with application studies
Visiting Associate Professor	Takayuki Matsuo	1. Biomimetic robot 2. Embedded system
Collaborative Research Laboratory		
Specially Appointed Associate Professor	Kazumichi Tanaka	Value-added creation for mechatronics technologies such as Machine Vision System, high-speed, high-precision, energy-saving, and vibration control by combining AI technology with semiconductor inspection machine manufactured by Ueno Seiki

Industry-Academia Innovation Center,Advanced Research and Social Cooperation Headquarters, Kyushu Institute of Technology

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Position	Name	Main Research Theme
Professor	Yasushi Sato	1. Controlling of Device Installed Artificial Intelligence 2. Sound Compression and Noise Removal by Sound Signal Process 3. Noise Removal by Array microphone 4. High Quality Sound and Lossless Compression by Sound Signal Process 5. Interface by Dialogue System 6. High Quality image and Search System by image Processing Technology 7. Development of Microwave Parts Using Dielectric

Research Center for Neuromorphic AI Hardware,Advanced Research Promotion Department, Advanced Research and Social Cooperation Headquarters,Kyushu Institute of Technology

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Position	Name	Main Research Theme
Assistant Professor	Yuichiro Tanaka	1. Development of brain-inspired artificial intelligence models 2. Development of fast and low power hardware for artificial intelligence models 3. Application for home service robots

Next Generation Power Electronics Research Center,Advanced Research Promotion Department, Advanced Research and Social Cooperation Headquarters,Kyushu Institute of Technology

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Position	Name	Main Research Theme
Assistant Professor	Ravi Nath Tripathi	1. Development of intelligent system control for extended application of power semiconductor devices 2. Power Converter system development and advanced control development 3. Virtual prototyping environment for system development

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Position	Name	Main Research Theme
Information Architecture Field		
Dean, Professor	Shigeru Fujimura	1. Production Planning and Scheduling 2. Production Management 3. Project Management 4. Digital transformation 5. Business Process Modeling
Professor	Jinglu Hu	Neurocomputing Systems and their Applications to Identification and Control of Nonlinear Systems
Professor	Mizuho Iwaihara	1. Database Query Processing 2. Web Information Systems 3. Text Mining 4. Social Media 5. Security and Privacy
Professor	Seiichiro Kamata	1. Image Processing 2. Pattern Recognition and Computer Vision 3. Applications of Space-filling curves 4. Image & Video Retrieval 5. Visual Information Processing
Professor	Jun Kameoka	1. Development of Wearable biosensor and IOMT platofrm 2. Integration of IOMT and AI Platform technologies for early detection of disease and prognosis mnagement 3. Application of IOMT for agriculture
Professor	Yves Lepage	1. Natural language processing and Artificial intelligence 2. Example-based, statistical and neural machine translation 3. Study of analogy, application to morphology, syntax and semantics, machine translation and paraphrasing 4. Multilingual word and sentence alignement 5. Academic writing aid system for researchers who are non-native English speakers
Professor	Takafumi Matsumaru	Bio-Robotics & Human-Mechatronics 1. Human-Symbiotic / Synergetic Robot 2. Human-Robot Interaction (physical / informative / psychological) 3. Intelligent / Behavioral Robotics 4. Social / Ethical Robotics 5. International Cooperation / Collaboration Robotics 6. Human Understanding / Education
Professor	Makoto Tsubokawa	1. Optical network architecture (Survivable network architecture, Maintenance techniques, Transmission systems) 2. Sensing technologies (Fiber-optic sensors, Optical measurement techniques) 3. Optical waveguide design (Optical fiber textile, Light concentrator, Nano waveguide devices)
Professor	Osamu Yoshie	1. Global machine diagnosis service using the Internet technologies 2. Environmental Information Processing 3. IoT application to manufacturing 4. Analysis of consensus building 5. Knowledge logistics
Professor	Jun Wu	1. Network Intelligence 2. Network Security 3. Application and System Development for Intelligent Security 4. International standard for security management of intelligent networks
Lecturer	Yuya Ieiri	1. Agent Simulation 2. Cyber-Physical System 3. Augmented Reality 4. Information Utilization for Revitalizing Community 5. Social System Construction in Collaboration with Stakeholders
Production Systems Field		
Professor	Masao Arakawa	1. Design Engineering 2. Multiple Decision Making and its applications 3. Design of Heuristic Search and its applications 4. Practice by Design Thinking 5. Design of Data Mining and its aplications
Professor	Kenji Hashimoto	1. Problem-solving oriented robotics 2. Autonomous mobile system 3. Mobile robot (legged robot, wheeled robot) 4. Humanoid robot 5. Mechatronics 6. System integration
Professor	Hee-Hyol Lee	1. Development of Binary Power Generation Plant 2. Bayesian Network and Production & Inventory Control 3. Cellular Automaton and Traffic Flow Modeling 4. Traffic Signal Control 5. Cooperative Action Learning of Carrier Robot Swarm 6. Design of Decoupling Control System for MIMO Large-Scale Systems 7. Design of Sliding Mode Control System and Its Applications to Servo-Systems and Process Systems 8. Intelligent Control 9. Stochastic Control
Professor	Kazuma Mawatari	Micro- and Nanofluidic dic Engineering 1. Mobile chemical and bioanalysis device 2. Biomimetic device 3. High-performance bio-analysis device 4. Medical diagnosis device 5. In air and realtime virus detection device
Professor	Takeo Miyake	1. Smart contact lens using integrated circuits 2. Wearable biofuel cell using enzyme catalysts 3. H+-mediated control of biofunction with electrochemical pH modulation 4. DDS system with nanostraw membrane
Professor	Eiichiro Tanaka	1. Automatic Remote Diagnosis of Gear Driving System Using a Small Laser Sensor 2. Development of a Walking Assistance Device for Gait Training of Patients and Promotion Exercise of the Elderly 3. Development of Various Assistance Devices for ADL, lifting up and standing up, etc.
Professor	Shigeyuki Tateno	1. Development of fault detection and diagnosis systems for chemical plants 2. Estimation of Corrosion Rates for Corrosion Under Insulation in Petrochemical Plants 3. Wireless Communication support system for rescue actions 4. Development of on-demand PC BTO systems
Professor	Kenji Ueda	1. Semiconducting materials and devices 2. Thin film growth 3. Carbon electronics 4. AI electronics
Professor	Masahide Inuishi	1. Power electronics (Conversion circuit) 2. Power semiconductor devices ①Structure design and process ②Reliability study 3. Modeling of advanced power devices for circuit simulation
Professor	Junko Takahashi	1. Development of therapeutic methods using radiation responsive organic compounds (radiosensitizers) 2. Analysis of micro changes of physiological status
Lecturer	Gabor Mehes	1. Bacterial electronics devices (energy conversion, sensing) 2. Extracellular electron transfer 3. Bioelectrode engineering by organic electronics materials

Integrated Systems Field			
	Professor	Takeshi Ikenaga	1. Ultra High Speed Vision System 2. 3D Human/Sports Analysis 3. 6DoF Object Tracking 4. Video Filter 5. Video Compression
	Professor	Shinji Kimura	High Level System LSI Design and Verification, Design for Testability
	Professor	Shoji Makino	1. Blind Source Separation 2. Speech Enhancement 3. Speech Dereverberation 4. Microphone Array 5. Acoustic Scene Analysis 6. Acoustic Event Detection 7. Acoustic Scene Classification
	Professor	Hirofumi Shinohara	1. Static and dynamic random number generators for security (PUF Physical Unclonable Function, TRNG True Random Number Generator) 2. Stochastic computing and application to Bayesian inference 3. Energy Efficient circuits and systems
	Professor	Shintaro Yamasaki	1. Structural optimum design of various integrated devices such as power semiconductors and optical MEMS 2. Integrative optimal design of integrated systems composed of integrated devices 3. Optimal design of other devices
	Professor	Toshihiko Yoshimasu	1. RF IC circuit design methodologies such as power amplifiers, VCOs, filters, and so on 2. RF transistor modeling for SiGe HBTs, Si CMOS, and so on
	Associate Professor	Tamio Ikehashi	Micro Electro-Mechanical Systems (MEMS) 1. MEMS Sensors (accelerometer, vibrometer, gravimeter, gyro, etc) 2. Sensor system (pressure/height monitoring) 3. Actuator devices 4. FEM simulation 5. MEMS fabrication
	Associate Professor	Takaaki Kakitsuka	Information-communication systems employing light emitting devices 1. Semiconductor lasers and light emitting devices 2. Optical circuit design 3. Nanophotonics 4. Optical signal processing
	Associate Professor	Kiyoto Takahata	Opto-electronic integration technology 1. Opto-electronic integrated circuits 2. High functional optical devices 3. Photonic microwave/millimeter-wave devices
	Professor	Takashi Ohsawa	Emerging memory system 1. In-memory computing 2. Nonvolatile working memories 3. Storage class memory (SCM) 4. Neuromorphic system
	Lecturer	Shinichi Nishizawa	1. Computer-Aided Design related to VLSI physical design: cell library design, timing analysis, variation aware design, low voltage and low energy design techniques 2. Process variation and aging induced transistor performance variation evaluation and its monitor circuit

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Position	Name	Main Research Theme
Assistant Professor	Saman Azhari	1. CNT/PDMS nanocomposites for pressure sensing and robotics 2. topological effects of SWNT-POM reservoir computing on temporal information processing 3. wireless power transfer for sensors 4. synthesis and characterization of carbon nanotubes
Assistant Professor	Keisuke Osawa	1. Minimally invasive medical devices 2. Remote rehabilitation system
Assistant Professor	Kunyang Liu	1. IC design of physically unclonable function (PUF) circuits 2. Hardware security
Research Associate	Weilian Zhou	1. Image processing 2. Hyperspectral imaging with deep learning 3. Remote sensing
Research Associate	Yukun Chen	A biodevice controls biological functions with ionic signals
Research Associate	Yang Cui	1. Near infrared fundus imaging system with light illumination from electric contact lens 2. Split-Ring Resonator biosensor for biomarker detection

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Position	Name	Main Research Theme
Recycling and Eco-Technology		
Professor	Yasuo Yanagibashi	Water Supply System, Odor Measurement
Associate Professor	Kazuo Tameda	Waste Management System, Total system for the landfill

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Main Research Theme
◇Research and development function Studies improving social system concerning waste disposal, such as separate collection, recycling technology, are carried out synthetically by cooperating with industries, governments, universities, and citizens. ◇Practice support function Regional development and making the result of the research achieved by a joint research are supported. ◇Environmental information function Information on recycling technology and the social system are sent, and the measure of related each subject for the construction of the recycling society is supported.

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August 2023