Outline of the Graduate School of Informatics

（Doctoral Program）

◆Department of Core Informatics

To nurture professionals in informatics with knowledge and skills in a discipline that repeatedly evolves and develops through paradigm shifts, and who will pursue education and research on the unchanging truths and methods that underlie the field even if values change and diversify with the changing times.

【Intelligent Informatics】

In the Course of Intelligent Informatics, we train students to have the knowledge and skills to realize human intellectual abilities such as recognition, understanding, inference, and learning on computers through problem solving in the academic fields of signal processing, intelligent systems, media processing, machine learning, and data science.

Title	Name	Education and Research Fields	Campus
Professor	HONDA Katsuhiro	Data Analysis, Cluster Analysis, Knowledge Discovery	Nakamozu
Professor	KISE Koichi	Intelligent Media Processing, Document Information Processing, Document Image Analysis, Object Recognition, Activity Recognition, Learning Assistance	
Professor	MORI Naoki	Machine Learning, Kansei Engineering, Software Engineering, Evolutionary Computation	
Professor	NOJIMA Yusuke	Evolutionary Computation, Knowledge Extraction, Multiobjective Optimization	
Professor	UNO Yushi	Discrete Structures and Algorithms, Combinatorial Optimization, Computational Complexity, Data Structures, Network Analysis, System Modeling	
Professor	YOSHIOKA Michifumi	Intelligent Signal Processing, Image Processing, Pattern Detection	
Associate Professor	HAYASHI Toshiharu	Data Analysis and Data Assimilation, especially Reliability Engineering, Mathematical Finance and Statistical Inference for Stochastic Processes.	
Associate Professor	HOHJO Hitoshi	Reliability Engineering, Game Theory, Operations Research, Stochastic Model, Decision-making	
Associate Professor	INOUE Katsufumi	Image Sensing, Pattern Recognition, Machine Learning, Action Recognition, Gesture Recognition	
Associate Professor	IWAMURA Masakazu	Intelligent Media Processing, Character and Object Recognition, Document Image Retrieval, Deep Learning, Visually Impaired Assistance	
Associate Professor	IWATA Motoi	Intelligent Media Processing, Information Security, Digital Watermark, Steganography, Activity Recognition, Learning Assistance	
Associate Professor	UBUKATA Seiki	Data Analysis, Soft Computing, Rough Set Theory, Knowledge Discovery	
Lecturer	UTSUMI Yuzuko	Intelligent Media Processing, Pattern Recognition, Plant Image Processing	
Assistant Professor	MASUYAMA Naoki	Continual Learning, Clustering, Knowledge Extraction, Unsupervised Learning	
Assistant Professor	OKADA Makoto	Natural Language Processing, Knowledge Management	

(As of April 1, 2022)

【System Informatics】

In the Course of Systems Informatics, we train students to have the knowledge and skills to grasp things as a system and build a model to find optimal solutions for the system as a whole, through experience of problem solving in the academic fields of parallel processing, measurement and control, information networking, security and signal processing.

Title	Name	Education and Research Fields	Campus
Professor	ATA Shingo	Network Architecture, Traffic Analysis, Network Operation and Management, Network Programmability	Sugimoto
Professor	CAI Kai	Systems Control, Discrete-Event Systems, Cyber-Physical Systems, Cybersecurity, Multi-Agent Systems, Networked Robotics, Deep Reinforcement Learning, Distributed Algorithms	Sugimoto
Professor	FUJIMOTO Noriyuki	High Performance Computing, GPU Computing, Discrete Optimization, Grid Computing	Nakamozu
Professor	NAKANO Tadashi	Information Networks, Molecular Communication, Bio-inspired Networks, Social Networks, Life Science	Sugimoto
Professor	OHNO Shuichi	Digital Communication, Signal Processing, Data Analysis, Machine Learning	Sugimoto
Professor	TODE Hideki	Intelligent Networking, Network Quality Control, Content Distribution Control, Broadband Network, Secure Networking	Nakamozu
Associate Professor	FUJIMOTO Manato	Ubiquitous Computing, Internet of Things (IoT), Wireless Communications, Sensing, Elderly Monitoring	Sugimoto
Associate Professor	NAKAJIMA Shigeyoshi [1]	AI, AL, Image Processing, Moving Image Processing, Signal Processing, Medical Data Processing	Sugimoto
Associate Professor	TANIGAWA Yosuke	Intelligent Networking, Wireless Network Quality Control, Wireless Media Access Control	Nakamozu
Lecturer	KATSUMA Ryo	Sensing, Ad-hoc Network, Mobile Computing	Nakamozu
Lecturer	TRAN Thi Hong	Blockchain, Distributed Application (Dapp), Cryptographic Hash Function, FPGA, Embedded Hardware Accelerator	Sugimoto
Lecturer	UENO Atsushi	Artificial Intelligence, Reinforcement Learning, Natural Language Processing	Sugimoto
Assistant Professor	KONDO Daishi	Network Security, Privacy, Information Centric Networking	Nakamozu

The faculty staff member marked with [1] will retire on March 31, 2025.

(As of April 1, 2022)

◆Department of Interdisciplinary Informatics

The purpose of this course is to develop design and management skills of information systems that organize a wide variety of information and knowledge to solve various issues in modern society, in which a sense of values are changing and diversified.This course cultivates systematic knowledge and skills of interdisciplinary application ability that triggers a new paradigm shift through informatics in a variety of fields.

Title	Name	Education and Research Fields	Campus
Professor	ABE Kota	Distributed Systems and System Software	Sugimoto
Professor	ARAKI Nagateru ※1	Marketing research on contents such as movies and characters using market data. Research on market creation using contents.	Nakamozu
Professor	ISHIBASHI Hayato	Architectures, Operations and Management of Information Networks and other Information Infrastructures	Sugimoto
Professor	IZUMI Masao ※2	Human activity detection from video, Education / Learning support system with Image processing, Various systems using video processing	Nakamozu
Professor	MAJIMA Yukie	The integration of health-care sciences, computer science, information science, cognitive science, and human science to assist in the management of healthcare information.	Nakamozu
Professor	MIYAMOTO Takao	Information Security, Information Network, Information Systems Engineering, Research on Systems Design, Systems Development and Systems Operation Management	Nakamozu
Professor	MORITA Hiroyuki	Application of data-mining techniques for practical business data.	Nakamozu
Professor	MURAKAMI Harumi	Information Retrieval, Artificial Intelligence, User Interface, Text Mining, Web Intelligence, Lifelog, Library and Information Science	Sugimoto
Professor	NAKASHIMA Tomoharu	Data analysis, Fuzzy systems, Learning analytics, Game AI, Smart monitoring, Computational intelligence	Nakamozu
Professor	OHTA Masaya	OFDM Communication Systems, FPGA Applications, Neural Networks, Augmented Reality, Web Technology, Mobile Apps	Nakamozu
Professor	SETA Kazuhisa	Human Centric AI, Knowledge Modeling and its Methodology, Ontological Engineering, Intelligent Tutoring Systems, Human Computer Interaction	Nakamozu
Professor	SUGANO Masashi	New architecture of information network and application, Autonomous distributed network, Smart grid, Sensor network	Nakamozu
Professor	WATANABE Shinji	Analysis, evaluation, and policy recommendation of the influence of information technology on economic and management systems.	Nakamozu
Associate Professor	AOKI Shigeki	Development, Management and Analysis of Information Systems, Information Security, Pattern Recognition	Nakamozu
Associate Professor	HAYASHI Yuki	Learning Support System, Multiparty Multimodal Interaction, Intelligent User Interface	Nakamozu
Associate Professor	KOJIMA Atsuhiro	Development of Learning Management System (LMS) and applications that support learning activities, Teaching methods of information-related education	Nakamozu
Associate Professor	MASUDA Seiko	Research on the application of ICT to the health care field, Research on the visualization of regional information, data health, Research on the development of information utilization skills of nurses	Nakamozu
Associate Professor	NAGATA Yoshikatsu	Integrated spatio-temporal information for regional history and diversity, Practical utilization of spatial information system	Sugimoto
Associate Professor	ONISHI Katsumi	Applied Algorithms for Discrete Optimization Problems in Distributed Computing Environments	Sugimoto
Associate Professor	SAGA Ryosuke	Knowledge Discovery from Big Data and its Application, Information Retrieval and Recommender System, Information Visualization and Human Computer Interaction, Analysis and Methodology of Existing and New Service Creation	Nakamozu
Associate Professor	UESUGI Tokuteru	Materials design based on machine learning and first-principles calculations, Optimization of materials process by machine learning, Image processing of microstructures using machine learning	Nakamozu
Associate Professor	YANAGIMOTO Hidekazu	Knowledge discovery from big data with statistical machine learning. Text mining and machine comprehension using large text corpus.	Nakamozu
Associate Professor	YOSHIDA Daisuke	Applied research on disaster prevention / mitigation, infrastructure maintenance, urban development, utilizing geospatial information	Sugimoto
Lecturer	KUSUNOKI Yoshifumi	Machine Learning and Data Analysis, Mathematical Programming, Soft Computing, Decision Making, Optimization Algorithms	Nakamozu
Professor	IWAMURA Koji	Production System, Production Simulation, Optimization of Production Planning by Using Multi-Agent or Machine Learning	Nakamozu
Associate Professor	HIRABAYASHI Naoki	Production Management Systems, Real Time Production Scheduling, Dynamic Facility Layout, Optimization Method by Mathematical Planning and Metaheuristics	Nakamozu
Associate Professor	MORINAGA Eiji	System Design and Integration, Computer-Aided Conceptual Design, Integrated Optimization of Manufacturing System, Decentralized Production Management	Nakamozu

The faculty staff member marked with ※1 will retire on March 31, 2023.

The faculty staff member marked with ※2 will retire on March 31, 2025.

(As of April 1, 2022)