Themes of Individual Research Training (JYPE) 2018-2019

Faculty/School	Department	Research Theme	Academic Advisor
Faculty of Science	Physics	Investigation of Magnetism of Nano-Molecular Magnets and the Microscopic Origin of Magnetic Properties	Prof. NOJIRI Hiroyuki
		Thermoelectric Materials	Prof. TANIGAKI Katsumi
		Detecting dark matter at the international linear collider	Prof. YAMAMOTO Hitoshi
	Astronomy and Geophysics	The effects of energetic electron precipitation on the Earth's upper and middle atmosphere	Prof. KATOH Yuto
		Under Ice Temperature and Salinity Profiles in the Arctic Ocean Obtained by the Argo Float Array and their Relation to Upper Ocean Mixing Processes	Prof. SUGA Toshio
	Chemistry	A Hydrogen-Bridged Bis(dimethylsilylene) Tungsten Complex: Synthesis, Fluxional Behavior, and Reactivity	Prof. TOBITA Hiromi
		Synthesis of a hydrogen-bridged bis(dimethylsilylene) tungsten complex	
	Biology	Transcription Factor Activity Profiling	Prof. ABE Kentaro
		Molecular biology	Prof. FUKUDA Mitsunori
		Genomic regions associated with differences in personality traits among dog breeds	Prof. KAWATA Masakado
		Investigating regeneration mechanisms in Cladonema pacifica	Prof. KURANAGA Erina
		Aquatic Ecology	Prof. URABE Jotaro
		Ecological Stoichiometry	
School of Engineering	Mechanical and Aerospace Engineering	Evaluation of Silicon Substrate Characteristic Coated with Al2O3 by ALD	Prof. HANE Kazuhiro
		Privacy Evaluation in Healthcare Robotics	Prof. HIRATA Yasuhisa

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		Privacy by Design in Healthcare Robotics	Prof. HIRATA Yasuhisa
School of Engineering	Mechanical and Aerospace Engineering	Creating reference positions and orientations of objects from point cloud files	Prof. KOSUGE Kazuhiro
		Real-time Control of Manipulator / Sychronization of Projector & Camera	
		Investigating software-oriented approaches to refining robotic control	
		Vibration control through continuous switching of a piezoelectric device	Prof. MAKIHARA Kanjuro
		Vibration Control with Piezoelectric Elements	
		Numerical Simulation of Flow Controlling Plasma Actuators	Prof. OHNISHI Naofumi
		Preliminary Study of Single Simplified Lunar Lander Landing Gear Using Discrete Element Method	Prof. YOSHIDA Kazuya
		ROS-based controlling of two legged robot for space exploration	
		Microgravity Spring-Damper Dynamics	
		Space Robotics and Microsatellites	
		Pathfinding for Climbing Robot with Depth Sensor	
		A Study of Lander Footpad using Discrete Element Method	
		Computer Vision in the Application of High-Speed Projection System	Assoc. Prof. KAGAMI Shingo

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	Electrical Information and Physics Engineering	Real-time Sobel Edge Dection using an FPGA	Prof. HANYU Takahiro
School of Engineering	Electrical Information and Physics Engineering	Use of GPU and FPGA to accelerate complex algorithms and pattern recognition	Prof. HARIYAMA Masanori
		Measuring the Efficiency of High-Level Synthesis for FPGA	
		FPGA	
		Eye-Only Interaction in Virtual Reality using Intentional Eye Accommodation	Prof. KITAMURA Yoshifumi
		Hands Free Interaction Using Eye Gaze	
		GBM Align : A MHC II Binding Affinity Prediction Tool	Prof. NAGASAKI Masao
		Rotating Bounding Boxes Using Neural Networks	Prof. OMACHI Shinichiro
		Scene text detection	
		Analysis information board using edge detection	
		A study about recognition of objects using Machine Learning and Hololens	Prof. SHINOHARA Ayumi
		Convolutional Neural Networks for humanlike image assessment	Prof. SHIOIRI Satoshi
	Applied Chemistry Chemical Engineering and Biomolecular Engineering	Measurement of vapor-liquid distribution coefficients of methyl salicylate in high pressure CO2-Water-Ethanol system	Prof. INOMATA Hiroshi
		Synthesis of Fatty Acid Esters as Phase Change Materials	Prof. KITAKAWA Naomi

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School of Engineering	Applied Chemistry Chemical Engineering and Biomolecular Engineering	Chitin-Oxazoline as a Novel Intermediate for Reducing-End-Selective Modification	Prof. SHODA Shin-ichiro
	Material Sciance and Engineering	Nanotechnology	Prof. MIURA Hideo
		Origami: Characterization of paper sheet with magnetostrictive fibers	Prof. NARITA Fumio
	Civil Engineering and Architecture	Revitalization of Zhushi Community	Prof. IRAGASHI Taro
		Strength of Crushable Volcanic Sand Affected by the 2018 Hokkaido Eastern Iburi Earthquake	Prof. KAZAMA Motoki
		Numerical Study on the Dynamic Response of a Single Steel Pile for Seismic Design	
		New CLT Joint Experiment	Prof. MAEDA Masaki
		Energy consumption of heating in residential buildings in Turkey	Assoc. Prof. GOTO Tomonobu
		Energy Simulation of Residential Buildings in Turkey	
Faculty of Agriculture	Applied Bio-Sciences	Evaluating Suppressor Mutation Rate of Novel L-Alanine Auxotrophic Escherichia coli.	Prof. YONEYAMA Hiroshi
		Tarsal Gustatory Sensilla in Coleoptera	Assoc. Prof. HORI Masatoshi
		Gustatory sensilla on legs in Coleoptera	
	Applied Biological Chemistry	The Effects of Progerin on the Nuclear Structure in Human Hutchinson-Gilford Progeria Syndrome Cells	Assoc. Prof. HARATA Masahiko