Themes of Individual Research Training (JYPE) 2016-2017

Faculty / School	Department	Research Theme	Academic Advisor
Faculty of Science	Biology	Analysis of TRPA1 Sequences Among Anolis Lizards from Different Thermal Habitats	Prof. Masakado KAWATA
		Differences in photosystem repair rates between Arabidopsis thaliana ecotypes	Prof. Kouki HIKOSAKA
		Bioturbation in Higashi-Yachi tidal flat in Sendai bay	Prof. Jotaro URABE
		Actin Destabilization Induces Ciliogenesis	Prof. Kensaku MIZUNO
		Drosophila melanogaster capability of expectation learning avoidance of paired odors with increasing and decreasing shock voltage	Prof. Hiromu TANIMOTO
		The afferent inputs from perirhinal cortex to the deep layers of entorhinal cortex	Assoc. Prof. Ken-Ichiro TSUTSUI
	Chemistry	Development for the effective crosslink forming Threose Nucleic Acid (TNA)	Prof. Fumi NAGATSUGI
	Geoenvironmental Science	Tsunami Mitigation Before and After 2011 Tohoku-oki Tsunami: Lessons Learned for Future Tsunami Mitigation in Indonesia	Assoc. Prof. Kazuhisa GOTO
	Mathematics	Chow's Lemma and its Proof	Prof. Masaki HANAMURA
		Kalmen Filter and its Application	Prof. Masayoshi TAKEDA
		The Tangent Bundle as a Manifold	Prof. Masashi ISHIDA
	Physics	Cycle of Pore-formation of Phospholipid Vesicles by Alternating Temperature	Prof. Masayuki IMAI
		Repeatable Pore-formation of Phospholipid Vesicles by Alternating Temperature	
		Reflection spectra for multilayer system	Prof. Riichiro SAITO
		Optical Properties of Multilayer Dielectric Media: Electric Field and Graphene Absorption Enhancement in N-layer dielectric media	
		FABRICATION OF ALL-SOLID THIN FILM ELECTROCHROMIC DEVICE USING WO3	Prof. Junichi KAWAMURA
School of Engineering	Applied Chemistry, Chemical Engineering and Biomolecular Engineering	Dielectric Response of Thin Film and Single Crystalline Organic-Inorganic Perovskite	Prof. Tomoyuki AKUTAGAWA
		hydrocarbon extraction of algae culture with microbubbles	Prof. Hiroshi INOMATA
		Measurement of Supercritical Carbon Dioxide Solubility in Biomass-soluble Ionic Liquid and Modeling with Sanchez-Lacombe Equation of State	Prof. SMITH Richard Lee Jr.
		Conversion of Glycerol via Hydrogenolysis with Ir-ReOx/SiO2-Catalysts	Prof. Keiichi TOMISHIGE
		Conversion of Tri-, Diols via Hydrogenolysis with Ir-ReOx/SiO2	
	Mechanical and Aerospace Engineering	Adapting to Limited Surface Plots: Small and Compact Architecture in Japan and it's Input on the Venezuelan Barrios Case	Prof. Taro IGARASHI
		TOPOLOGY OPTIMIZATION –Running on MATLAB® 2D and 3D models.	Assoc. Prof. Junji KATO
		Topology Optimization (Running on MATLAB®) & Origin and Development of Japanese Architecture	
		Evaluation of Resistant of Cement - Treated Tailing Soil Agianst Erosion and Liquefaction	Prof. Motoki KAZAMA
		Event of the 1999 Vargas Flood: A Comparison between the Disaster Strategies in Japan and Venezuela	Prof. Osamu MURAO
		EVENTS OF THE 1999 VARGAS FLOOD: COMPARISON IN THE USE OF PUBLIC SPACES AS A DISASTER STRATEGY IN JAPAN AND VENEZUELA	
		Evaluating system parameters of MDOF-Systems with regard to displacement amplitude	Prof. Masato MOTOSAKA
		Influence of vibration amplitude on system parameters in constructed systems	
	Electrical, Information and Physics Engineering	Deep Learning in Artificial Neural Network to Visually Identify Handwritten Numbers	Prof. Shigeo SATO
		Program Verification of OAuth 2.0	Prof. Eijiro SUMII
		In-Body/Out-Body Communication for Denture	Prof. Noriharu SUEMATSU
		Detecting and Classifying Icons For Indoor Navigation	Prof. Shinichiro OMACHI
	Information and Intelligent Systems	Agent-based Human Activities of Daily Living Management Framework for IoT System	Prof. Tetsuo KINOSHITA
		IMAGE FILTERING AND ENHANCEMENT	Prof. Makoto YOSHIZAWA
		Removing Periodic Noise from Image in Frequency Domain	
		Design and Optimization of IC V6 Engine	Prof. Kenji NAKAMURA
		Analysis and Optimization of SPM Gear Geometry/Topology	
		Auditory Search Asymmetry Between Pure Tone and Narrow Band Noise on Horizontal and Vertical Axises	Prof. Yoiti SUZUKI
		Artificially Generated Text Samples for Optical Character Recognition Training	Prof. Shinichiro OMACHI
		Artificially Generated Text Samples for Optical Character Recognition Training	
		Translating Japanese to Indonesian Traditional Javanese Characters Using Image as its	
		Concurrency in SML# and Go	Prof. Atsushi OHORI
		Static Representation of Environment Variables using SML# JSON Support	
		3D object reconstruction using stereoscopic images	Prof. Takafumi AOKI
		Effect of friction variance on octopod gait	Prof. Akio ISHIGURO
		Digital Image Filter Design and Its FPGA implementation	Prof. Takahiro HANYU Assoc. Prof. Masanori NATSUI
		A Head-Tracked Navigation System for Virtual Reality	Prof. Yoshifumi KITAMURA
		Synthesis of Superconducting Polycrystalline Bulk Samples of T'-La2-x-yYyMxCuO4 (M=Sr,	Prof. Yoji KOIKE
		Trial of the Synthesis of Superconducting Bulk Samples of T'-La2-yYyCuO4	
		Battery Control Method for Compensating InertiaReduction Caused by RES Penetration	Prof. Hiroumi SAITOH
		Laser Cooling of Rubidium Atoms by Filter-Stabilized Diode Laser System	Prof. Keiichi EDAMATSU
		Species Sound Recognition	Prof. Akinori ITO
		Species Sound Recognition Application	

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School of Engineering	Information and Intelligent Systems	Auditory Search Asymmetry Between Pure Tone and Narrow Band Noise on Horizontal and Vertical Axises	Prof. Yoiti SUZUKI
		Syntax of Natural Languages in Ocaml	Prof. Eijirou SUMII
		Translating Syntax for Language Learning	
		Adaptive Filters: LMS, NLMS and RLS comparison	Prof. Masayuki KAWAMATA
		NONPAMETRIC SIGNAL FOURIER-BASED POWER SPECTRUM ANALYSIS AND WINDOW COMPARISON	
	Materials Science and Engineering	Microstructural Examination of Corner AdStir Fillet Stationary Shoulder Friction Stir Welding in a High-Strength Aluminum Alloy	Prof. Hiroyuki KOKAWA
		Effect of Phosphorous on Corrosion Behavior of Austenitic Cast Stainless Steel	Prof. Izumi MUTO
		Precipitation hardening behavior of Cu-Ti Alloy	Prof. Kyosuke YOSHIMI
		Electrons Anisotropic Magnetic Field	Prof. Junsaku NITTA
		Microstructural Observations of TRIP Steel after Friction Stir Welding	Prof. Yutaka SATO
		Preparation of visible light absorbing thin films with flat wavelength dispersion	Prof. Hitoshi TAKAMURA
	Mechanical and Aerospace Engineering	DNA Sequence Design for Reaction-Diffusion Control Optimization by Meta-heuristic	Prof. Satoshi MURATA
		Economical Analysis of Low CO2 Emission Power Generation System Utilizing Methane	Prof. Shigenao MARUYAMA
		Dynamic characteristic analysis of micro-satellite with a propulsion system	Assoc. Prof. Toshinori KUWAHARA
		Satellite Formation system and Control	
		Simulations of a Wing using Finite Element Method	Prof. Kanjuro MAKIHARA
		Aeroelastic Simulation of a Wing	
		Optimization of simulation of the PA-10 robotic manipulator and benchmarking through the simulation of 3D motion paths derived from 2D vector graphics	Assoc. Prof. Shogo ARAI
		Drug Delivery using Multilayered Microsheets	Assoc. Prof. Hirokazu KAJI
		Creep-Fatigue Damage-Induced Change in the Micro Texture of the Modified 9Cr-1Mo Steel	Prof. Hideo MIURA
		Change in the micro texture of the modified 9Cr-1Mo steel used for fast breeder reactorunder operating conditions	
		Gripping Robot Tumble Stability on a Slope	Prof. Kazuya YOSHIDA
		Dynamics simulation and gait control of a rock-climbing robot	
		Estimation of Center of Mass displacement Using Sensor Shoe	Assoc. Prof. Takeshi YAMAGUCHI
		Measurement of Three directional Ground Reaction Force using Sensor Shoes	
		Topology Optimization with the help of 88 line code	Prof. Shigeru OBAYASHI
		SPH simulation of cavitation bubbles interacting with one another	Assoc. Prof. Seiichiro IZAWA
		Preparetioon of solid electrolyte films by pulsed laser deposition	Prof. Koji AMEZAWA
		Percolation electrical properties using metal nanoparticles composite	Prof. Takahito ONO
		Measurement using thermal sensors of the heat released by the reaction between proteins and enzymes	
		Beverage (Juice) Plant Simulator	Prof. Makoto TAKAHASHI
		Experimental Study of Influence of Message Length on Communication Accuracy using Beverage Plant Simulator	
		Real-time Control of a Manipulator	Prof. Kazuhiro KOSUGE
		Improving Feedback and Harmony between a Robot Based Instructor and Human Student	
		Spring Assisted Knee Exoskeleton System (SAKES)	
Faculty of Agriculture	Applied Biological Chemistry	Lane Line Detection	Prof. Koichi HASHIMOTO
		The Effect of Biotin Treatment on Testosterone and Progesterone Productions in testis-derived cells	Prof. Michio KOMAI
		Synthetic studies on Vancomycin fluorescent derivative	Prof. Hirokazu ARIMOTO
		Synthetic studies on new Vancomycin derivatives	
		Chronological aging and the effects of oxidative stress on Saccharomyces cerevisae	Assoc. Prof. Masahiko HARATA
	Applied Bio-Sciences	Oxidative stress mediated by incorporation of H2A variant Htz1 in S. cerevisiae	Assoc. Prof. Masahiko HARATA
		Analysis of Supply Chain Performances of Processed Soybean Products in Japan	Prof. Fusao ITO
		Seasonal change of monstrilloid copeods in Izu-Oshima Island	Prof. Yoshinari ENDO
		Vivianite crystallization in the paddy field soils of Aizu basin and Awaji Island	Prof. Masami NANZYO