

List of selected projects for Discretionary Collaborative Research Project 2023, IFS, Tohoku University (as 1st May, 2023)

Project Code	Project Title	Applicant	Institution	IFS responsible member or non-IFS responsible member	Institution
J23L003	Direct comparison between stress drop and resolved shear stress	Yusuke Mukuhira	Tohoku University	Yoshimitsu Nana	Kyoto University
J23L014	Experiment and Simulation of a Rotating Hollow Cylinder in Flight	Katsuya Hirata	Doshisha University	Jun Ishimoto	Tohoku University
J23L016	Tensile Effect by Wall Shear Stress around Stagnation Point and Flow Instability by Wall Elasticity in Full-Scale Patient-Specific Aneurysm Model	Gaku Tanaka	Chiba University	Makoto Ohta	Tohoku University
J23L017	Elucidation of viscous drag reduction mechanism by riblet processing	Akira Oyama	Japan Aerospace Exploration Agency	Aiko Yakeno	Tohoku University
J23L018	Study for High Performance of Rotating Co-axial MHD Energy Conversion Device	Hikomichi Kobayashi	Keio University	Hidemasa Takana	Tohoku University
J23L023	Study on the injection process of next-generation liquified fuels	Noritsune Kawaharada	National Traffic Safety and Environment Laboratory	Ippei Oshima	Tohoku University
J23L027	Numerical Prediction of Heat Flux of Cartesian Mesh CFD in Supersonic/Hypersonic Flows	Daisuke Sasaki	Osaka Prefecture University	Shigeru Obayashi	Tohoku University
J23L028	Computational and Experimental Study of Unsteady Flowfield around Flexible-membrane Wing at Low Reynolds Number toward Mars Airplane	Daisuke Sasaki	Osaka Prefecture University	Hiroki Nagai	Tohoku University
J23L032	Study on ground effect on multirotor unmanned aerial vehicles considering symmetry rotor position	Hikaru Otsuka	Kanazawa University	Hiroki Nagai	Tohoku University
J23L037	Elucidation of unsteady flow fields induced by rotating cylinder with fins and optimization of fin shape improving Magnus wind turbine performance	Hiroaki Hasegawa	Utsunomiya University	Shigeru Obayashi	Tohoku University
J23L040	Numerical and experimental study on suspension flow with inertial migration toward contactless measurement of effective viscosity	Misa Kawaguchi	Tokyo University of Agriculture and Technology	Kenichi Funamoto	Tohoku University
J23L042	Measurements of fundamental physical properties of functional fluids for efficient subsurface developments	Kazuki Sawayama	Kyoto University	Yusuke Mukuhira	Tohoku University
J23L048	Atomization and Combustion Characteristics of Fine Bubble Fuel	Yasuhiro Nakatake	National Institute of Technology, Kurume College	Akihiro Hayakawa	Tohoku University
J23L051	Integrated analysis between running engine and airframe using sliding mesh technique	Kazuhiro Chiba	The University of Electro-Communications	Shigeru Obayashi	Tohoku University
J23L052	Physical fracture models by 3d-scanning and -printing	Michael Kröhn	GRS gGmbH	Anna Suzuki	Tohoku University
J23L053	Elucidation of mechanisms on vascular diseases by integration of computational fluid dynamics analysis and cellular experiment	Suguru Miyauchi	University of Miyazaki	Kenichi Funamoto	Tohoku University
J23L067	Sustainable Ammonia Production by Plasma method	Ryoya Shiraishi	Yamaguchi University	Takashi Tokumasu	Tohoku University
J23L068	機械学習が加速させる地下流体エネルギーに係る破壊現象の理解	Yusuke Mukuhira	Tohoku University	Makoto Naoi	Kyoto University
J23L069	High Speed Schlieren Velocimetry of EHD Enhanced Phase Change Thermal Storage	James Cotton	McMaster University	Takehiko Sato	Tohoku University
J23L075	Stress analysis of surface nanobubble by molecular dynamics simulations	Takuma Hori	Tokyo University of Agriculture and Technology	Gota Kikugawa	Tohoku University
J23L079	Analysis of heat and momentum transport phenomena through droplets in nanochannels	Akinori Fukushima	University of Fukui	Takashi Tokumasu	Tohoku University
J23L083	Influence of Propeller wake on Aerodynamics/ Flight Dynamics Characteristics for Mars Airplane	Masahiro Kanazaki	Tokyo Metropolitan University	Hiroki Nagai	Tohoku University
J23L090	Data Analysis of Thermo-Physical Properties of Organic Materials Using Machine Learning Algorithms	Hari Krishna Chilukoti	National Institute of Technology, Warangal	Gota Kikugawa	Tohoku University

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