

## List of selected projects for Discretionary Collaborative Research Project 2022, IFS, Tohoku University(as 24th June, 2022)

Project Code	Project Title	Applicant	Institution	IFS responsible member or non-IFS responsible member	Institution
J22L009	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
J22L011	Consideration to create functional fluids by means of smart control of suspended particles	Tomohiro Fukui	Kyoto Institute of Technology	Kenichi Funamoto	Tohoku University
J22L014	Evaluation on ground effect on a quad-rotor UAV using symmetry reflecting walls	Otsuka Hikaru	Kanazawa University	Hiroki Nagai	Tohoku University
J22L017	Measurements of fundamental physical properties of functional fluids for efficient subsurface developments	Kazuki SAWAYAMA	Kyoto University	Yusuke Mukuhira	Tohoku University
J22L018	Study on the injection process of next-generation liquified fuels	Noritsune Kawaharada	National Traffic Safety and Environment Laboratory	Ippei Oshima	Tohoku University
J22L021	Feasibility study of an air transportation system with flying vehicle among isolated islands and major cities around Naha airport using existing airports	Seiichiro Morizawa	National Institute of Technology, Okinawa College	Shigeru Obayashi	Tohoku University
J22L022	Control of reaction field in cavitation plasma for high-speed and eco-friendly synthesis of carbon catalysts	Nozomi Takeuchi	Tokyo Institute of Technology	Hidemasa Takana	Tohoku University
J22L024	Fundamental studies on turbulent energy/scalar transport in non-universal turbulences	Ito Yasumasa	Nagoya University	Yuji Hattori	Tohoku University
J22L030	Study of hydrothermal behaviors of impinging droplets on a heated wall	Takahiro Okabe	Hirosaki University	Junnosuke Okajima	Tohoku University
J22L032	Research on clean energy power generation technology using flow-induced self-excited vibration of elastic bodies	Osamu Terashima	Toyama Prefectural University	Hiroki Nagai	Tohoku University
J22L033	Droplet flow mechanism near a solid wall	Ippei Oshima	Tohoku University	Hiroyasu Saitoh	Shibaura Institute of Technology
J22L041	Flow visualization of a high-speed projectile with plenoptic optics	Toshiharu Mizukaki	Tokai University	Kiyonobu Ohtani	Tohoku University
J22L045	Investigation of phase change heat transfer at human body skin in high temperature environment such as Sauna room	Takuma Kogawa	National Institute of Technology, Hachinohe College	Junnosuke Okajima	Tohoku University
J22L049	Integrated analysis of an aircraft body and an operating engine	Kazuhisa Chiba	The University of Electro-Communications	Shigeru Obayashi	Tohoku University
J22L061	Molecular dynamics analysis on stress and stability of surface nanobubble	Hori Takuma	Tokyo University of Agriculture and Technology	Gota Kikugawa	Tohoku University
J22L063	Modelling Core Scale: Investigation of Multiscale porosity using 3D printed micromodels	Anna Suzuki	Tohoku University	Julien Maes	Heriot-Watt University
J22L081	Direct comparison between stress drop and resolved shear stress	Yusuke Mukuhira	Tohoku University	YOSHIMITSU Nana	Kyoto University
J22L082	Development and application of numerical method for various particulate flows	Shun Takahashi	Tokai University	Shigeru Obayashi	Tohoku University
J22L083	Analysis of heat and momentum transport phenomena through droplets in nanochannels	Akinori Fukushima	University of Fukui	Takashi Tokumasu	Tohoku University
J22L090	Approximation of 3D flow fields based on cerebral angiography	Sugiyama Shinichiro	Kohnan Hospital	Hitomi Anzai	Tohoku University
J22L091	Numerical study on transonic flow characteristics over return capsules	Bok Jik Lee	Seoul National University	Hiroki Nagai	Tohoku University

21 selected projects