

Project code	Project title	Applicant	Institution	IFS responsible member or non-IFS responsible member	Institution
1	Development and Flow Evaluation of Electro-Rheological Nano-Suspensions	Tanaka Katsufumi	Kyoto Institute of Technology	Nakano Masami	Tohoku University
2	Simulation of magnetic dynamic process of magnetic layers in grain boundary due to fatigue for material degradation	Yamaguchi Katsuhiko	Fukushima University	Takagi Toshiyuki	Tohoku University
3	Development of structure-controllable multi-disk single-electron transistors by ultimate etching technique with bio-templating	Yamashita Ichiro	NAIST	Samukawa Seiji	Tohoku University
4	Application of Deep Brain Magnetic stimulation.	Yashima Kazumi	IFG Co., Ltd.	Takagi Toshiyuki	Tohoku University
5	Research and development of quantum dot solar cell	Kondo Michio	AIST	Samukawa Seiji	Tohoku University
6	Basic Investigation of Spike Neuron Devices	Morie Takashi	Kyushu Institute of Technology	Samukawa Seiji	Tohoku University
7	Direct Numerical Simulation on the Effects of Free-stream Turbulence on Neutral, Stably and Unstably Stratified Turbulent Boundary Layers	Sakai Yasuhiko	Nagoya University	Hayase Toshiyuki	Tohoku University
8	Development of Analysis Techniques for Novel Quantum Devices using Nanodisk Array	Takahashi Yasuo	Hokkaido University	Samukawa Seiji	Tohoku University
9	Experimental studies of Sonic Boom using a two-stage light gas gun	Saito Tsutomu	MURORAN Institute of Technology	Obayashi Shigeru	Tohoku University
10	Blood flow analysis in left atrium	Shibata Muneichi	Miyagi Cardiovascular and Respiratory Center	Funamoto Kenichi	Tohoku University
11	Measurement of Radiative Properties in Micro-Nano Structure	Maruyama Shigenao	Tohoku University	Vaillon Rodolphe	INSA Lyon
12	Radiative and Convective Heat Transfer Analysis by REM2	Maruyama Shigenao	Tohoku University	Sakurai Atsushi	Niitagata University
13	Evaluation and Analysis of Mega-scale Energy Transfer	Maruyama Shigenao	Tohoku University	Yamada Noboru	Nagaoka University of Technology
14	Non-Fourier Heat Transfer in Complex Materials	Maruyama Shigenao	Tohoku University	Mishra	IIT
15	Experimental study on aerodynamic characteristics of a silent supersonic aircraft in low speed flight	Kawazoe Hiromitsu	Tottori University	Obayashi Shigeru	Tohoku University
16	Investigation of supersonic hybrid-stabilized argon-water arc for biomass gasification	Jenista Jiri	Institute of Plasma Physics ASCR, v.v.i.	Nishiyama Hideya	Tohoku University
17	Experimental Analysis of Droplet Impact Process onto Rough Substrate with Solidification (Chemical Reaction)	DEVANDREN SIVAKUMAR	INDIAN INSTITUTE OF SCIENCE	Nishiyama Hideya	Tohoku University
18	Combined effects of intrinsic instability and radiation on the dynamics of premixed flames	Kadowaki Satoshi	Nagaoka University of Technology	Kobayashi Hideaki	Tohoku University
19	Transport phenomena at nano-structured interfaces	Ohara Taku	Tohoku University	Shibahara Masahiko	Osaka University
20	Investigations of reacting flow in micro channels directed to development of eco-friendly technologies of energy conversion	Minaev Sergey	ITAM	Maruta Kaoru	Tohoku University
21	Simulations of convection enhanced delivery in rat brain	Smith Joshua	Lafayette College	Funamoto Kenichi	Tohoku University
22	A Study of Precise Measurement Method of Diffusion Field in Micro Channel	Komiya Atsuki	Tohoku University	Gary Rosengarten	The University of New South Wales
23	Development Optimization Design Method for Low Noise and High Aerodynamic Performance Helicopter	Jeong Shinkyu	Tohoku University	Yee Kwanjung	Pusan National University
24	A Study of hydraulic fracturing in unconsolidated sediments and its application to methane hydrate development	Ito Takatoshi	Tohoku University	Ishida Tsuyoshi	Kyoto University
25	Analysis of reactive species in a plasma flow for medical treatment	Morfill Gregor	Max-Planck-Institute for Extraterrestrial Physics	Sato Takehiko	Tohoku University
26	Mechanism of radical generation and sterilization by a plasma flow at atmospheric pressure	Sato Takehiko	Tohoku University	Miyahara Takashi	Shizuoka University
27	Fabrication of composite material by compression revolution shearing method under room temperature	Nakayama Noboru	Shinshu University	Miki Hiroyuki	Tohoku University
28	Kinetic Force Method for Two-/Three-Dimensional Numerical Modeling Relaxation of Rarefied Gas flows	Saveliev Vladimir	National Center of Space Researches and Technologies	Yonemura Shigeru	Tohoku University
29	Real-time Numerical Simulation of Reactive Non-equilibrium Plasma Jet	Nishiyama Hideya	Tohoku University	Tanaka Yasunori	Kanazawa University
30	Numerical studies of the reacting rarefied flows in tubes	Ivanov Mikhail	Siberian Branch of Russian Academy of Science	Maruta Kaoru	Tohoku University
31	Massively parallel integrated computation of micro-atomizing spray mechanism	Ishimoto Jun	Tohoku University	Saito Kozo	University of Kentucky
32	Analysis of convective flow during Convection-enhanced drug delivery	Tominaga Teiji	Tohoku University	Hayase Toshiyuki	Tohoku University
33	Numerical and experimental research on active control of the hole-tone feedback problem	Langthjem Mikael A.	Yamagata University	Nakano Masami	Tohoku University
34	Study of Oscillation Problems of Inducer in Liquid Propellant Rocket Engine	Yoshida Yoshiki	JAXA	Iga Yuka	Tohoku University
35	Nondestructive evaluation of surface/sub-surface material properties of structural components in NPP using ultrasonic and electromagnetic method	Song Sung-Jin	Sungkyunkwan University	Takagi Toshiyuki	Tohoku University
36	Development of Micro-Motor for MEMS utilizing Novel Smart Polymer Composite	Nakano Masami	Tohoku University	Zrinyi Mikols	Semmelweis University
37	Investigation of hypersonic flows about leading edges of small bluntness	Ivanov Mikhail	Siberian Branch of Russian Academy of Science	Yonemura Shigeru	Tohoku University
38	Visual Knowledge Discovery Lifecycle Management and its Evaluation with Flow Dynamics Applications	Fujishiro Issei	Keio University	Hayase Toshiyuki	Tohoku University

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39	Study of unstable phenomena of film boiling in superfluid helium	Kimura Nobuhiro	KEK	Nozawa Masakazu	Tohoku University
40	Use of fluid inclusions in sludge sample for estimation of sustainable geothermal energy production	Sekine Kotaro	Tohoku University	Adachi Masaho	OKUAIKU GEOTHERMAL CO., LTD.
41	Production of complex plasma at atmospheric pressure	Sato Takehiko	Tohoku University	Morfill Gregor	Max-Planck-Institute for Extraterrestrial Physics
42	Mechanism of bubble generation and disappearance by plasma	Sato Takehiko	Tohoku University	Farhat Mohamed	Ecole Polytechnique Federale de Lausanne (EPFL)
43	Molecular Dynamics Study about Lubrication Phenomena of Liquid Bridges	Tokumasu Takashi	Tohoku University	Vergne Philippe	INSA-Lyon
44	Molecular study of thermodynamic/transport properties of liquid hydrogen	Tokumasu Takashi	Tohoku University	Tsuboi Nobuyuki	JAXA
45	Tribological Behavior and Electrical Contact Resistance of Metal-Containing DLC Coating for Electrically Conductive Tribo-elements	Fontaine Julien	Ecole Centrale de Lyon	Takagi Toshiyuki	Tohoku University
46	Development of stent for cerebral aneurysm	Ohta Makoto	Tohoku University	Nakayama Toshio	Tohoku University
47	Development of bubble generation method by plasma	Sato Takehiko	Tohoku University	Nakatani Tatsuyuki	Toyo Advanced Technologies Co., Ltd.
48	Environmentally Harmonized Gas Chemistry using neutral beam for Low-k Etching	Saito Shuichi	Selete Inc.	Samukawa Seiji	Tohoku University
49	Flow and heat transfer characteristics of cryogenic gas-liquid two-phase flow in a pipe	Kobayashi Hiroaki	JAXA	Ohira Katsuhide	Tohoku University
50	Optimization of Droplet Formation of Continuous Ink Jet	Nakano Masami	Tohoku University	Nakanishi Tameo	Yamagata University
51	Viscosity Reduction of Complex Fluid with Suspended Particles	Nakano Masami	Tohoku University	Rongjia Tao	Temple University
52	Study and Application of Real-Time Prediction System of Airflow which uses Meteorological Data	Hattori Yuji	Tohoku University	Kanemoto Toshiaki	Kyushu Institute of Technology