April 15, 2011

List of selected projects for General Collaborative Research Project 2011, IFS, Tohoku University

Project Code	Project Title	Applicant	Institution	IFS responsible member or non-IFS responsible member	Institution
J11001	Technological research on locomotive organs and functions of minute living things	Sudo Seiichi	Akita Prefectural University	Hayase Toshiyuki	Tohoku University
J11002	Alternating field characteristics of complex flow in magnet-ferrofluid system	Sudo Seiichi	Akita Prefectural University	Nishiyama Hideya	Tohoku University
J11003	The Mechanism and the Control of the Unsteady Three-dimensional Wake Structure of Road Vehicle	Lai Chenguang	Chongqing University of Technology	Obayashi, Shigeru	Tohoku University
J11004	Development of Analysis Techniques for Novel Quantum Devices using Nanodisk Array	Takahashi Yasuo	Hokkaido University	Samukawa Seiji	Tohoku University
J11005	Fabrication of Quantum Dot Superlattice Using Precise Beam Flux-Control Technique	Kita Takashi	Kobe University	Samukawa Seiji	Tohoku University
J11006	Study on the advanced MOS transistor of the neutral beam process	Endo Kazuhiko	National Institute of Advanced Industrial Science and Technology	Samukawa Seiji	Tohoku University
J11007	Instability of high-temperature premixed flames	Kadowaki Satoshi	Nagaoka University of Technology	Kobayashi Hideaki	Tohoku University
J11008	Study on the magnetic stimulation for the peripheral nerve.	Yashima Kazumi	IFG Co., Ltd.	Takagi Toshiyuki	Tohoku University
J11009	Temperature measurement of unsteady supersonic flows using laser-induced thermal acoustics	Mizukaki Toshiharu	Tokai University	Obayashi, Shigeru	Tohoku University
J11010	Experimental study on aerodynamic characteristics of a silent supersonic aircraft in supersonic flight	Obayashi, Shigeru	Tohoku University	Sasoh Akihiro	Nagoya University
J11011	Anti-bacterial effect of a glow discharge plasma against biofilm-producing gram negative bacilli	Fujimura Shigeru	Tohoku University	Sato Takehiko	Tohoku University
J11012	Flow and heat transfer characteristics of cryogenic gas-liquid two-phase flow	Ohira Katsuhide	Tohoku University	Kobayashi Hiroaki	JAXA
J11013	Low damage fabrication of Si Photonic devices by Neutral Beam Technology	Wada Kazumi	The University of Tokyo	Samukawa Seiji	Tohoku University
J11014	Fabrication of composite material by compression revolution shearing method under room temperature	Nakayama Noboru	Shinshu University	Miki Hiroyuki	Tohoku University
J11015	Global flow visualization around supersonic projectiles using background-oriented schlieren method	Mizukaki Toshiharu	Tokai University	Obayashi, Shigeru	Tohoku University
J11016	Reconstruction of Wall thinning from Pulsed ECT Signals	Chen Zhenmao	Xi'an Jiaotong University	Takagi Toshiyuki	Tohoku University
J11017	Analyses of nano-scale surface damages generated during plasma etching processes	Hamaguchi Satoshi	Osaka University	Samukawa Seiji	Tohoku University
J11018	Massively parallel integrated computation of micro-atomizing spray mechanism	Ishimoto Jun	Tohoku University	Saito Kozo	University of Kentucky
J11019	Shuttlecock Aerodynamics and Dynamic Behavior at the Instant of Impact	Hasegawa Hiroaki	Akita University	Obayashi, Shigeru	Tohoku University
J11020	Development of structure-controllable multi-disk single-electron transistors by ultimate etching technique with bio-templating	Yamashita Ichiro	NAIST	Samukawa Seiji	Tohoku University
J11021	Experimental studies of Sonic Boom using a two-stage light gas gun	Saito, Tsutomu	MURORAN Institute of Technology	Obayashi, Shigeru	Tohoku University
J11022	Development of high performance strained-Ge channel device utilizing neutral-beam oxidized film	Sawano Kentarou	Tokyo City University	Samukawa Seiji	Tohoku University
J11023	Basic Investigation of Spike Neuron Devices	Morie Takashi	Kyushu Institute of Technology	Samukawa Seiji	Tohoku University

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J11024	Study on the electronic states in high-density and regularly-arrayed quantum dot systems fabricated by neutral beam etching	Saiki Toshiharu	Keio University	Samukawa Seiji	Tohoku University
J11025	Investigations of reacting flow in micro channels directed to development of eco-friendly technologies of energy conversion	Minaev Sergey	SB RAS	Maruta Kaoru	Tohoku University
J11026	New exact solutions for vortex rings with swirl and magnetic field	Llewellyn Smith, Stefan	University of California,	Hattori Yuji	TohokuUniversity
J11027	Rheological analysis of the mechanism of fetal brain hemorrhage	Ito Takuya	Tohoku University	Funamoto Kenichi	Tohoku University
J11028	Visualization, “real time” algorithms and parallel computations of reacting flows	Mazurok Boris	SB RAS	Maruta Kaoru	Tohoku University
J11029	Parallel computations on the base of GPU for modeling of gas combustion processes	Fursenko Roman	SB RAS	Maruta Kaoru	Tohoku University
J11030	A numerical study of the effect of large deformations of a trailing vortex on its breakdown	Takahashi Naoya	Tokyo Denki	Hattori Yuji	TohokuUniversity
J11031	Development of High Efficient Ship Design Technique	Jeong Shinkyu	Tohoku University	Kim Hyunyul	George Mason University
J11032	A Study of Precise Measurement Method of Diffusion Field in Micro Channel	Komiya Atsuki	Tohoku University	Gary Rosengarten	The University of New South Wales
J11033	Blood flow analysis in the left atrium	Shibata Muneichi	Miyagi Cardiovascular and Respiratory Center	Funamoto Kenichi	Tohoku University
J11034	Development of bubble generation method by plasma	Sato Takehiko	Tohoku University	Nakatani Tatsuyuki	Toyo Advanced Technologies Co., Ltd.
J11035	Effects of swirl on the stability of vortices	Hattori Yuji	TohokuUniversity	Fukumoto Yasuhide	Kyusyu University
J11036	A study of light transport and heat transfer in biological tissue using radiation element method	Maruyama Shigenao	Tohoku University	Sakurai Atsushi	Niitagata University
J11037	Non-Fourier Heat Transfer in Complex Materials	Maruyama Shigenao	Tohoku University	Mishra	IIT
J11038	Measurement of Radiative Properties in Micro-Nano Structure	Maruyama Shigenao	Tohoku University	Vaillon Rodolphe	INSA Lyon
J11039	Evaluation and Analysis of Mega-scale Energy Transfer	Maruyama Shigenao	Tohoku University	Yamada Noboru	Nagaoka University of Technology
J11040	Evaluation of intracranial aneurysm rupture by MR-measurement-integrated simulation	Sugiyama Shinichiro	Kohnan Hospital	Funamoto Kenichi	Tohoku University
J11041	Database of intracranial aneurysms with hemodynamic analysis.	Sugiyama Shinichiro	Kohnan Hospital	Ohta Makoto	Tohoku University
J11042	Development and Flow Evaluation of Electro-Rheological Nano-Suspensions	Tanaka, Katsufumi	Kyoto Institute of Technology	Nakano, Masami	Tohoku University
J11043	Numerical and experimental research on active control of the hole-tone feedback problem	Langthjem, Mikael A.	Yamagata University	Nakano, Masami	Tohoku University
J11044	Research on detection method of calcification in soft tissue	Ogasawara Masafumi	GE Helthcare Japan	Funamoto Kenichi	Tohoku University
J11045	Non-destructive detection of cracks using electromagnetic phenomena	Qiu Jinhao	Nanjing University of Aeronautics and Astronautic	Takagi Toshiyuki	Tohoku University
J11046	Study of contact alignment for the slider specimen of tribometer.	Ito Kosuke	Nihon University	Miki Hiroyuki	Tohoku University

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J11047	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
J11048	Entropy flow in magnetically ordered Heusler alloys under influence of temperature or magnetic field	Khovaylo Vladimir	National University of Science and Technology "MISiS"	Miki Hiroyuki	Tohoku University
J11049	Improvement of reality of CG motion pictures by hydrodynamic effects	Ishihara Takashi	Nagoya University	Hattori Yuji	TohokuUniversity
J11050	Real-time Numerical Simulation of Reactive Non-equilibrium Plasma Jet	Takana Hidemasa	Tohoku University	Tanaka Yasunori	Kanazawa University
J11051	Numerical studies of the reacting rarefied flows in tubes	Ivanov, Mikhail	Siberian Branch of Russian Academy of Science	Maruta Kaoru	Tohoku University
J11052	Optimization of Droplet Formation of Continuous Ink Jet	Nakano, Masami	Tohoku University	Nakanishi Tameo	Yamagata University
J11053	Experimental Analysis of Droplet Impact Process onto Rough Substrate with Solidification (Chemical Reaction)	DEIVANDREN, SIVAKUMAR	INDIAN INSTITUTE OF SCIENCE	Nishiyama Hideya	Tohoku University
J11054	Development of force balance and its application to a silent supersonic biplane model in the low speed wind	Kawazoe Hiromitsu	Tottori University	Obayashi, Shigeru	Tohoku University
J11055	Effect of Electron Behavior front of Shock Wave on Thermal and Chemical Reaction process after the Shock Wave	Kawazoe Hiromitsu	Tottori University	Obayashi, Shigeru	Tohoku University
J11056	Development of High reliability Numerical Simulation Code for Next Generation Low Noise Rotor Design	Jeong Shinkyu	Tohoku University	Yee Kwanjung	Pusan National University
J11057	Mechanism of plasma thermo-fluid dynamics in water	Sato Takehiko	Tohoku University	Kanazawa Seiji	Oita University
J11058	Transport phenomena at nano-structured interfaces	Ohara Taku	Tohoku University	Shibahara Masahiko	Osaka University
J11059	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
J11060	Mechanism of blast-induced traumatic brain injury	Nakagawa Atsuhiro	Tohoku University Hospital	Hayase Toshiyuki	Tohoku University
J11061	Simulation analysis on the change of B-H curve pattern for sensitized Alloy 600	Yamaguchi Katsuhiko	Fukushima University	Takagi Toshiyuki	Tohoku University
J11062	Molecular study of thermodynamic/transport properties of liquid hydrogen	Tokumasu Takashi	Tohoku University	Tsuboi Nobuyuki	Kyusyu Institute of Technology
J11063	Nano-Scale Modeling of Confined Liquid Films and Bridges	Tokumasu Takashi	Tohoku University	Vergne Philippe	INSA-Lyon
J11064	Investigation of proton transport in liquid water network	Tokumasu Takashi	Tohoku University	Kinefuchi Ikuya	Tokyo University
J11065	Analysis of plasma flow at gas-liquid interface for biological interaction	Sato Takehiko	Tohoku University	Morfill, Gregor	Max-Planck-Institute for Extraterrest
J11066	Investigation of hypersonic flows about leading edges of small bluntness	Ivanov, Mikhail	Siberian Branch of Russian Academy of Science	Yonemura Shigeru	Tohoku University
J11067	Cavity formation mechanism in a cavitation process	Sato Takehiko	Tohoku University	Farhat, Mohamed	Ecole Polytechniq ue Federale de Lausanne (EPFL)

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J11068	Development of Biomodel for Blood cell	Ohta Makoto	Tohoku University	Liviu Movileanu	Syracuse University
J11069	Optimization of stent design based on Blood flow analysis using LBM method	Ohta Makoto	Tohoku University	Bastien Chopard	Geneva University
J11070	Development of Biomodel for Blood cell	Ohta Makoto	Tohoku University	Kapsa Philippe	ECL
J11071	Integrated Analysis by Kinetic Model and Fluid Model for Innovative Plasma Applications	LI He-Ping	Tsinghua University	Takana Hidemasa	Tohoku University
J11072	Advancement of Numerical Method for Unsteady Cavitating Flows	Iga Yuka	Tohoku University	Wang Guoyu	Beijing Institute of Technology
J11073	Quantitative evaluation of plastic deformation of structural materials using EMAT-EC dual probe	Li Luming	Tsinghua University	Uchimoto Tetsuya	Tohoku University
J11074	Development of Nondestructive Methods for Evaluation of Layered Materials	Song, Sung-Jin	Sungkyunkwan University	Takagi Toshiyuki	Tohoku University
J11075	Development of 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
J11076	Seminar for next generation sensors for super-high temperature environment	Takagi Toshiyuki	Tohoku University	Shouji Kazuo	Intelligent Cosmos Research Institute
J11077	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

Selected project for Transdisciplinary Collaborative Research Project 2011, IFS, Tohoku University

No.	Project Title		Institution
1	Frontier Science of Next Generation Reactive Fluid	Ishimoto Jun	Tohoku University