English-based Program

Department	Research Area	Research Instruction		Application Code		Main Supervisor				Vice Supervisor		
				Master	Doctor							
Department of Applied Mechanics and Aerospace Engineering	Thermal-fluid Science	Research on Fluid Engineering	Experimental and computational researches on unsteady flow phenomena such as rotating stall, surge, inlet distortion, rotating instabilities and windmilling operation, in turbo-machinery systems (centrifugal and axial flow fans and compressors) for aeroengines or gas turbines. Researches on experimental and numerical aeroacoustics and unsteady vortical structures.	-	C52	Professor	Doctor of Engineering (Waseda University)	OTA, Yutaka	yutaka@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Thermal-fluid Science	Research on Thermofluid Science	Machine engine (theoretical and numerical modelings on turbulence, combustion, spray, and supersonic flows, proposal of high efficiency engines for automotive and aerocraft, and condensed matter nuclear physics) & Gene engine (physics underlying morphogenesis and bio-molecular systems and applications of thermophiles).	-	C53	Professor	Doctor of Engineering (Waseda University)	NAITOH, Ken	k-naito@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Thermal-fluid Science	Research on Aerospace Transportation Systems	We research on the aerospace transpotation and propulsion systems to improve their performance and reliability. For example, thermal-fluid phenomena of the engine components, that is, air-inlet, turbo-machinery, heat exchanger and nozzle are investigated. The design optimization of the future aerospace transpotation system is also conducted.	-	C70	Professor	Doctor of Engineering (The University of Tokyo)	SATO, Tetsuya	sato.tetsuya@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Thermal-fluid Science	Research on Aerodynamics	We research on the aerodynamics for aerospace applications by the experimental and computational analysis. For example, research on the stability of flow around airfoil, meteorological effect of trajectory prediction in air traffic control, Micro Aerial Vehicle, hypersonic aerodynamics, and the reentry problem of the spaceships.	-	C71	Associate Professor	Doctor of Engineering (The University of Tokyo)	TEZUKA, Asei	atezuka@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Thermal-fluid Science	Research on Fluid Engineering	Research on performance and reliability improvement of turbomachines (pump, hydraulic turbine and compressor). Internal flow, flow-induced vibration, cavitation and design optimization method using computational and experimental approaches.	-	C74	Professor	Doctor of Engineering (Osaka University)	MIYAGAWA, kazuyoshi	k-miyagawa@waseda.jp			

English-based Program

Department	Research Area	Research Instruction		Application Code		Main Supervisor				Vice Supervisor		
				Master	Doctor							
Department of Applied Mechanics and Aerospace Engineering	Applied Mathematics and Mechanics	Research on Applied Mathematics	Dynamical systems, geometric mechanics, and application to modeling and control of multibody systems, molecular systems and nonequilibrium thermodynamics of continuum systems.	-	C55	Professor	Doctor of Engineering (Waseda University)	YOSHIMURA, Hiroaki	yoshimura@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Applied Mathematics and Mechanics	Research on Applied Mathematics	Our research aims to understand and exploit natural phenomena associated with fluctuations and chaos on the basis of nonlinear dynamics, statistical mechanics, and data science. We combine the methodologies in celestial mechanics, machine learning, complex systems, dynamical systems, and statistical informatics to explore fundamental principles that underlie evolutions and self-organization in nature.	-	C73	Professor	Doctor of Philosophy (The University of Tokyo)	YANAO, Tomohiro	yanao@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Dynamics and Control of Ecological Energy Systems	Research on Dynamics and Control of Mechanical Systems	Optimum design and control of mechanical systems. The objective systems are environmentally friendly systems such as absorption systems, hybrid air-conditioning systems, moving type robots and sorlar energy systems.	-	C59	Professor	Doctor of Engineering (Waseda University)	SAITO, Kiyoshi	saito@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Dynamics and Control of Ecological Energy Systems	Research on Energy and Systems Engineering	Research on energy and autonomous systems from the perspective of system engineering. Specific targets include exergy analysis, optimal energy system design, energy management systems using artificial intelligence, and autonomous mobile sensing systems for indoor/outdoor, and for lunar/planetary exploration.	-	C60	Professor	Doctor of Engineering (Waseda University)	AMANO, Yoshiharu	yoshiha@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Dynamics and Control of Ecological Energy Systems	Research on Process Control Engineering	Research on optimal control of various energy systems such as compression heat pump, absorption heat pump, desiccant system for energy saving, and on heat and mass transfer phenomena occuring in the systems.	C27	C77	Associate Professor	Doctor of Engineering (Waseda University)	YAMAGUCHI Seiichi	yamaguchi.sei@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Materials Design and Processing	Research on Composite Materials Engineering	Experimental study on deformation and fracture of polymer-matrix composite materials. Fundamental studies on long term durability of fiber-reinforced plastics (fatigue property and creep), evaluation of interfacial mechanical property and impact property of CFRP. Development of innovative structural materials using carbon nano tube. Rehabilitation technology for fatigue damage of metallic materials.	-	C63	Professor	Doctor of Engineering (Waseda University)	KAWADA, Hiroyuki	kawada@waseda.jp			

English-based Program

Department	Research Area	Research Instruction		Application Code		Main Supervisor				Vice Supervisor		
				Master	Doctor							
Department of Applied Mechanics and Aerospace Engineering	Materials Design and Processing	Research on Mechanics of Materials	Experimental and analytical researches will be conducted to evaluate the strength properties and to understand the fracture mechanism of structural and functional materials at multi scale. Specifically, we will study the durability of structural materials, the mechanics of dissimilar interfaces, the initiation and growth of crack in materials, the creation and evaluation of functional nanomaterials based on strength of materials, solid mechanics, mechanics of materials and fracture mechanics.	-	C62	Professor	Doctor of Engineering (Waseda University)	HOSOI, Atsushi	hosoi@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Materials Design and Processing	Research on Materials Process Engineering	Experimental and numerical researches on development of fabrication mathods of light-weight materials, functional materials and superalloys by novel solidification and plastic forming processes and physical properties of liquids under microgravity	-	C75	Professor	Doctor of Engineering (Waseda University)	SUZUKI, Shinsuke	suzuki-s@waseda.jp	Professor	Doctor of Engineering (Tokyo University of Agriculture and Technology)	TAKAMURA, Masato
Department of Applied Mechanics and Aerospace Engineering	Materials Design and Processing (Group B)	Research on Nanomaterials Engineering	We are developing the production technique of nanomaterials such as graphene, and investigating proper manufacturing processes using nanomaterial. We try to construct theories with respect to mechanical, thermal and electrical properties of nanocomposites	C28	C78	Associate Professor	Doctor of Philosophy in Engineering (Waseda University)	ARAO, Yoshihiko	arao@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Mechanical Design and Micro-engineering	Research on Tribology	Theoretical and experimental studies on tribological problems, such as tribology of the sliding bearings lubricated by the non-Newtonian lubricants, tribology for the air bearings, tribology for the turbo machinery, and tribology related to biology.	-	C68	Professor	Doctor of Engineering (Waseda University)	TOMIOKA, Jun	tomioka@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Mechanical Design and Micro-engineering	Research on Micro and Nano Mechanics	Research in micro- and nano-devices based on mechanics and physics in micro and nano region. Our research topics include microfabrication, nanofabrication, Micro-Electro-Mechanical Systems (MEMS), nano-photonics, bio-inspired devices and flexible devices.	-	C76	Professor	Doctor of Philosophy in Information Science and Technology (The University of Tokyo)	IWASE, Eiji	iwase@waseda.jp			
Department of Applied Mechanics and Aerospace Engineering	Mechanical Design and Micro-engineering	Research on Design Optimization	Basic and applied researches on structural optimization including topology optimization. Especially, focusing on the utilization in additive manufacturing, experimental verifications are also performed. For example, structural optimization resolving inherent problems of additive manufacturing through the design and lattice structures for vibration damping or effective cooling are studied.	C29	C79	Associate Professor	Doctor of Philosophy in Engineering (Kyoto University)	TAKEZAWA, Akihiro	atakezawa@waseda.jp			