

English-based Program												
Department	Research Area	Research Instruction		Application Code		Main Supervisor				Vice Supervisor		
				Master	Doctor							
Department of Chemistry and Biochemistry	Physical Chemistry	Research on Structural Chemistry	Our research aims to achieve an understanding of structure and electrical and optical properties of materials by using spectroscopy as major tools. 1. Structures of organic semiconductor films 2. Organic LEDs, Transistors, solar cells 3. Absorbents of CO ₂	K02	K52	Professor	Doctor of Science (The University of Tokyo)	FURUKAWA, Yukio	furukawa@waseda.jp			
Department of Chemistry and Biochemistry	Physical Chemistry	Research on Electronic State Theory	This research attempts to clarify the molecular structure, electronic state, reaction mechanism, and various molecular properties by using the quantum chemical calculations. Furthermore, the theoretical development and improvement of algorithm are also performed.	K03	K53	Professor	Doctor of Engineering (Kyoto University)	NAKAI, Hiromi	nakai@waseda.jp			
Department of Chemistry and Biochemistry	Physical Chemistry	Research on Photo Physical Chemistry	This research focuses on optical properties of nanomaterials. We will visualize ultrafast response, non-linearity, and photochemical properties of nanomaterials by using advanced optical microscopy.	K15	K65	Professor	Doctor of Science (Osaka University)	IMURA, Kohei	imura@waseda.jp			
Department of Chemistry and Biochemistry	Organic Chemistry	Research on Chemical Synthesis Method	Total synthesis of bioactive natural products, development of new reactions and methodologies directed to the total synthesis, and chemical biology based on the total synthesis.	K05	K55	Professor	Doctor of Pharmacy (The University of Tokyo)	NAKADA, Masahisa	mnakada@waseda.jp			

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Department of Chemistry and Biochemistry	Organic Chemistry	Research on Functional Organic Chemistry	Our on-going research area covers the studies on novel organic molecules with unique functionality, organocatalysis, dynamic asymmetric transformation, biomimetic molecules, and new hybrid amines for carbon dioxide capture and storage as global warming countermeasures. More specifically, our interests are physical and chemical properties of planar-chiral compounds with unique structures and non-natural molecules with unique functionality. Representative keywords of our research projects are pyridine/pyrazine-cyclophanes, asymmetric phase transfer catalysis, enantioselective reactions, natural product models, and coenzyme NADH analogs.	K06	K56	Professor	Doctor of Engineering (Waseda University)	KANOMATA, Nobuhiro	kanomata@waseda.jp			
Department of Chemistry and Biochemistry	Organic Chemistry	Research on Reaction Organic Chemistry	We focus on the development of a new and useful carbon-carbon forming reaction, in particular, an enantioselective reaction, where we take advantage of the characteristics of organometallic molecules prepared from transition metal complexes and chiral organic compounds.	K07	K57	Professor	Doctor of Science (The University of Tokyo)	SHIBATA, Takanori	tshibata@waseda.jp			
Department of Chemistry and Biochemistry	Inorganic and Analytical Chemistry	Research on Inorganic Reaction Chemistry	Kinetic and equilibrium studies on inorganic reactions such as ligand substitution, isomerization, and redox reactions of metal and nonmetal complexes. Elucidation of detailed reaction mechanisms of such complexes in solution.	K09	-	Professor	Doctor of Science (Nagoya University)	ISHIHARA, Koji	ishi3719@waseda.jp			
Department of Chemistry and Biochemistry	Inorganic and Analytical Chemistry	Research on Coordination Chemistry	Syntheses, X-ray structures, electrochemical properties, and magnetochemical properties of multinuclear complexes, especially cluster complexes having metal-metal bond.	K10	K60	Professor	Doctor of Science (Tohoku University)	YAMAGUCHI, Tadashi	yama@waseda.jp			
Department of Chemistry and Biochemistry	Biochemistry	Research on Molecular Biology	The overall aim of the our group is to elucidate the mechanisms underlying growth regulation, mitotic progression and checkpoint system in mammalian cells. For this project, we have been identifying several novel functional genes essential for mitotic progression and checkpoint regulation, taking advantage of our novel expression cloning system. The methods used include novel cDNA library system for mammalian expression, and siRNA (small inhibitory RNA) library, which we have been developing for over twenty years. These approach will help identify new functional genes required for cell cycle progression in mammalian cells and contribute to discovery of the new drugs.	K14	K64	Professor	Doctor of Medicine (Jichi Medical University)	TERADA, Yasuhiko	yterada@waseda.jp			

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Department of Chemistry and Biochemistry	Biochemistry	Research on Biomolecular Chemistry	Chemistry, biochemistry and physiology of extracellular matrices, especially focused on collagen and collagen-binding proteins. Development of novel techniques based on peptide/protein chemistry that are useful for the biochemical/biomedical researches.	K11	K61	Professor	Doctor of Pharmacy (Kyoto University)	KOIDE, Takaki	koi@waseda.jp			
Department of Chemistry and Biochemistry	Biochemistry	Research on Chemical Biology	Search for biologically active compounds. Structure elucidation of the active compounds by spectroscopic and chemical methods. Application of active compounds as molecular probes to study complicated biological phenomena such as cell differentiation, chemical cross-talk among symbiotic microbes.	K12	K62	Professor	Doctor of Agriculture (The University of Tokyo)	NAKAO, Yoichi	ayocha@waseda.jp			
Department of Chemistry and Biochemistry	Physical Chemistry	Research on Cheminformatics	Our research focuses on the development of basic and applied technologies to deepen and evolve chemical research using informatics. This includes the constructions of chemical/physical laws and systematized knowledge, the search for innovative materials, and the acquisition of guidelines for syntheses of compounds.	K16	K66	Associate Professor	Doctor of Science (Tokyo Metropolitan University)	SEINO, Junji	graduate@sci.waseda.ac.jp			