

Laboratory List

G30 Chemistry Program at Department of Chemistry and Biotechnology is managed by the cooperation of the following 3 departments:

- Molecular & Macromolecular Chemistry
- Materials Chemistry
- Biomolecular Engineering

Note:

Graduate students under G30 Chem-Eng Program will be nominally enrolled in “**Materials Chemistry**”.

However, undergraduate G30 Chem-Eng students can belong to all research groups in the following three departments:

Department of **Molecular and Macromolecular Chemistry**; Department of **Materials Chemistry**; and Department of **Biomolecular Engineering**

Chemistry

Graduate School	Department	Research Group	Research Area	Job title	Name	Email	Research Interests	Note
Engineering	Molecular and Macromolecular Chemistry	Molecular Chemistry	Organic Materials	Professor	Hiroshi Shinokubo	hshino <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Synthesis of Novel Porphyrin Analogues · Synthesis of New Functional n-Systems 	<p>Note: 1. Please replace '<at>' with @ in email addresses. 2. If you need further information, please confirm the following website: http://www.chembio.nagoya-u.ac.jp</p>
Engineering	Molecular and Macromolecular Chemistry	Molecular Chemistry	Organic Reactions	Professor	Takashi Ooi	tooi <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Design of Molecular Catalysts for Development of Selective Organic Transformations and Mechanistic Elucidation · Development of Small Organic Molecules for Understanding and Controlling Biological Systems 	
Engineering	Molecular and Macromolecular Chemistry	Molecular Chemistry	Catalysis in Organic Synthesis	Professor	Kazuaki Ishihara	ishihara <at> cc.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Design of tailor-made conformationally flexible chiral supramolecular catalysts beyond enzymes · Redox catalysis: Design of environmentally benign halogen or iron catalysts 	
Engineering	Molecular and Macromolecular Chemistry	Macromolecular Chemistry	Organic Chemistry of Macromolecules	Professor	Masami Kamigaito	kamigait <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Living Cationic Polymerization via Reversible Addition-Fragmentation Chain Transfer Mechanism · Controlled Radical Polymerization of Pinocarvone Derived from Naturally-Occurring α-Pinene 	
Engineering	Molecular and Macromolecular Chemistry	(Not applicable)	Molecular Structures and Structural Dynamics	Professor	Ji-Young Shin	jyshin <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Electronic and Magnetic Properties of Organic Compounds and Metal-Organic Complexes. · Exploration of Novel Functional Molecules Created with Polypyrrolyl Oligomers 	
Engineering	Materials Chemistry	Applied Physical Chemistry	Catalyst Design	Professor	Atsushi Satsuma	satsuma <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Development of solid catalysts for clean automotive exhaust, methane selective oxidation, and hydrogen storage-Reaction mechanism of solid catalysts studied by in-situ spectroscopies and theoretical calculations 	
Engineering	Materials Chemistry	Applied Physical Chemistry	Material Design Chemistry	Professor	Tsukasa Torimoto	torimoto <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Development of Novel Metal Alloy Nanoparticles for Next Generation Fuel Cells · Preparation of Multinary Semiconductor Quantum Dots for Exploring Novel Photoluminescence Materials 	
Engineering	Materials Chemistry	Solid State Chemistry	Structural and Functional Chemistry	Professor	Ryotaro Matsuda	ryotaro.matsuda <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> · Nanospace Design of Metal Organic Frameworks · Development of Energy Related Materials Based on Molecular Adsorption 	

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Chemistry

Graduate School	Department	Research Group	Research Area	Job title	Name	Email	Research Interests	Note
Engineering	Materials Chemistry	Solid State Chemistry	Functional Materials Chemistry	Professor	Chikara Ohtsuki	ohtsuki <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Development of Inorganic-Organic Hybrid Nanomaterials for Biomaterials Application ·Computational chemistry for the analysis and development of novel functional materials. 	Note: 1. Please replace '<at>' with @ in email addresses. 2. If you need further information, please confirm the following website: http://www.chembio.nagoya-u.ac.jp
Engineering	Materials Chemistry	Solid State Chemistry	Porous Materials Chemistry	Professor	Kazuki Nakanishi	dknakanishi <at> imass.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Liquid-phase synthesis of hierarchically porous materials and their application to analytical science ·Low-density solids with organic-organic hybrid compositions for super thermal insulation 	
Engineering	Materials Chemistry	Solid State Chemistry	Functional Materials Engineering	Professor	Minoru Osada	mosada <at> imass.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Exploration of novel functional materials based on 2D oxide nanosheets ·Controlled assembly of 2D oxide nanosheets and their applications to electronic materials 	
Engineering	Biomolecular Engineering	Biomolecular Chemistry	Chemical Biotechnology	Professor	Hiroshi Murakami	murah <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·In Vitro Selection of Functional Biomolecules ·Chemical Protein Synthesis 	
Engineering	Biomolecular Engineering	Biomolecular Chemistry	Supramolecular Biochemistry	Professor	Hiroyuki Asanuma	asanuma <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Design of acyclic artificial nucleic acid (XNA) for biotechnology ·Functional reinstallation of DNA with base-surrogates 	
Engineering	Biomolecular Engineering	Biosystem Engineering	Chemical Genetics	Professor	Shigeki Kiyonaka	kiyonaka <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Chemical Biology for neurotransmitter receptors ·Development of new chemical genetics tools 	
Engineering	Biomolecular Engineering	Biosystem Engineering	Biochemical Engineering	Professor	Hiroyuki Honda	honda <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Screening of novel functional peptides using peptide array ·Cells/tissues/organs on chips using BioMEMS 	
Engineering	Biomolecular Engineering	Biosystem Engineering	Environmental Biotechnology	Professor	Katsutoshi Hori	khori <at> chembio.nagoya-u.ac.jp	<ul style="list-style-type: none"> ·Molecular mechanism of bacterial adhesion to solid surfaces ·Application of adhesive bacterionanofibers for microbial immobilization 	