DIVISION OF SYNTHETIC CHEMISTRY

DIVISION OF MATERIALS CHEMISTRY

DIVISION OF BIOCHEMISTRY

DIVISION OF ENVIRONMENTAL CHEMISTRY

DIVISION OF MULTIDISCIPLINARY CHEMISTRY

ADVANCED RESEARCH CENTER FOR BEAM SCIENCE

INTERNATIONAL RESEARCH CENTER FOR ELEMENTS SCIENCE

BIOINFORMATICS CENTER

INSTITUTE FOR CHEMICAL RESEARCH
KYOTO UNIVERSITY
2026

Preface

Director

SHIMAKAWA, Yuichi

This fall, the Institute for Chemical Research (ICR) will celebrate its 100th anniversary. The ICR began its research activities in 1926 based on founding principle of "excelling in the investigation of the basic principles of chemistry and their applications". Over the past century, the world has experienced numerous wars and economic ups and downs of varying magnitudes, yet significant development has been achieved. Throughout this history, the expectations placed on "science" and, more specifically, "chemistry" by society have changed dramatically. At times, chemistry has led the way, contributing to the advancement of technology and industry. The ICR has consistently responded flexibly and proactively to the transformations of the times by conducting pioneering and cutting-edge research in various fields to contribute to social development and the cultivation of the human resources involved. On the occasion of our 100th anniversary, we express our deep respect once again for the passion and efforts of our predecessors who built this history and tradition.

ICR currently comprises around 450 members, including approximately 180 faculty members and 230 students. It operates under a research organization consisting of five research divisions (Synthetic Chemistry, Materials Chemistry, Biochemistry, Environmental Chemistry, and Multidisciplinary Chemistry) and three research centers (Advanced Research Center for Beam Science, International Research Center for Elements Science, and Bioinformatics Center). Our role as a Joint Usage/Research Center (JURC) —supported by Ministry of Education, Culture, Sports, Science and Technology (MEXT) as "the Frontier and Interdisciplinary Research Core for Deepening Investigation and Promoting Collaboration in Chemistry-oriented Fields" (Phase II)— is particularly significant. As a hub for international chemical research, we have produced numerous collaborative research outcomes while actively promoting international exchange among young researchers. In recent years, research related to these activities has expanded into several large-scale projects and industry-academia collaborations, demonstrating that our research and management structure have functioned reasonably well. Nevertheless, considering the rapid advancements in science and society centered on AI, as well as the dramatic changes in social systems following the COVID-19 pandemic, I have felt keenly since appointed the director position that it is time to review our organization and operations. In light of these circumstances, Kyoto University was selected as a candidate for the Universities for International Research Excellence at the end of 2025 and has begun reforming its university-wide research organization based on a department system. In other words, we have found ourselves in a situation where we must proceed with organizational reform due to external pressure. However, this can also be seen as an opportunity when viewed from another perspective. While aligning with the direction of the university-wide reform is necessary, I intend to take this as an opportunity to improve the ICR and make it more efficient research organization. The university has set a timeline for the university-wide reform and the launch of the new organizational structure, which has raised concerns about whether we will have sufficient time to thoroughly discuss reform. Nevertheless, I will work with all members to actively discuss the future direction of the ICR. With an eye toward the sustainable development of society and the advancement of science and technology to create a more prosperous future, we will discuss the direction in which the ICR should move and the role it should play from a broad perspective. In that sense, I recognize this year as a crucial one for laying the foundation for the next 100 years of the Institute.

My two-year term as Director ended at the end of fiscal year 2025. However, with my reappointment for the 2026 fiscal year, I intend to approach the management of the Institute with renewed enthusiasm. Professors Toshiharu Teranishi and Teruo Ono will continue to serve as Deputy Director and International Joint Research Station Director, respectively. Additionally, we have appointed Professor Shinjiro Yamaguchi as the new Deputy Director to assist in the Institute's operations, replacing Professor Tatsuo Kurihara, who served in this role for four years. We will proceed with operations under this new structure, inviting newly appointed young faculty members to participate in the Institute's internal committees. We would like to ask for your continued understanding and great support.

April 2026

History

For almost a century, ICR has been striving to unlock the mystery of chemistry and its related disciplines.

1926 ICR founded to "excel in the investigation of the basic principles of chemistry and their applications."

1929 Main Building of ICR completed in Takatsuki, Osaka.

1949 ICR affiliated to Kyoto University.

1962 Started to accept graduate school students.

1964 ICR divided into 19 research divisions.
Nuclear Science Research Facility founded in Awataguchi, Sakyo-ku, Kyoto.

1968 High-Voltage Electron Microscopy Building completed in Gokasho.
ICR relocated to Gokasho, the present location of the institute.

1971 Low-Temperature Laboratory completed.

1975 Biotechnology Laboratory and Central Computer Facility completed.

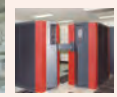
1981 Research Facility of Nucleic Acids completed.

1983 Nucleic Acid Research Building completed.

1985 Biotechnology Laboratory completed.
High-Voltage High-resolution Electron Spectromicroscope completed.

1988 Nuclear Science Research Facility relocated to Gokasho.
Accelerator Laboratory and Research Building completed.

1989 Supercomputer Laboratory completed.



1992 ICR reorganized into 9 research divisions and 2 satellite facilities.

1999 Joint Research Laboratory Building completed.

Our Mission

The founding philosophy of the ICR is to “excel in the investigation of the basic principles of chemistry and their applications,” and the core values of its research lie both in independence and integration. Following this philosophy and core values, the ICR is dedicated to solving global chemical challenges to benefit society.

Research

Our research is based on examining fundamental questions about the wide field of chemistry with a viewpoint that considers how answering these questions will contribute to solving ever-changing global challenges.

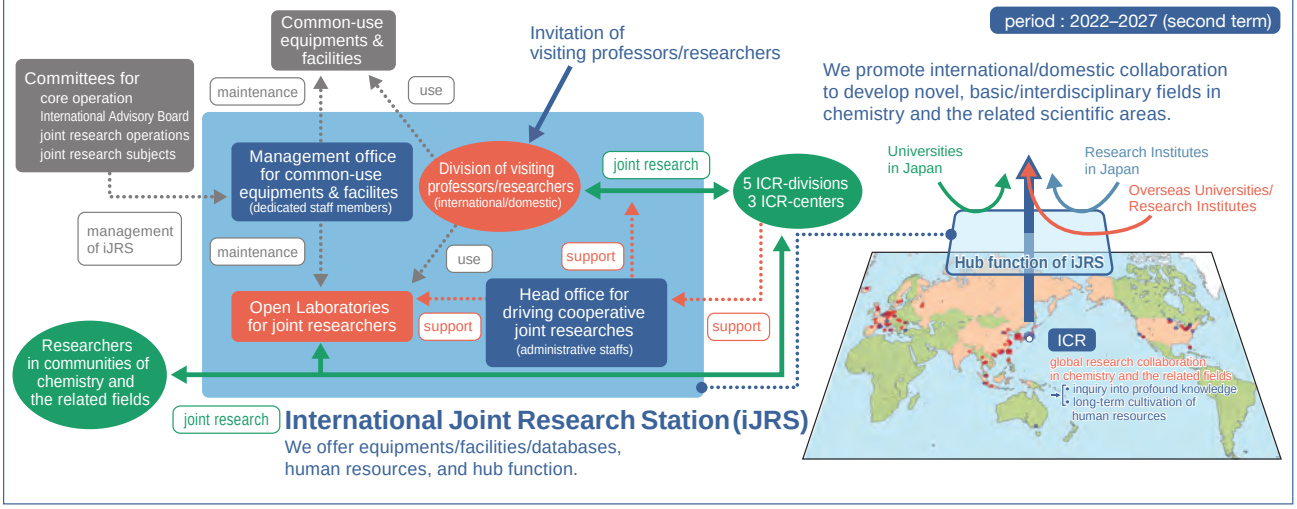
Education

Providing excellent research opportunities in a world-class environment, we train our people to have high-level problem solving skills and leadership skills to globally push forward the field of chemistry. Our success comes from the success of our students becoming top scientists in chemistry.

Outreach

As researchers and educators of chemistry, we endeavor to deepen our exchanges with local communities and Japan as a whole. At the same time, we actively work with international researchers and institutions to solve global problems. By joining the ICR, researchers have the accountability to the public and the opportunity to work closely with leading scientists around the world.

Global Frontier/Interdisciplinary Research Core in ICR for Deepening Investigation and Promoting Collaboration in Chemistry-oriented Fields



2000

ICR Administration Department merged with Uji Administration Office.

2001

Bioinformatics Center founded.

2002

Endowed Research Section of Proteome Informatics (SGI Japan) established. (Closed in March, 2005.)

2003

ICR reorganized into 9 research divisions and 3 satellite facilities.

International Research Center for Elements Science founded.

2004

ICR reorganized into 5 research divisions and 3 centers.

Advanced Research Center for Beam Science established.

Uji Research Building completed.

2005

Laser Science Laboratory completed.

2007

Established ICR alumni association named “Hekisuikai.”

Endowed Research Section of Water Chemistry Energy (AGC) established. (Closed in March, 2012.)

2009

First term of a Joint Usage / Research Center started.

Seismic retrofit of the main building completed.

2010

Endowed Research Section of Nano-Interface Photonics (SEI group CSR Foundation) established. (closed in March, 2015.)

Bioinformatics Center reorganized.

2011

Monochromated Atomic Resolution Analytical Electron Microscope introduced.

2013

Second term of a Joint Usage / Research Center started.

International Research Center for Elements Science reorganized.

2016

Dynamic Nuclear Polarization-enhanced NMR (DNP-NMR) Systems introduced.

2017

First term of an International Joint Usage / Research Center started.

2018

Second term of an International Joint Usage / Research Center started.

2022

Research

Research at the ICR spans the entire breadth of chemistry and includes organic chemistry, inorganic chemistry, biological chemistry, physical chemistry, analytical chemistry, and computational chemistry. The ICR is organized into five research divisions and three research centers and has about 500 faculty members leading independent research programs in 30 laboratories.

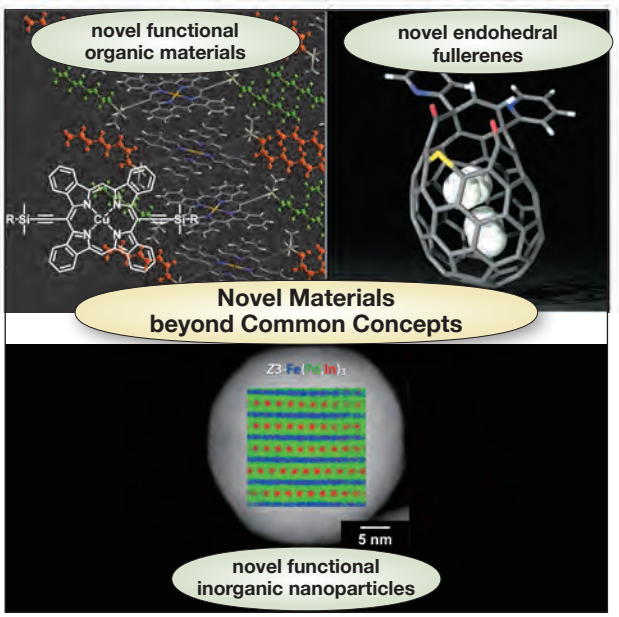
Education

Students who join the ICR will enter through one of the following six graduate schools at Kyoto University: Science, Engineering, Agriculture, Pharmaceutical Sciences, Medicine, and Informatics. Regardless of the school, the ICR offers exceptional teaching and research programs across a wide range of disciplines to all of its students.

Novel Materials

Division of Synthetic Chemistry

Exploring beyond traditional concepts, we use inorganic and organic chemistry to synthesize new functional molecules and materials, and investigate their structures, properties, and applications.



Graduate School of Science
Organoelement Chemistry

Prof.
YAMADA, Hiroko (D.Sc.)
Assoc. Prof.
MIZUHATA, Yoshiyuki (D. Sc.)
Assist. Prof.
YAMAUCHI, Mitsuaki (D.Eng.)
Assist. Prof.
YAMAMOTO, Keitaro (D. Eng.)
Techn. Staff
INUTSUKA, Mayumi

Graduate School of Engineering
Structural Organic Chemistry

Prof.
MURATA, Yasujiro (D. Eng.)
Assist. Prof.
HASHIKAWA, Yoshifumi (D. Eng.)

Graduate School of Pharmaceutical Sciences
Synthetic Organic Chemistry

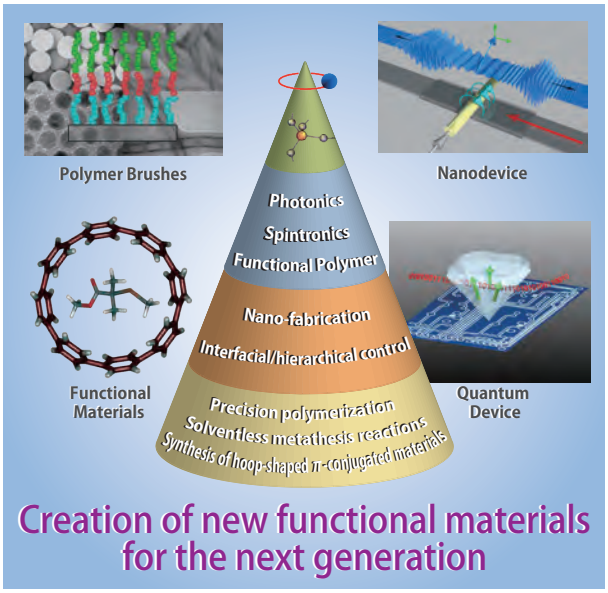
Graduate School of Science
Advanced Inorganic Synthesis

Prof.
TERANISHI, Toshiharu (D.Eng.)
Assoc. Prof.
SARUYAMA, Masaki (D. Sc.)
Assist. Prof.
TAKAHATA, Ryo (D. Sc.)
Assist. Prof.
TAKEKUMA, Haruka (D.Sc.)
Program-Specific Assist. Prof.
SATO, Ryota (D. Sc.)
Program-Specific Assist. Prof.
MATSUMOTO, Kenshi (D. Sc.)

Nanomaterials

Division of Materials Chemistry

We focus on the creation and development of next-generation nano-sized functional materials by controlling electronic, photonic, and spin states as well as fabrication methods.



Graduate School of Engineering
Chemistry of Polymer Materials

Assist. Prof.
ISHIDA, Koichiro (D.Agr.)

Graduate School of Engineering
Polymer Controlled Synthesis

Prof.
YAMAGO, Shigeru (D. Sc.)
Assist. Prof.
AKIYOSHI, Misato (D. Sc.)
Techn. Staff
FUJIHASHI, Akiko

Graduate School of Engineering
Inorganic Photonics Materials

Prof.
MIZUOCHI, Norikazu (D. Sc.)
Assoc. Prof.
MORIOKA, Naoya (D. Eng.)
Assoc. Prof.
FURUITA, Kyoko (D. Bioscience)
Assist. Prof.
NISHIKAWA, Tetsuri (D. Eng.)
Program-Specific Assoc. Prof.
OHKI, Izuru (D. Bioscience)
Program-Specific Assoc. Prof.
SHIGEMATSU, Ei (D. Eng.)

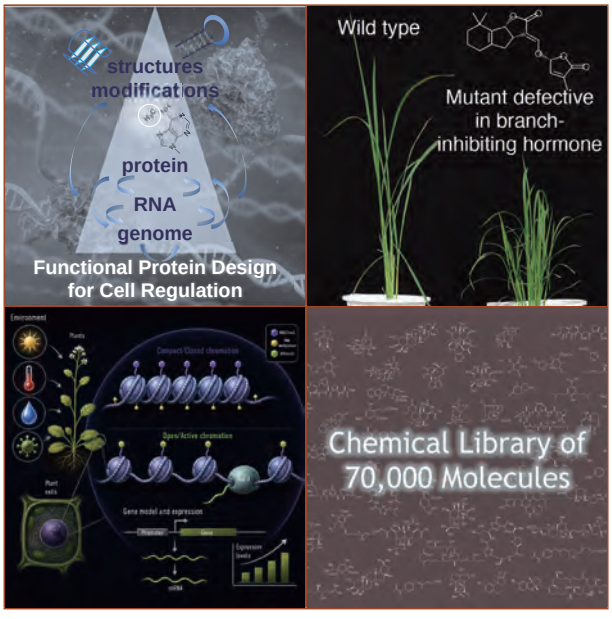
Graduate School of Science
Nanospintronics

Prof.
ONO, Teruo (D. Sc.)
Assoc. Prof.
SHIOTA, Yoichi (D. Eng.)
Assist. Prof.
HISATOMI, Ryusuke (D. Eng.)
Assist. Prof.
MATSUKI, Hisakazu (Ph. D.)
Program-Specific Assoc. Prof.
KARUBE, Shutaro (D. Sc.)

Bioscience

Division of Biochemistry

We develop new applied biomaterials by investigating biological processes such as recognition and sensing from a chemical perspective.



Graduate School of Pharmaceutical Sciences
Biofunctional Design-Chemistry

Prof.
IMANISHI, Miki (D. Pharm. Sc.)
Assist. Prof.
KAWAGUCHI, Yoshimasa
(D. Pharm. Sc.)

Graduate School of Agriculture
Chemistry of Molecular Biocatalysts

Prof.
YAMAGUCHI, Shinjiro (D. Agr.)
Assist. Prof.
MASHIGUCHI, Kiyoshi (D. Agr.)
Assist. Prof.
HAYASHI, Kengo (D. Sc.)
Program-Specific Assist. Prof.
SUN, Rui (D. Life Sc.)

Graduate School of Science
Molecular Biology

Prof.
YAMAGUCHI, Nobutoshi (D. Sc.)

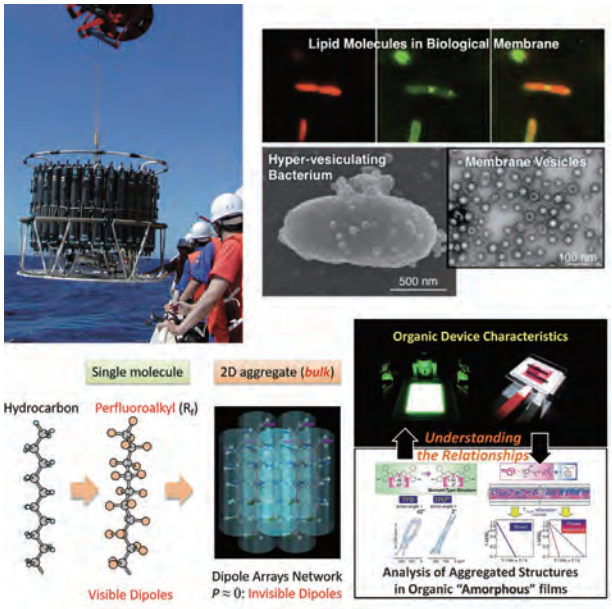
Graduate School of Pharmaceutical Sciences/Medicine
Chemical Biology

Prof.
UESUGI, Motonari (D. Pharm. Sc.)
Assist. Prof.
ABO, Masahiro (D. Pharm. Sc.)
Assist. Prof.
NISHIO, Kosuke (D. Med. Sc.)
Assist. Prof.
SINGH, Vaibhav Pal (D. Med. Sc.)
Specially Appointed Assoc. Prof.
ZHOU, Lu※
※Kyoto University Shanghai Lab

Environment

Division of Environmental Chemistry

We contribute to solving environmental problems through research on environment-friendly organic device design, enzyme/microorganism-based biotechnology, and hydrospheric biogeochemistry.



Graduate School of Engineering
Molecular Materials Chemistry

Prof. **KAJI, Hironori** (D. Eng.)
Assoc. Prof. SUZUKI, Katsuaki (D. Human & Envirnmtl. Studies)
Assist. Prof. CHOI, Heekyoung (D. Sc.)
Assist. Prof. ISHIHARA, Kuraudo
Techn. Staff MAENO, Ayaka
Techn. Staff KAKUYAMA, Keisuke (D. Sc.)

Graduate School of Science
Hydrospheric Environment Analytical Chemistry

Prof. **SOHRIN, Yoshiki** (D. Sc.)
Assoc. Prof. TAKANO, Shotaro (D. Sc.)
Assist. Prof. ZHENG, Linjie (D. Sc.)
Assist. Prof. ALAM, Mahboob (Ph. D.)
Techn. Staff NAKAHARA, Fumiko

Graduate School of Science
Chemistry for Functionalized Surfaces

Prof. **HASEGAWA, Takeshi** (D. Sc.)
Assoc. Prof. ATAKA, Kenichi (Ph. D.)

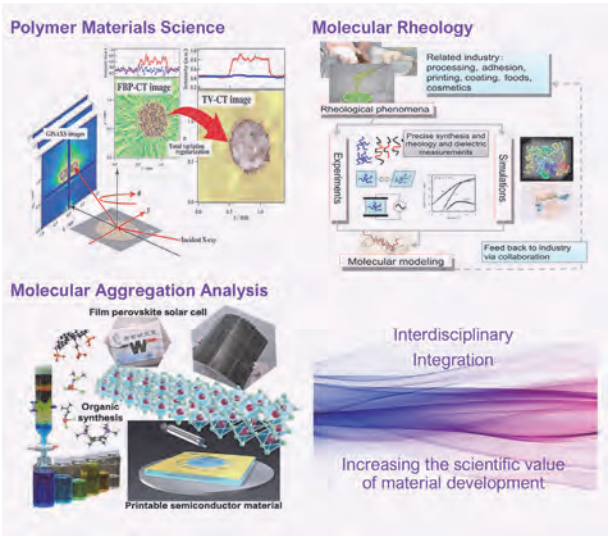
Graduate School of Agriculture
Molecular Microbial Science

Prof. **KURIHARA, Tatsuo** (D. Eng.)
Assoc. Prof. KAWAMOTO, Jun (D. Agr.)
Assist. Prof. OGAWA, Takuya (D. Agr.)

Integration

Division of Multidisciplinary Chemistry

We flourish in the intersection of chemistry and physics, carrying out fundamental research in cooperation with the other divisions to enhance the scientific value of materials development.



Graduate School of Engineering
Polymer Materials Science

Prof. **TAKENAKA, Mikihito** (D. Eng.)
Assoc. Prof. OGAWA, Hiroki (D. Eng.)
Assist. Prof. NAKANISHI, Yohei (D. Eng.)
Assist. Prof. SHIBASAKI, Kazuki (D. Eng.)

Graduate School of Engineering
Molecular Rheology

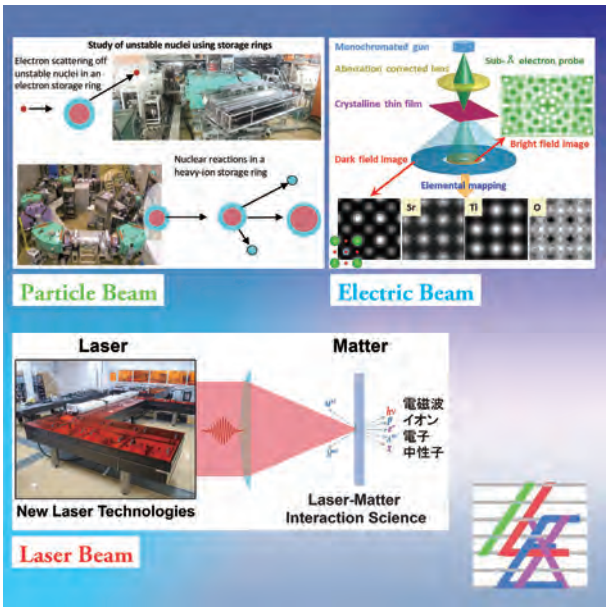
Graduate School of Science
Molecular Aggregates

Prof. **WAKAMIYA, Atsushi** (D. Eng.)
Assoc. Prof. NAKAMURA, Tomoya (D. Eng.)
Senior Lect. MURDEY, Richard (Ph. D.)
Assist. Prof. TRUONG, Minh Anh (D. Eng.)
Program-Specific Assist. Prof. CHEN, Chien-Yu (D. Eng.)

Quantum Beams

Advanced Research Center for Beam Science

We promote the development of quantum beams and ultimate space-time analysis and their applications to physics of nuclei, materials and plasmas.



Graduate School of Science
Particle Beam Science

Prof. **WAKASUGI, Masanori** (D. Sc.)
Assoc. Prof. TSUKADA, Kyo (D. Sc.)
Techn. Staff TONGU, Hiromu

Graduate School of Science
Laser Matter Interaction Science

Prof. **TOKITA, Shigeki** (D. Eng.)
Assist. Prof. OKAZAKI, Daiki (D. Eng.)
Assist. Prof. KIRITA, Yuri (D. Sc.)
Assist. Prof. SUZUKI, Anna (D. Eng.)

Graduate School of Science
Electron Microscopy and Crystal Chemistry

Assoc. Prof. HARUTA, Mitsutaka (D. Sc.)
Assist. Prof. NEMOTO, Takashi (D. Sc.)

Graduate School of Science
Atomic and Molecular Structures

Assist. Prof. FUJII, Tomomi (D. Sc.)

New Functional Materials

International Research Center for Elements Science

With the concept of “elements science” as a base, we create ground-breaking functional materials with element-derived characteristic properties. This center has two joint laboratories in other divisions.

Graduate School of Engineering
Synthetic Organotransformation

Prof.
NAKAMURA, Masaharu (D.Sc.)
Assoc. Prof.
ISOZAKI, Katsuhiro (D.Eng.)
Senior Lect.
PINCELLA, Francesca (D. Eng.)
Assist. Prof.
DOBA, Takahiro (D.Sc.)
Program-Specific Assist. Prof.
NAKAGAWA, Yuka (D. Sc.)
Program-Specific Assist. Prof.
MINEO, Keito (D. Agr.)

Graduate School of Science
Advanced Solid State Chemistry

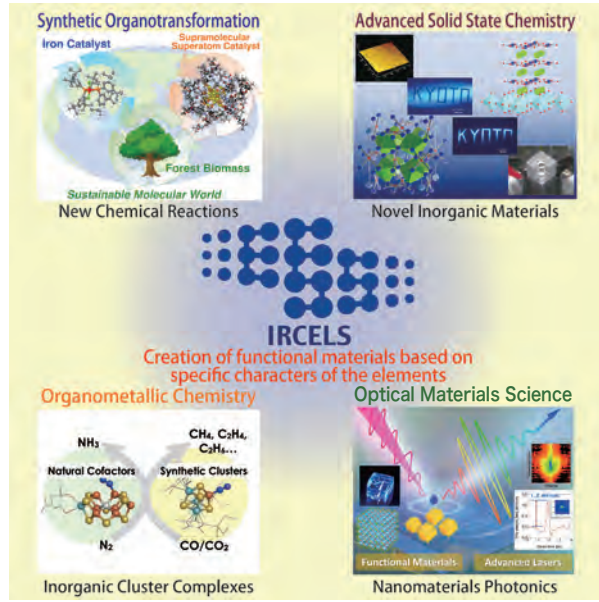
Prof.
SHIMAKAWA, Yuichi (D. Sc.)
Assist. Prof.
GOTO, Masato (D. Sc.)
Techn. Staff
ICHIKAWA, Noriya (D. Eng.)

Graduate School of Engineering
Organometallic Chemistry

Prof.
OHKI, Yasuhiro (D. Eng.)
Assist. Prof.
TANIFUJI, Kazuki (D. Sc.)
Assist. Prof.
IZU, Hitoshi (D. Sc.)
Program-Specific Assist. Prof.
KIM, Sukyeong (D. Sc.)

Graduate School of Science
Optical Materials Science

Prof.
HIRORI, Hideki (D. Sc.)
Assoc. Prof.
MUROTANI, Yuta (D. Sc.)
Program-Specific Assoc. Prof.
WATANABE, Hiroshi (D. Sc.)



Genomics

Bioinformatics Center

We develop bioinformatics tools and resources to understand a wide variety of aspects of life sciences, from molecules to ecosystems.

Graduate School of Science/Pharmaceutical Sciences
Chemical Life Science

Prof.
OGATA, Hiroyuki (D. Sc.)
Assoc. Prof.
ENDO, Hisashi (D. Environmental Sc.)
Assist. Prof.
OKAZAKI, Yusuke (D. Sc.)
Assist. Prof.
ISHII, Yuu (D. Life Sc.)
Program-Specific Assist. Prof.
MENG, Lingjie (D. Sc.)

Graduate School of Informatics
Mathematical Bioinformatics

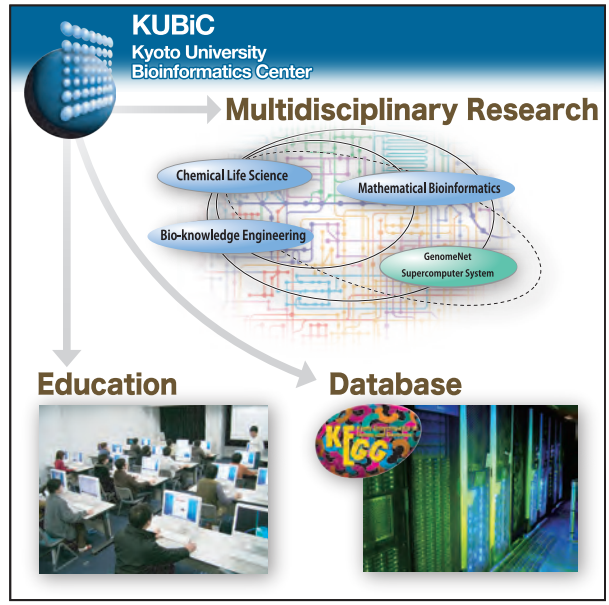
Prof.
AKUTSU, Tatsuya (D. Eng.)
Assoc. Prof.
TAMURA, Takeyuki (D. Inf.)
Assist. Prof.
MATSUI, Motomu (Ph. D.)

Graduate School of Pharmaceutical Sciences
Bio-knowledge Engineering

Prof.
MAMITSUKA, Hiroshi (D. Sc.)
Senior Lect.
NGUYEN, Hao Canh
(D. Knowledge Science)

GenomeNet Project Management Office

Prof.
AKUTSU, Tatsuya (D. Eng.)



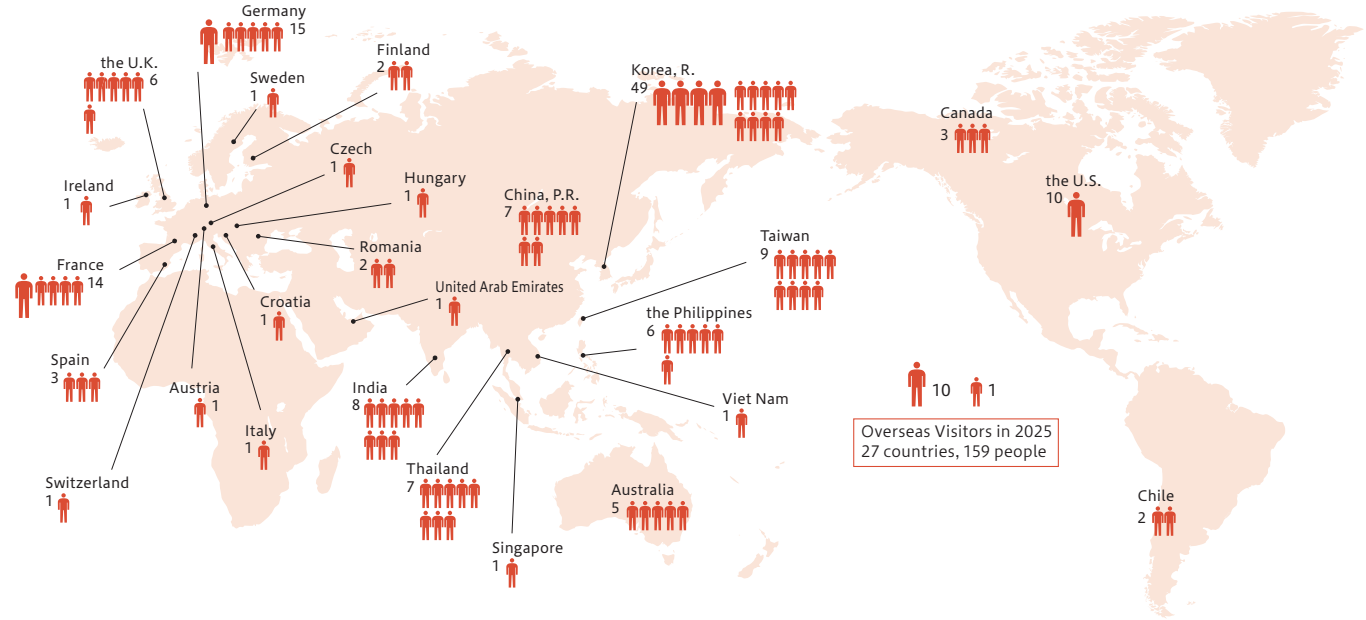
Facilities and Equipment

Dynamic Nuclear Polarization-enhanced NMR (DNP-NMR) System achieves great sensitivity enhancements. ICR also runs other solution/solid NMR spectrometers including an 800 MHz one.

ICR Supercomputer System, equipped with HPE Superdome Flex (2×24 TB memory, 1,152 cores) and Apollo 2000 (5,824 cores) and DL380 Gen11 (576 cores, NVIDIA H100 80GB×18), serves to accelerate researches in computational biology and chemistry.

A collection of state-of-the-art equipment is accessible in ICR, including mass spectrometers with a quadrupole ICP mass spectrometer, high functionality electron microscopes, a nano-scale dynamic structural analysis X-ray system, and an electron accumulation ring.

Overseas Visitors in 2025



Human Resource in ICR

Faculty

Numbers in ( ) Represent Visiting Professors.

Professor	Associate Professor	Senior Lecturer**	Assistant Professor**	Technical Staff	PS* Associate Professor	PS* ** Assistant Professor	PS* ** Researcher	Sub-total	Researcher**	Other Staff**	Sub-total	Total
24	16	3	35	6	4	8	29	125	19	40	59	184
(3)	(5)							(8)				(8)

* PS: Program Specific ** Including Researchers from Abroad As of May 1, 2026

Researchers from Abroad

Guest Scholar	7	Guest Research Associate	34	Total	41

FY2025

Research Students, Fellows, and Associates

Research Student	Research Fellow	Postdoctoral Fellow of JSPS	Research Associate	Total
5	0	3	25	33

As of May 1, 2026

Graduate Students

Numbers in ( ) Represent Students from Abroad.

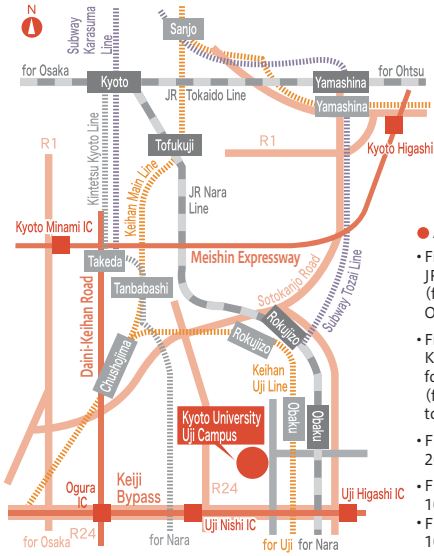
	Science	Engineering	Agriculture	Pharmaceutical Science	Medicine	Informatics	Total
Master's Course	46 (7)	38 (3)	14 (7)	12 (0)	4 (4)	1 (1)	115 (22)
Doctoral Course	51 (23)	30 (9)	8 (7)	15 (1)	4 (3)	6 (4)	114 (47)
Total	97 (30)	68 (12)	22 (14)	27 (1)	8 (7)	7 (5)	229 (69)

As of May 1, 2026

Graduate Students from Abroad

Argentina	1	Cambodia	1	China,P.R.	45	Total	69
Egypt	2	India	2	Indonesia	1		
Korea, R.	6	Malaysia	4	Pakistan	2		
Poland	1	Sri Lanka	1	Taiwan	1		
the Phillippines	2						

As of May 1, 2026



Access

- From Obaku Station on the JR Nara Line: 7 min on foot (from Kyoto Station to Obaku Station: 20 min)
- From Obaku Station on the Keihan Uji Line: 10 min on foot (from Chushojima Station to Obaku Station: 10 min)
- From Kyoto-Minami IC: 20 min by car
- From Uji-Higashi IC: 10 min by car /
- From Uji-Nishi IC: 10 min by car

ICR Institute for Chemical Research

Institute for Chemical Research
Kyoto University

Gokasho, Uji, Kyoto 611-0011, Japan
https://www.kuicr.kyoto-u.ac.jp/sites/icr/
Tel: +81-774-38-3344 Fax: +81-774-38-3014
E-mail: koho@scl.kyoto-u.ac.jp

Web YouTube