

Access

Access to Kumamoto



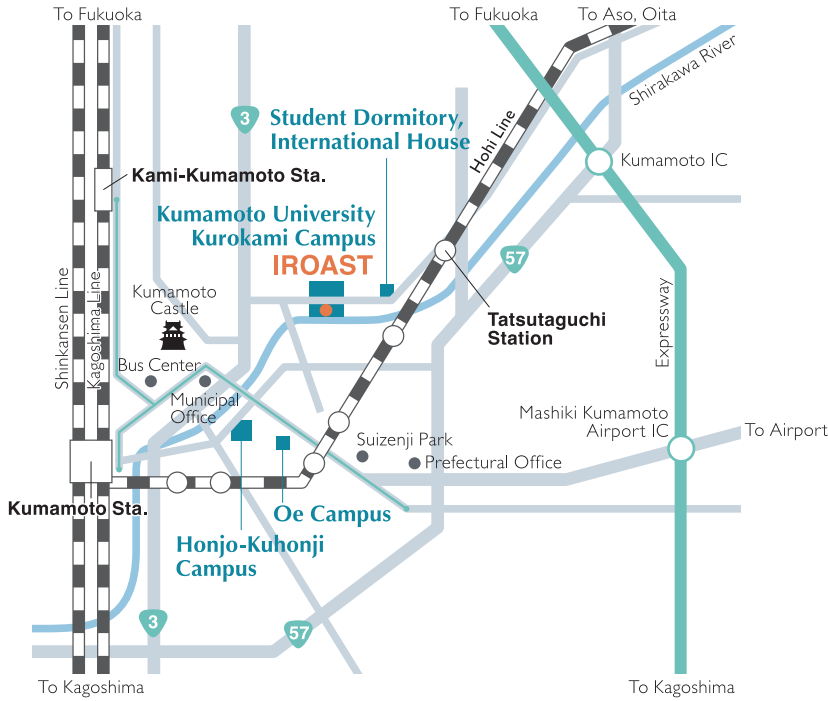
[To Kumamoto Airport by Air]
From Tokyo (Haneda) - 100 min
From Osaka (Itami) - 65 min

[From the airport]
To the Bus Center by limousine bus - 50 min
To the university by taxi - 40 min
From the Bus Center to "Kumamoto Daigaku Mae"
by Sanko bus line

[From the station]
To the university by taxi - 20 min
To "Kumamoto Daigaku Mae" by Sanko bus line

[To JR Kumamoto Station by Bullet Train]
From Tokyo - 6 hrs
From Osaka - 3 hrs
From Fukuoka (Hakata) - 33 min

Area Map



Contact

International Research Organization for
Advanced Science and Technology (IROAST)
2-39-1 Kurokami, Chuo-ku, Kumamoto 860-8555, Japan
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Message from Director



A year and half has already passed since the opening of the International Research Organization for Advanced Science and Technology (IROAST) in April of 2016. We are nearly finished with the preparation stage and are now putting significant efforts into the operation of our international research activities.

We currently have five tenure-track researchers: one full professor, three associate professors, and one assistant professor, as well as two post-doctoral researchers who are working together with the tenure-track researchers. In addition, we have employed two part-time distinguished professors, one from the Hungarian Academy of Science and another from Peking University, and we are continuing to recruit even more distinguished professors. To initiate additional collaboration, we have twenty one visiting professors from top global universities and institutions from around the world. We hope to see them to join the IROAST team as additional part-time distinguished professors.

We have been vigorously promoting our partnership with the International Collaborative Research Group for Science and Technology, which opened in Kumamoto University in 2013. All of the group members are working as IROAST's adjunct professors and are collaborating on international research projects with IROAST faculty and our visiting professors.

The major mission of IROAST is the sustainable extension of cutting-edge research activities and the continuation of "brain circulation" to foster excellent young researchers. As director, it is my great pleasure to bring significant innovation to Kumamoto University through the management and operation of this research organization to see what we can achieve together.

A handwritten signature in black ink, reading "Takashi Hiyama".

Dr. Takashi Hiyama,

Professor Emeritus of Kumamoto University

Distinguished Professor

Priority Organization for Innovation and Excellence

Kumamoto University

E-mail: hiyama@cs.kumamoto-u.ac.jp

URL: <http://www.cs.kumamoto-u.ac.jp/hiyama/>

Overview

The International Research Organization for Advanced Science and Technology (IROAST), which opened in April of 2016, is one of the Centers of Excellence in Kumamoto University and promotes world class, cutting-edge research in science and technology. It features a standardized international research environment with several established global collaborations and utilizes a tenure track based personnel system.

IROAST is located in Kumamoto University's South Kurokami Campus with the following university institutes: the Graduate School of Science and Technology (GSST), the Faculty of Science, the Faculty of Engineering, the Institute of Pulsed Power Science (IPPS), the Magnesium Research Center (MRC) and Center for Water Cycle, Marine Environment and Disaster Management (CWMD). Global collaborations will be brought into IROAST through cooperation and integration with these institutes.

The aims of IROAST are the further promotion of international collaborations to establish international research networks in specific areas described below, recruitment and development of young excellent researchers, promotion of ongoing cutting-edge research projects, and initiation of innovative interdisciplinary research projects. To achieve these goals, we will create strong international networks of researchers, especially in the following four advanced areas of science and technology: Nano Material Science, Green Energy, Environmental Science and Advanced Green Bio.

To import excellent minds in these areas, we have employed tenure-track and postdoc researchers from around the world. Successful tenure-track candidates will be promoted to tenured posts at the Graduate School of Science and Technology and the Faculty of Advanced Science and Technology or our other related institutions after qualification at IROAST. Whenever there is a vacancy in a tenure-track position, a new researcher will be recruited to maintain and widen IROAST's range of research activities. The organization will invite world-leading researchers as distinguished professors or visiting professors to perform collaborative research, hold international seminars, and provide intensive lectures for graduate students. A new system has been designed to send young faculty members from the graduate school to overseas universities and institutions to enlarge the international joint research networks of IROAST.

The ultimate goal of IROAST is to act fully and globally as a hub of world-class, cutting-edge research alongside the Magnesium Research Center and the Institute of Pulsed Power where Kumamoto University has been already recognized as one of the leading institutions in the world.

Organization

The figure below illustrates the basic configuration of IROAST and its four major research areas:

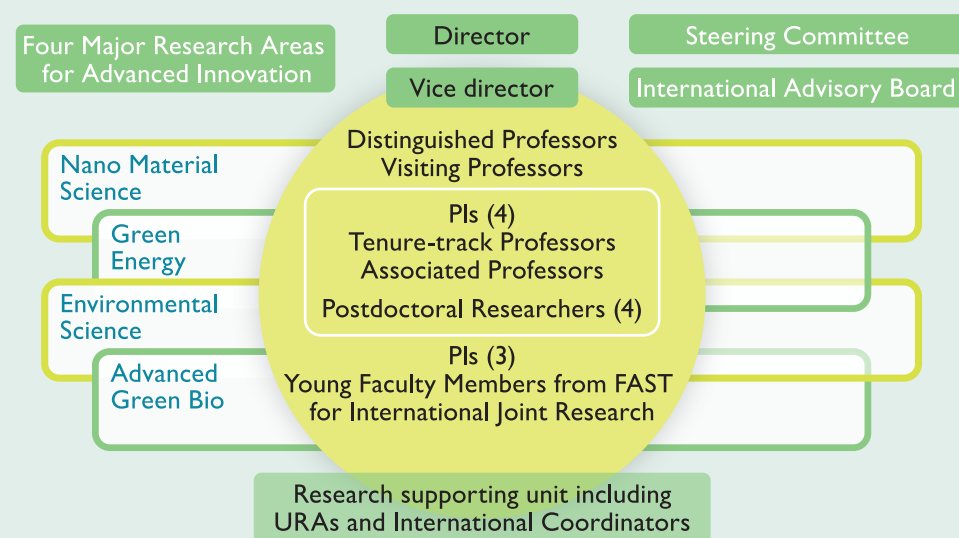
Nano Material Science covers a wide area including the development of organic functional materials such as graphene oxide nano-sheets, catalysts and metal materials. It also includes the development of innovative materials under extreme conditions.

Green Energy includes the development and utilization of renewable resources such as geo-thermal, water, and bio-mass.

Environmental Science covers a wide area including the protection and evaluation of hydrospheric and atmospheric environments, analysis of climate change, and the protection of underground water and shallow sea areas.

Advanced Green Bio covers a wide area for interdisciplinary life sciences relating to chemical biology, molecular biology, medicine, pharmacy, agriculture (such as the development of drug delivery systems), micro-CT applications, informatics applications, and so on.

Organization of IROAST



Distinguished Professors

We employ a certain number of excellent professors from overseas universities and institutions.

Tenure-track Professors and Associate Professors

They perform research as principal investigators.

Postdoctoral Researchers

They assist research performed by the principal investigators.

Steering Committee Members

Director Takashi HIYAMA, Distinguished Professor of Priority Organization for Innovation and Excellence

Vice-Director Jun OTANI, Professor of Faculty of Advanced Science and Technology, and Graduate School of Science and Technology

Prof. Tsuyoshi USAGAWA, Dean of Graduate School of Science and Technology, Faculty of Advanced Science and Technology, and Faculty of Engineering

Prof. Fusao ICHIKAWA, Dean of Faculty of Science, Vice dean of Graduate School of Science and Technology, Faculty of Advanced Science and Technology

Prof. Sunao KATSUKI, Director of Institute of Pulsed Power Science

Prof. Yoshihito KAWAMURA, Director of Magnesium Research Center

Prof. Ryuji KAKIMOTO, Director of Center for Water Cycle, Marine Environment and Disaster Management

International Advisory Board Members

Prof. Peter WESTHOFF
Vice-President for Research and Technology Transfer, Dusseldorf University, Germany

Dr. Anne GELLERT
Director, International Office, Dusseldorf University, Germany

Prof. Kwang Yun LEE
Chair of Electrical and Computer Engineering, Baylor University, USA
Fellow of IEEE, Chair of Technical Committee on Power and Energy Systems of IFAC

Staff

Director



Dr. Takashi HIYAMA
Priority Organization for Innovation & Excellence

Vice Director



Dr. Jun OTANI
Faculty of Advanced Science and Technology
Graduate School of Science and Technology

Project Professor



Dr. Toshiyuki TOSHA
International Research Organization for Advanced Science and Technology
Geothermal energy development

Tenure-track Professor



Dr. Mitsuhiro AIDA
International Research Organization for Advanced Science and Technology
Plant stem cells, morphogenesis, transcriptional regulation

Tenure-track Associate Professors



Dr. Aeju LEE
International Research Organization for Advanced Science and Technology
Molecular Engineering, Molecular Imaging, Nanomedicine, Drug Delivery



Dr. Atsushi SAINOKI
International Research Organization for Advanced Science and Technology
Sustainable energy development; underground hard rock mining; rock slope stability; induced seismicity



Dr. Takumi HIGAKI
International Research Organization for Advanced Science and Technology
Quantitative bioimaging, Cell morphogenesis, Cytoskeleton and organelles



Dr. Takashi ISHIDA
International Research Organization for Advanced Science and Technology
Plant stem cell and development

Distinguished Professors



Dr. László PUSZTAI
Wigner Research Centre for Physics, Hungarian Academy of Sciences, Hungary
Structure of liquid and amorphous materials



Dr. Yufeng ZHENG
Department of Materials Science and Engineering, College of Engineering, Peking University, China
Metallic biomaterials

Postdoctoral Researchers



Dr. Aditya ARDANA (Dr. Lee's Lab)
International Research Organization for Advanced Science and Technology
Development of polymeric theranostics for cancer treatment



Dr. Adam Karl SCHWARTZKOPFF (Dr. Sainoki's Lab)
International Research Organization for Advanced Science and Technology
Rock fracture mechanics, three-dimensional crack propagation prediction, analytical and numerical calculations of stress intensity factors, hydraulic fracturing, and rock failure analysis



Young Faculty Member for International Joint Research

Dr. Armando T. QUITAIN
Faculty of Advanced Science and Technology
Supercritical fluids, microwave, carbocatalysis, biomass

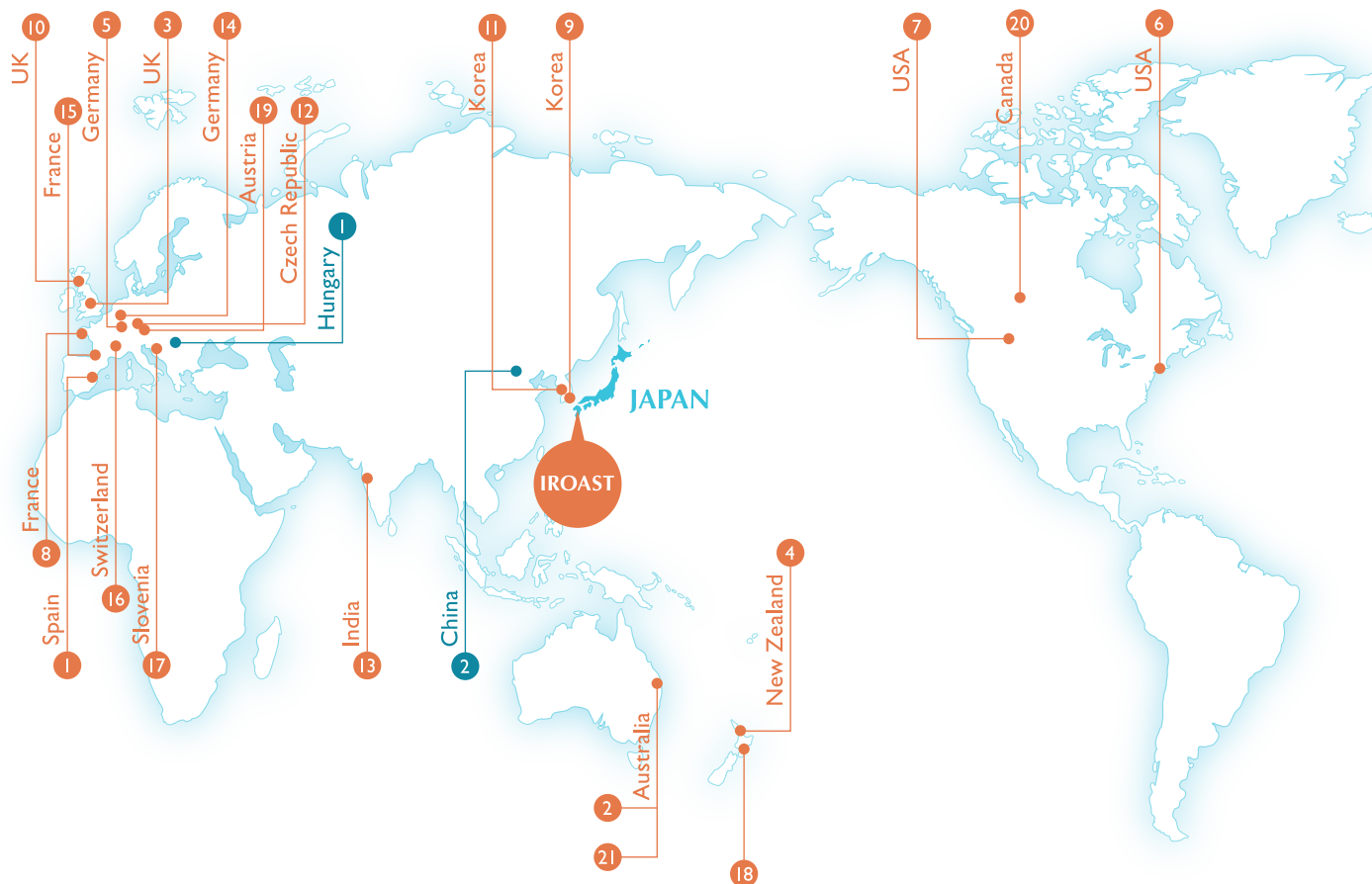


Dr. Satoshi HINOKUMA
Faculty of Advanced Science and Technology
Catalysts



Dr. Yasuko MATSUBARA
Faculty of Advanced Science and Technology
Data mining, big data science, time series

Visiting Professors



1 Dr. Josep-Lluís BARONA-VILAR
Instituto de Historia de la Medicina y de la Ciencia López Piñero (IHMC), Universidad de Valencia, Spain
History of science, history of medicine

2 Dr. Jorge Norberto BELTRAMINI
Nanomaterials Centre (NANOMAC); Australian Institute for Bioengineering and Nanotechnology (AIBN), The University of Queensland, Australia
Catalysis, material science, energy

3 Dr. Paul BOWEN
Department of Metallurgy and Materials, The University of Birmingham, UK
Characterisation, development, fracture and fatigue of alloys and composite materials (MMCs and CMCs), etc.

4 Dr. Patrice Jean DELMAS
Department of Computer Science, The University of Auckland, New Zealand
Image processing techniques applied to soil science, 2D/3D medical imaging, theoretical and applied computer vision at large

5 Dr. Martin DIENWIEBEL
Karlsruhe Institute of Technology (KIT), Germany
Tribology, surface science, nanotribology

6 Dr. Etsuko FUJITA
Chemistry Division, Brookhaven National Laboratory, USA
Photochemistry of transition-metal complexes, organometallic compounds, and band-gap-narrowed semiconductors; photochemical and electrochemical CO₂ reduction and water splitting; small molecule activation

7 Dr. Hamid GHANDEHARI
Utah Center for Nanomedicine, Department of Pharmaceutics and Pharmaceutical Chemistry and Bioengineering, University of Utah, USA
University of Utah (U.S.A.)
Engineering biomaterials for delivery of bioactive agents, toxicology of engineered nanoconstructs

8 Dr. Olivier HAMANT
INRA, RDP, ENS Lyon, France
Plant development, mechanical signals

9 Dr. Yang KIM
Kosin University, Korea
Supramolecular chemistry, chemosensor

10 Dr. Konstantinos KONTIS
Sir Henry Mechan Chair of Engineering, School of Engineering, University of Glasgow, UK
Aerospace engineering

11 Dr. Ick Chan KWON
Biomedical Research Institute, Korea Institute of Science and Technology (KIST), Korea
Drug delivery system, molecular imaging, theragnosis, nanomedicine

12 Dr. Pavel LEJČEK
Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic
University of Chemistry and Technology, Prague, Czech Republic
Metallurgy, materials science

13 Dr. Viren Ivor MENEZES
Department of Aerospace Engineering, Indian Institute of Technology Bombay, India
Applications of shock waves and hypersonic aerothermodynamics

14 Dr. Dmitri Aleks MOLODOV
Institute of Physical Metallurgy and Metal Physics, RWTH Aachen University, Germany
Characterization and control of micro-structure evolution in polycrystalline solids; Dynamic properties of interfaces in metals and alloys; Crystal plasticity

15 Dr. Reiko ODA
CBMN UMR5248, CNRS, Université de Bordeaux, France
Colloid/surfactant chemistry, physical chemistry

16 Dr. Ramesh Shanmughom PILLAI
Department of Molecular Biology, University of Geneva, Switzerland
RNA biology and epigenetics

17 Dr. Zoran REN
Faculty of Mechanical Engineering, University of Maribor, Slovenia
Advanced computation solid mechanics, cellular materials, impact and dynamics

18 Dr. Supri SOENGKONO
GNS Science, New Zealand
Magnetic and gravity

19 Dr. Thomas WAITZ
Faculty of Physics, University of Vienna, Austria
Nanostructured materials, shape memory alloys, phase transformations, transmission electron microscopy

20 Dr. Zhenghe XU
Department of Chemical and Materials Engineering, University of Alberta, Canada
Engineering of nano particles and composites for bio- and environmental applications
Interfacial phenomena in minerals and materials processing
Surface and interface characterization
Advanced combustion technology
Mercury emission control in coal combustion
Industrial effluent management
Fine particle processing
Oil sands processing

21 Dr. Firuz ZARE
Power and Energy Group, The University of Queensland, Australia
Power electronics and energy conversion

