

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

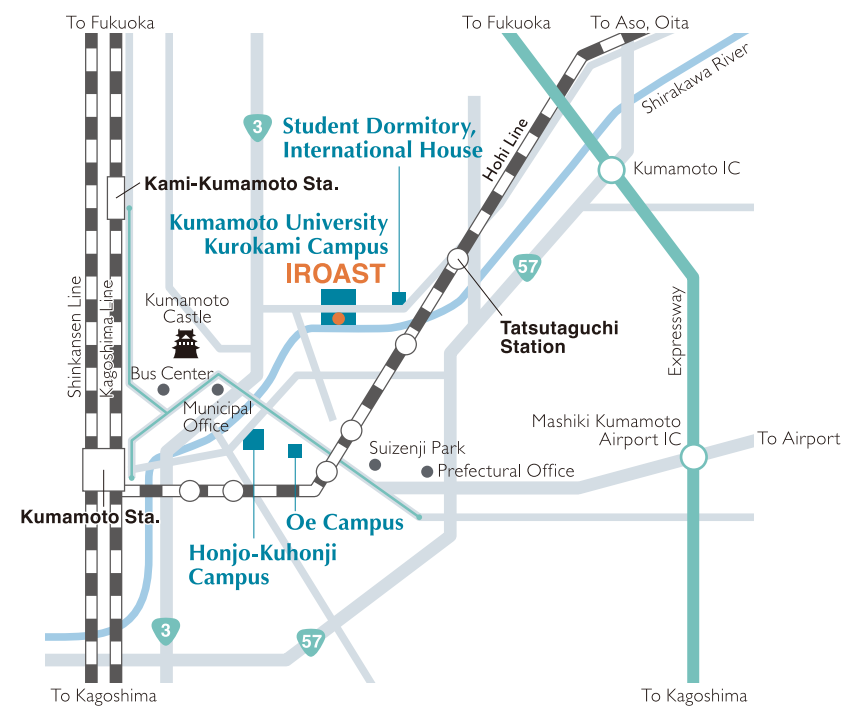
[From the station]

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
Phone: +81-96-342-3979
E-mail: szk-kiko@jimu.kumamoto-u.ac.jp



Message from Director



We are now in the third year of IROAST after its establishment in 2016. We have already finished our preparation stage and are now putting significant efforts into the operation of our international research activities in order to open internationally collaborated research networks.

We currently have five tenure-track researchers: one full professor, three associate professors, and one assistant professor, as well as three post-doctoral researchers who are working together with the tenure-track researchers. In addition, we have employed two 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 thirty-three visiting professors from top global universities and institutions around the world. We hope to see them to join the IROAST as distinguished professors for more tight research collaborations.

We had 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 were working as IROAST's adjunct professors and are collaborating on international research projects with IROAST faculty and our visiting professors. The research group was successfully closed at the end of March 2018. However, all the activities at the research group have been merged among the varieties of research supporting programs at IROAST. In addition, the group members are still working as our adjunct researchers.

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

Location: 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. 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 Advanced Science and Technology (FAST), the Institute of Pulsed Power Science (IPPS), the Magnesium Research Center (MRC) and the Center for Water Cycle, Marine Environment and Disaster Management (CWMD). Global collaborations will be brought into IROAST through cooperation and integration with these institutes.

Specific Features of IROAST: The aims of IROAST are the further promotion of international collaborations to establish international research networks in the following four advanced research areas: "Nano Material Science", "Green Energy", "Environmental Science" and "Advanced Green Bio", recruitment and development of young excellent researchers under tenure-track based personnel system, promotion of ongoing cutting-edge research projects, and initiation of innovative interdisciplinary research projects. To achieve these goals, we should create strong international joint research networks, especially for the continuous and consistent brain circulation in the four advanced areas described above.

Development of Young Excellent Researchers: To import excellent minds in the above four areas, we have employed tenure-track and postdoc researchers from around the world. Successful tenure-track candidates will be promoted to tenured posts at our associated institutes such as the Graduate School of Science and Technology and the Faculty of Advanced Science and Technology after qualification at those associated institutes. Whenever we have a vacancy in the tenure-track posts at IROAST, a young excellent researcher will be recruited to maintain and widen our research activities. In addition, as one of our research supporting programs we will send young excellent faculty members from our associated institutes such as Graduate School of Science and Technology to overseas universities and institutions to make them internationally recognized researchers and to enlarge the international joint research networks.

Participation as Distinguished Professor or Visiting Professor: We will invite world-leading researchers as Distinguished Professor or Visiting Professor mainly to participate joint research as the members of our internationally collaborated research networks, additionally to open international seminars and to provide intensive lectures for graduate students.

Goal of IROAST: The ultimate goal of IROAST is to make it act fully and globally as a hub of world-class, cutting-edge research organization 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:

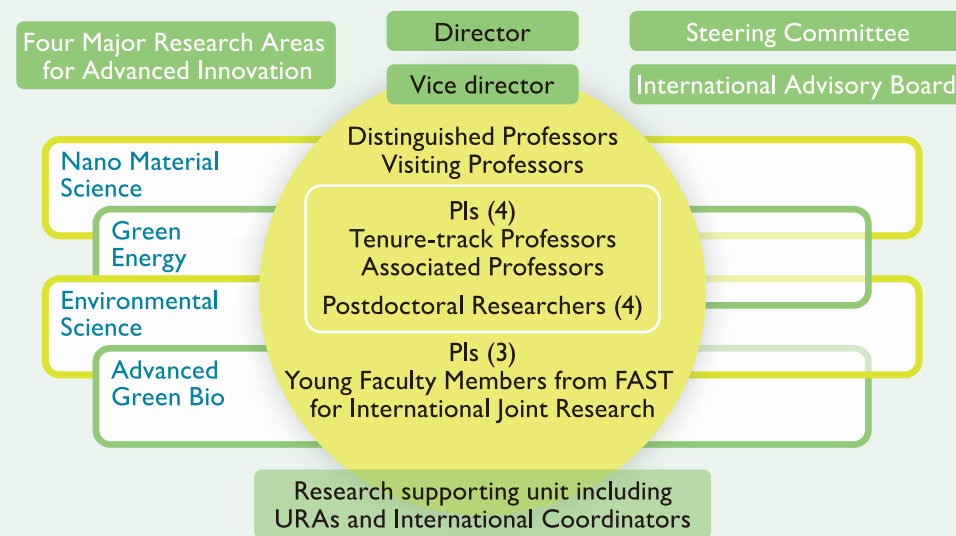
Nano Material Science covers a wide area including the development of organic functional materials such as graphene oxide nano-sheets, catalysts and metal materials. It also includes the development of innovative materials under extreme conditions.

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, Vice dean of Graduate School of Science and Technology, Faculty of Advanced Science and Technology, Dean of Faculty of Science

Dr. Yasumichi MATSUMOTO, Director of Institute of Pulsed Power Science, Trustee and Vice-President of Kumamoto University

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, transcrip-
tional 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

Tenure-track Assistant Professor

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

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

Postdoctoral Researchers

Dr. Kim Minwoo (Dr. Lee's Lab)
International Research Organization for
Advanced Science and Technology
Research Field: Theragnosis, polymers, liposomes,
and biomimetic nanomedicine

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

Dr. Akiko NAKAMASU
(Dr. Higaki's Lab)
International Research Organization for
Advanced Science and Technology
Pattern formation, plant morphogenesis,
and theoretical and mathematical biology

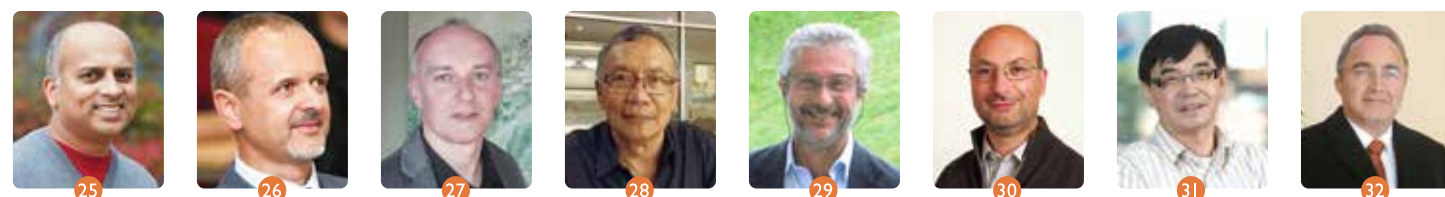
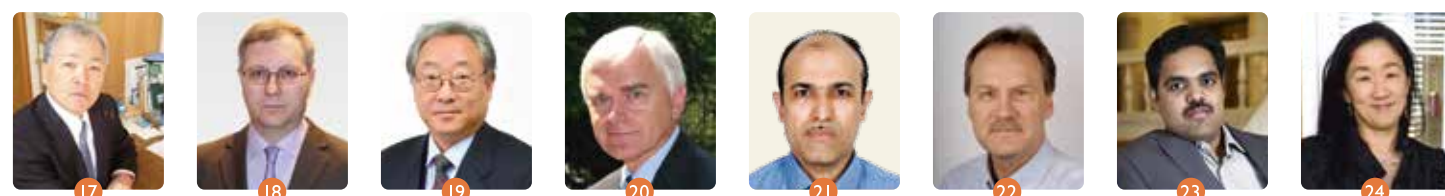
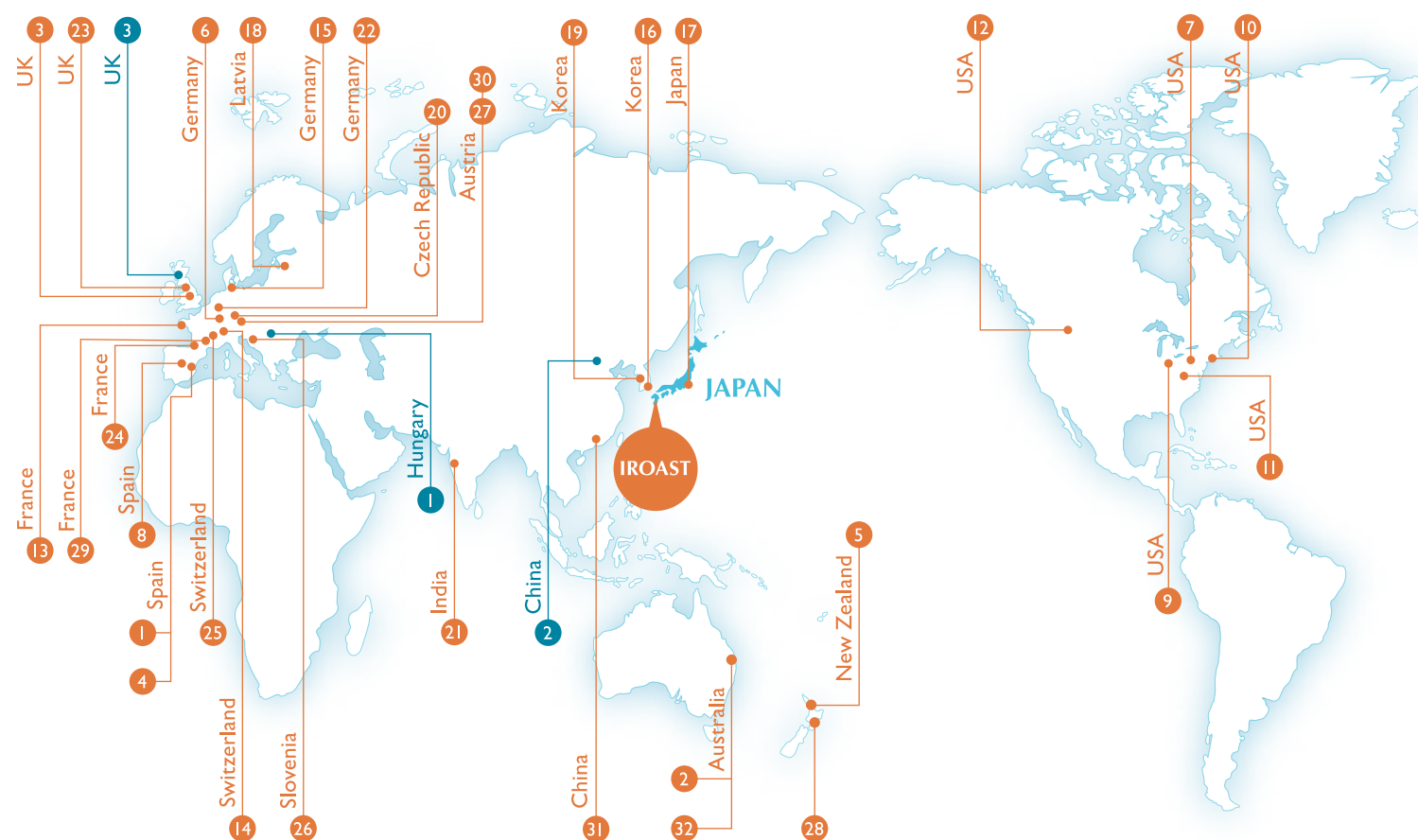
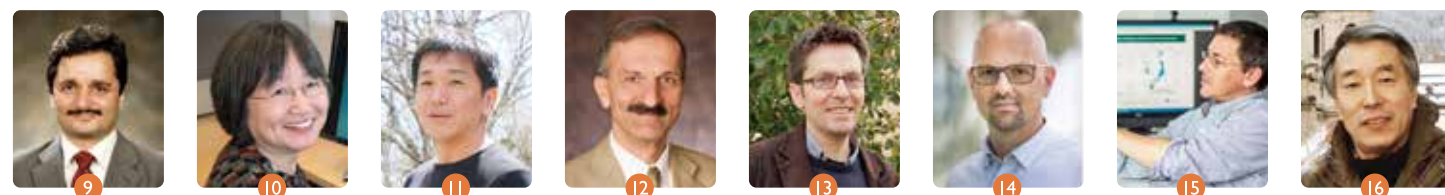
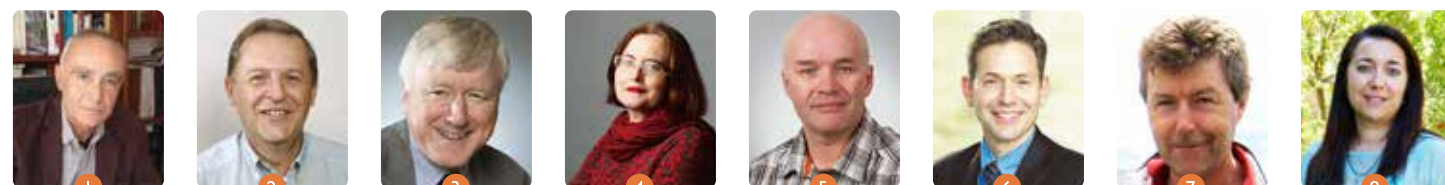
Young Faculty Member for International Joint Research

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

Dr. Makoto KUMON
Faculty of Advanced Science and Technology
Robotics, UAV, real time embedded systems,
control applications, nonlinear systems

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. Maria Jose COCERO
Chemical Engineering & Environmental Technology
Universidad de Valladolid, Spain
Development of biorefinery processes and products.
Healthy and high added value products from renewable
raw materials.
Intensification of processes through the implementation
of new technologies for revaluation of raw materials and
waste.
Energy and fuels for the sustainable development.

5 Dr. Patrice 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

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

7 Dr. Derek ELSWORTH
Department of Energy and Mineral Engineering and of
Geosciences
The Pennsylvania State University, USA
Computational mechanics, rock mechanics, and in the
mechanical and transport characteristics of fractured rocks

8 Dr. Carolina ESCOBAR
Department of Environmental Sciences
School of Environmental Sciences and Biochemistry
University of Castilla La Mancha, Spain
Phytopathology (Molecular knowledge of the
Plant-nematode interaction and nematodes control)

9 Dr. Amir A. FARAJIAN
Department of Mechanical and Materials Engineering
Wright State University, USA
Nanoscience and nanotechnology with emphasis on
computational modeling, sensors, materials for renewable
energy, inelastic response, nano- and
molecular-electronics, nanoelectromechanical systems,
electronic and thermal quantum transports, bio-inspired
nanomaterials.

10 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

11 Dr. Tomonari FURUKAWA
Department of Mechanical Engineering
Virginia Polytechnic Institute and State University,
USA
Robotics, autonomous systems,
computational/experimental mechanics

12 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

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

14 Dr. Christian HARDTKE
Department of Plant Molecular Biology,
University of Lausanne, Switzerland
Plant development, vascular differentiation,
plant hormones, peptide signalling

15 Dr. Jens HARTMANN
Institute for Geology, Universität Hamburg, Germany
Aquatic geochemistry, global biogeochemical cycles

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

17 Dr. Tsutomu KIUCHI
Civil Engineering Technology Division
Shimizu Corporation
Cost management of geothermal development;
Geothermal drilling management; Utilization of
geothermal water and regional revitalization;
Geothermal development management;
Formation of social consensus

18 Dr. Alexei KUZMIN
Laboratory of Materials Morphology and
Structure Investigations
Institute of Solid State Physics, University of Latvia,
Riga, Latvia
X-ray absorption spectroscopy,
computer simulations, oxide materials

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

20 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

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

22 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

23 Dr. Rahul Raveendran NAIR
Materials Physics
National Graphene Institute and School of
Chemical Engineering and Analytical Science
The University of Manchester, UK
Materials physics, 2D materials, nanoscience and
nanotechnology, 2D materials based membranes
and coating, nanofluidics

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

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

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

27 Dr. Christian RENTENBERGER
Faculty of Physics
University of Vienna, Austria
Structure and properties of nanocrystalline and
amorphous materials, electron microscopy methods

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

29 Dr. Gioacchino (Cino) VIGGIANI
Solid Mechanics and Civil Engineering
Université Grenoble Alpes, France
Geomechanics

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

31 Dr. Zhenghe XU
College of Engineering, Southern University of
Science and Technology, China
Department of Chemical and Materials Engineering,
University of Alberta, Canada
Engineering of nano particles and composites for bio,
energy and environmental applications,
Interfacial phenomena in minerals and materials
processing, Surface and interface characterization, etc.

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