

# ACCESSMAP

► Osaka University Suita Campus



## Support RIMD

Be part of the quest to find our more in science

### How your donations are utilized

- Supporting RIMD researches overseas.
- Helping student to study in RIMD (Scholarships etc.)
- Helping international students to study in RIMD.
- Helping Training Course on Tropical Infectious Diseases for clinical doctors.
- Organizing scientific lectures and seminars for non-scientists
- Development of the new vaccines and treatments for COVID-19

#### [How to donate]

Please make your donation for following projects at the website  
<http://www.biken.osaka-u.ac.jp/en/donate/>



Published by >

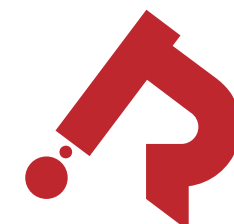
**Office for Research Promotion**  
**Research Institute for Microbial Diseases**  
**Osaka University**

3-1 Yamadaoka, Suita, Osaka 565-0871, Japan

Tel +81-6-6879-8357

e-mail [biken-pr@biken.osaka-u.ac.jp](mailto:biken-pr@biken.osaka-u.ac.jp)

<http://www.biken.osaka-u.ac.jp/en/>

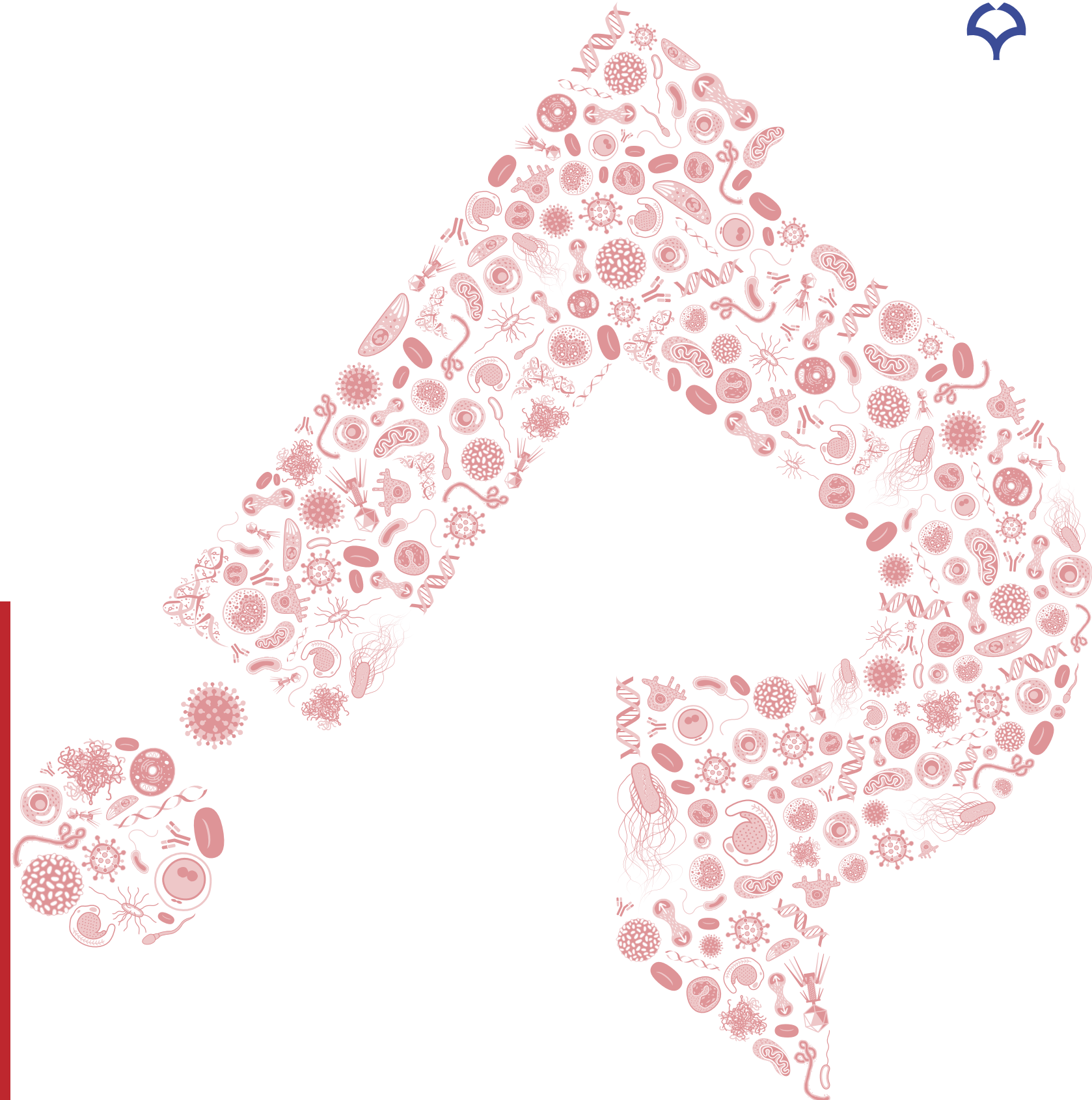


# RIMD

Research Institute for  
Microbial Diseases

大阪大学微生物病研究所

# 2022-2023







The Research Institute for Microbial Diseases (RIMD) was established in 1934 to study microbial and infectious diseases, the immune system, and cancer. The RIMD of today is the result of the hard work and amazing achievements of many researchers over the years.

## Organization



**Director**  
**Masato Okada**

### Research Divisions

#### Division of Infectious Disease

Dept. of Molecular Bacteriology  
Dept. of Viral Infections  
Dept. of Molecular Virology  
Dept. of Immunoparasitology  
Institute for Advanced Co-Creation Studies

#### Division of Host Defense

Dept. of Molecular Immunology  
Dept. of Host Defense  
Dept. of Immunochemistry  
Dept. of Immune Response Dynamics  
Lab. of Immunoglycobiology

#### Division of Cellular and Molecular Biology

Dept. of Molecular Microbiology  
Dept. of Oncogene Research  
Dept. of Signal Transduction  
Dept. of Cellular Regulation  
Dept. of Homeostatic regulation

#### Research Center for Mechanism and Regulation of Aging

#### Overseas Base

Thailand-Japan Research Collaboration  
Center for Infectious Diseases

#### Endowed Chair

Dept. of Malaria Vaccine Development  
Dept. of Cellular Immunology

### Special Research Facilities

#### Animal Resource Center for Infectious Diseases

#### Genome Information Research Center

Dept. of Experimental Genome Research  
Dept. of Genome Informatics  
Dept. of Infection Metagenomics  
Next-Generation Sequencing Core Facility  
Network Administrator's Office

#### Research Center for Infectious Disease Control

Dept. of Bacterial Infections  
Dept. of Molecular Protozoology  
Dept. of Virology  
Lab. of Virus Control

#### International Research Center for Infectious Diseases

Lab. of Pathogen Detection and Identification  
Lab. of Emerging Viral Diseases  
Lab. of Viral Dynamism Research  
Pathogenic Microbes Repository Unit

#### Common Facilities

Central Instrumentation Laboratory  
Radioisotope Laboratory  
Central Laboratory for Biological  
Hazardous Microbes  
Office for Research Promotion  
General Affairs Section • Accounting Section •  
Research Cooperation Section



## Division of Infectious Disease

### Dept. of Molecular Bacteriology

Our research aims to elucidate the whole picture of bacterial infection and infectious diseases through understanding infection strategies, host specificity, and specific pathogenesis of pathogenic bacteria.

#### STAFF

Prof.: Yasuhiko Horiguchi  
Asst. Prof.: Yukihiro Hiramatsu  
Asst. Prof.: Takashi Nishida  
Postdoc.: Dendi Krisna Nugraha



### Dept of Molecular Immunology

We focus on immunoreceptors such as C-type lectin family receptors and T cell receptors to elucidate the mechanisms underlying ligand recognition as well as their potential roles in immune disorders.

#### STAFF

Prof.: Sho Yamasaki  
Asst. Prof.: Masamichi Nagae  
Asst. Prof.: Eri Ishikawa  
Postdoc.: Takashi Shimizu



## Division of Host Defense

### Dept. of Viral Infections

We are studying mosquito-borne viral diseases such as dengue and chikungunya virus infections. We are conducting epidemiological studies in Thailand and molecular studies in Osaka, Japan. Recently, we are working on SARS-CoV-2.

#### STAFF

Prof.: Tatsuo Shioda  
Assoc. Prof.: Emi E. Nakayama  
Asst. Prof.: Tadahiro Sasaki



### Dept. of Molecular Virology

We focus on viruses that cause zoonotic diseases such as influenza, COVID-19, and Ebola disease, and elucidate the mechanism of host adaptation, replication, and pathogenicity of viruses.

#### STAFF

Prof.: Tokiko Watanabe  
Asst. Prof.: Shintaro Shichinohe  
Asst. Prof.: Itsuki Anzai  
JSPS Postdoc.: Kosuke Takada



### Dept. of Host Defense

We focus on the components of the innate immune response to comprehensively understand the molecular mechanisms of how innate immunity induces various immune responses, including acquired immunity.

#### STAFF

SA Prof.: Shizuo Akira\*  
SA Assoc. Prof.: Kazuhiko Maeda\*  
SA Assoc. Prof.: Hiroki Tanaka\*  
SA Asst. Prof.: Kiyoharu Fukushima\*



### Dept. of Immunochemistry

We aim to understand the whole picture of the immune system evolved through the fight against pathogens focusing on immune receptors. We also focus on MHC class II molecules that trigger autoimmune diseases.

#### STAFF

Prof.: Hisashi Arase\*  
Associ. Prof.: Masako Kohyama  
Asst. Prof.: Wataru Nakai  
SA Asst. Prof.: Jin Hui



### Dept. of Immunoparasitology

Our research goal is to elucidate the molecular mechanisms of host-pathogen interactions to explore host defense systems and pathogenesis using the parasite *Toxoplasma gondii* as a model.

#### STAFF

Prof.: Masahiro Yamamoto  
Assoc. Prof.: Miwa Sasai  
Asst. Prof.: Fumiaki Ihara  
Postdoc.: Masaaki Okamoto



### Inst. for Advanced Co-Creation Studies

We focus on flaviviruses such as HCV, Japanese encephalitis virus, Dengue Virus, and Zika Virus and aim to elucidate molecular mechanisms of pathogenicity of virus infections.

#### STAFF

Prof.: Toru Okamoto  
Asst. Prof.: Tatsuya Suzuki  
Postdoc.: Yumi Ito



### Dept. of Immune Response Dynamics

We are studying the interactions between the nervous and immune systems with a special focus on how neural inputs control immune cell trafficking. We are also developing novel therapeutic strategies for inflammatory diseases.

#### STAFF

Prof.: Kazuhiro Suzuki\*  
Asst. Prof.: Akiko Nakai\*



### Lab. of Immunoglycobiology

GPI-anchored protein has essential physiological functions in our body. Our research goal is to elucidate the biogenesis, transport, and remodeling of GPI-anchored proteins and understand their significance *in vivo*.

#### STAFF

SA Prof.: Taroh Kinoshita  
SA Prof.: Yoshiko Murakami





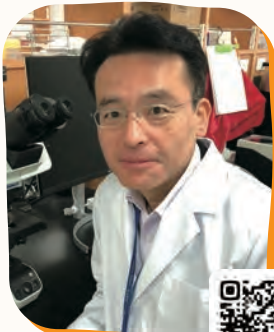
# Division of Cellular and Molecular Biology

## Dept. of Molecular Microbiology

We aim to elucidate the molecular mechanisms underlying cellular senescence in vivo to understand aging-associated diseases such as cancer and explore new possibilities for their control.

### STAFF

Prof.: Eiji Hara  
Asst. Prof.: Shimpei Kawamoto  
Asst. Prof.: Tomonori Matsumoto  
SA Asst. Prof.: Masahiro Wakita\*  
SA Asst. Prof.: Shunya Tsuji



## Dept. of Experimental Genome Research

Our laboratory studies the mechanisms underlying mammalian reproductive systems through the genetic manipulation of animal models.

### STAFF

Prof.: Masahito Ikawa  
Assoc. Prof.: Haruhiko Miyata  
Assoc. Prof.: Norikazu Yabuta\*  
Asst. Prof.: Keisuke Shimada\*  
Asst. Prof.: Daiji Kiyozumi  
Asst. Prof.: Chihiro Emori  
SA Asst. Prof.: Julio Castaneda  
SA Asst. Prof.: Yonggang Lu\*  
SA Asst. Prof.: Yuki Hiradate\*  
Postdoc.: Rie Iida  
Postdoc.: Maki Kamoshita



# Genome Information Research Center

## Dept. of Oncogene Research

Cancer develops due to the accumulation of mutations in cells and becomes malignant through immortalization and transformation. Our goal is to elucidate the mechanism of cancer development by focusing on intracellular signal transduction.

### STAFF

Prof.: Masato Okada  
Assoc. Prof.: Shigeyuki Nada  
Asst. Prof.: Kentarou Kajiware  
SA Asst. Prof.: Makoto Matsuda  
SA Asst. Prof.: Tetsuya Kimura\*



## Dept. of Signal Transduction

We aim to elucidate the cellular and molecular mechanisms underlying vascular formation (particularly those involving stem cells) and develop strategies to manage patients with vascular diseases.

### STAFF

Prof.: Nobuyuki Takakura  
Asst. Prof.: Jia Wei Zhen  
Asst. Prof.: Fumitaka Muramatsu  
SA Asst. Prof.: Bal Zeynep\*  
SA Asst. Prof.: Keigo Akuta



## Dept. of Genome Informatics

We are currently developing new methods for analysis of B/T cell repertoires and protein-nucleotide interactions using multiple sequence alignment (MSA), structural modeling, and machine learning.

### STAFF

Prof.: Daron M. Standley  
Assoc. Prof.: Kazutaka Kato  
Assoc. Prof.: Li Songling  
SA Assoc. Prof.: Park Soyoung\*  
Postdoc.: Sankari Prosad Biswas



## Dept. of Infection Metagenomics

In our project, specialists in bioinformatics, microbiology, and infectious diseases gather to research pathogens and infectious diseases using NGS-based genomic/metagenomic analysis.

### STAFF

Prof.: Tetsuya Iida\*  
SA Assoc. Prof.: Shota Nakamura\*  
Assoc. Prof.: Naohisa Goto\*  
Asst. Prof.: Daisuke Motooka\*  
Postdoc.: Yuki Matsumoto  
Postdoc.: Hiroya Oki



## Dept. of Cellular Regulation

Malignant cancer cells proliferate and metastasize to other organs, making treatment difficult. Our research goal is to elucidate the mechanism underlying this mysterious process of cancer development.

### STAFF

Prof.: Hiroaki Miki  
Assoc. Prof.: Yosuke Funato  
Postdoc.: Osamu Hashizume



## Dept. of Homeostatic Regulation

Our research goal is to elucidate the molecular mechanisms of intracellular interactions that regulate our homeostasis in development, regeneration, and aging, to overcome degenerative diseases.

### STAFF

Prof.: Tohru Ishitani  
Asst. Prof.: Yuki Akieda  
Masayuki Oginuma  
SA Asst. Prof.: Shizuka Ishitani  
SA Asst. Prof.: Kota Abe  
JSPS Postdoc.: Kana Aoki



## Next-Generation Sequencing (NGS) Core Facility

We support researchers in analyzing big data obtained from NGS and DNA microarrays by combining bioinformatics approaches with large computing systems designed for big data.

### STAFF

Head, Prof.: Sho Yamasaki\*  
SA Assoc. Prof.: Shota Nakamura\*  
SA Assoc. Prof.: Daisuke Okuzaki\*  
Asst. Prof.: Daisuke Motooka



\* Concurrent post

\* Concurrent post



# Research Center for Infectious Disease Control

## Dept. of Bacterial Infections

Our goal is to understand how pathogenic bacteria cause diseases and develop new methods to identify novel pathogens using genomics to reveal the pathogenesis of unknown infectious diseases.

### STAFF

Prof.: Tetsuya Iida  
Assoc. Prof.: Shigeaki Matsuda  
Asst. Prof.: Eiji Ishii  
SA Asst. Prof.: Somboonthum Pranee  
Postdoc.: Somboonthum Pranee  
Postdoc.: Andre Pratama



## Lab of Emerging Viral Diseases

Our research focuses on deadly hemorrhagic fever-causing arenaviruses (HFAs), including Lassa virus. We aim to elucidate the molecular mechanisms underlying viral multiplication using reverse genetics systems and develop novel antivirals and vaccines against HFAs.

### STAFF

SA Assoc. Prof.: Masaharu Iwasaki  
Postdoc.: Mei Hashizume



# International Research Center for Infectious Diseases

## Dept. of Molecular Protozoology

Our research interest is how Plasmodium parasites regulate the gene expression stage specifically to understand the molecular basis of the parasite's life cycle and explore the drug target and vaccine antigens.

### STAFF

Prof.: Shiroh Iwanaga  
Asst. Prof.: Toshiyuki Mori  
Asst. Prof.: Akihito Sakoguchi  
SA Asst. Prof.: Mai Nakashima



## Dept. of Virology

We study molecular mechanisms underlying *Reoviridae* virus replication and pathogenesis using original technology to generate recombinant *Reoviridae* viruses from cloned cDNAs.

### STAFF

Prof.: Takeshi Kobayashi  
Assoc. Prof.: Yuta Kanai  
Asst. Prof.: Tomohiro Kotaki  
Postdoc.: Shohei Minami  
Postdoc.: Ryotaro Nouda



## Pathogenic Microbes Repository Unit

We collect and preserve pathogenic bacterial strains. These strains are distributed to investigators in and outside this country upon request. Our collection is listed on our website.

<http://www.biken.osaka-u.ac.jp/pmru/>

### STAFF

Head, Prof.: Tetsuya Iida\*



## Lab. of Emerging Infectious Disease Control

To fight against emerging infectious diseases, experts in virology, bacteriology, and parasitology gather and create a system to respond quickly and flexibly to unpredictable infectious disease outbreaks.

### STAFF

SA Prof.: Yoshiharu Matsuura\*  
Prof.: Tatsuo Shioda\*  
Prof.: Tetsuya Iida\*  
Prof.: Yasuhiko Horiguchi\*  
Prof.: Hisashi Arase\*  
Prof.: Sho Yamasaki\*  
Prof.: Takeshi Kobayashi\*  
Prof.: Masahiro Yamamoto\*



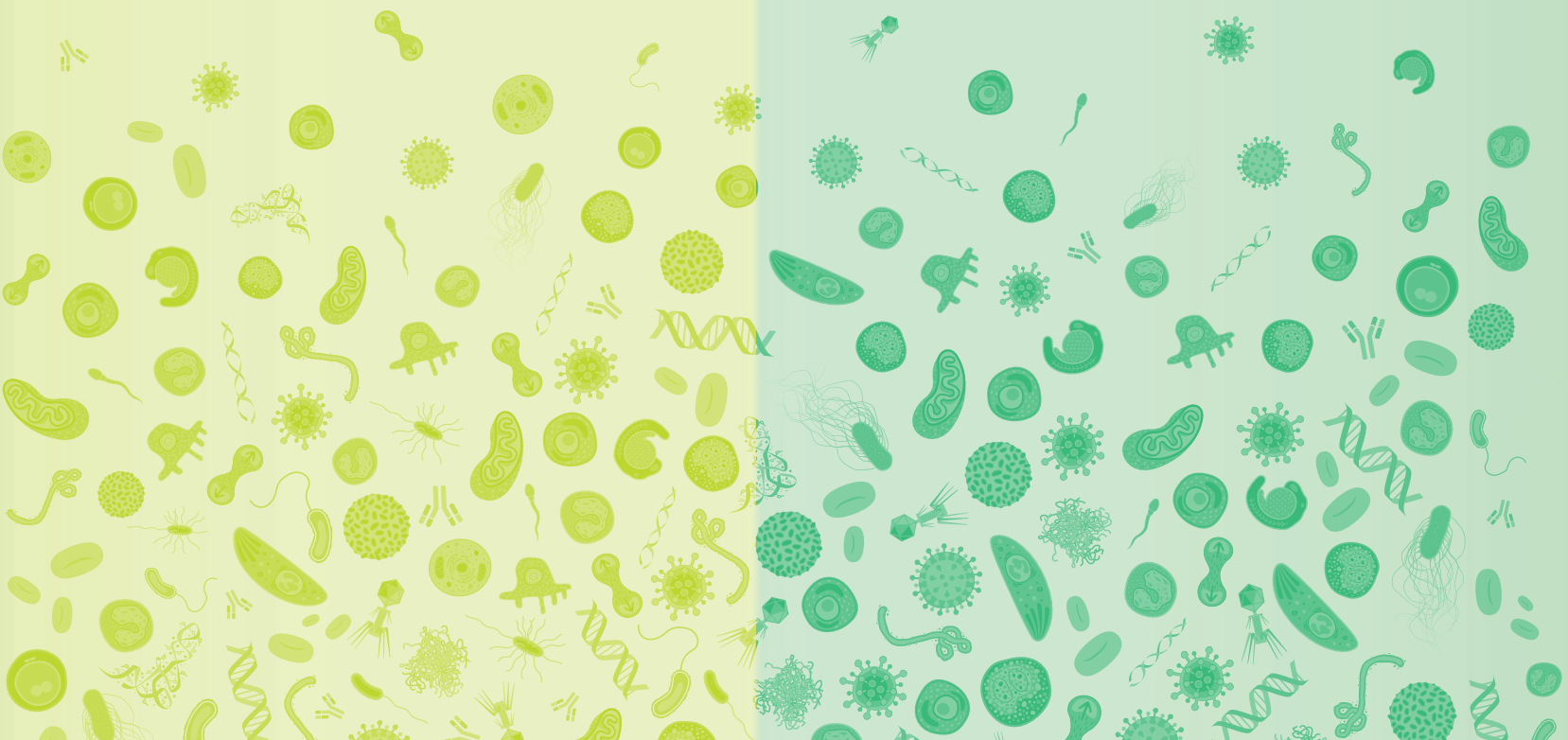
\* Concurrent post

## Lab. of Virus Control

We aim to elucidate the virus-host interactions and pathogenesis involved in viral infections to develop novel preventive and curative measures and overcome infectious diseases caused by viruses among humans.

### STAFF

SA Prof.: Yoshiharu Matsuura\*  
SA Assoc. Prof.: Suhei Tagawa\*  
SA Assoc. Prof.: Chikako Ono\*  
SA Assoc. Prof.: Saya Nakagomi  
SA Asst. Prof.: Hiroyuki Mori\*  
SA Asst. Prof.: Kentaro Uemura





## Endowed Chair

### Dept. of Malaria Vaccine Development

Malaria is one of the three major infectious diseases globally. We have been developing NPC-SE36 malaria vaccine candidate. To date, five clinical trials have successfully been completed in Japan and Africa. We aim to obtain regulatory approval through further clinical trials.

#### STAFF

Endowed Chair Prof.:  
Toshihiro Horii  
SA Prof.: Nirianne Marie  
Querijero Palacpac



### Dept. of Cellular Immunology

Cellular Immunity by T cells plays an essential role in cancer, infectious diseases, allergy, and autoimmune diseases. We are developing new drugs and technology that utilize T cell response induction mechanisms built into our bodies.

#### STAFF

SA Assoc. Prof.: Taiki Aoshi  
SA Assoc. Prof.: Takahiro Tougan



## MEXT Joint Usage / Research Center

The Ministry of Education, Culture, Sports, Science, and Technology, or MEXT, Joint Usage / Research Center program enables domestic researchers to share research data and facilities. Designated as one of the centers in 2009, RIMD has provided our knowledge, technology, resources, and facilities for researching infectious diseases and biological responses. We promote advanced joint research and develop human resources to combat various infectious diseases with the program.

### Call for joint research projects

Calling for both general and specific projects, RIMD conducts approximately 40 joint research every year. General projects are concerned with biological responses and host factors, while projects are focused on infections and pathogens. We are also encouraging joint programs with female researchers, young talents, and overseas.

### Joint Base Projects

RIMD is collaborating with the three institutions: Hokkaido University International Institute for Zoonosis Control, the Institute for Medical Science, the University of Tokyo, and the Institute of Tropical Medicine Nagasaki University. We conduct 'All-Japan' research and develop human resources to fight against infectious diseases through collaboration.

### Research Support

RIMD has unique research equipment and facilities such as the Animal Resource Center for Infectious Diseases and the Central Laboratory for Biological Hazardous Microbes, where researchers can conduct high-level experiments in BSL2 and BSL3 environments, and these facilities are available for researchers. We also offer them advanced research technologies and resources, including genome analysis, generating genetically modified animals, and providing pathogenic bacteria.



Research Institute for  
Microbial Diseases,  
Osaka University



The Institute of  
Medical Science,  
The University of Tokyo



Hokkaido University  
International Institute for  
Zoonosis Control



Institute of  
Tropical Medicine,  
Nagasaki University

For detail, please  
visit our website. →



## Common Research Facilities

### Animal Resource Center for Infectious Diseases

The Center is equipped with facilities to safely and appropriately conduct infectious animal experiments and develop research support for genetically modified animal production technology.

#### STAFF

Head, Prof.: Masahito Ikawa\*  
Assoc. Prof.: Haruhiko Miyata\*  
Assoc. Prof.: Norikazu Yabuta  
Asst. Prof.: Keisuke Shimada  
Asst. Prof.: Chihiro Emori\*  
SA Asst. Prof.: Yuki Hiradate\*



### Central Laboratory for Biological Hazardous Microbes

The facilities are designed to protect researchers from pathogenic infection and to prevent the spread of biohazardous pathogens outside the building. A wide variety of pathogens including viruses and scrapie pathogens can be handled in the facility.

#### STAFF

Head, Prof.: Tatsuo Shioda\*



### Central Instrumentation Laboratory

A variety of precision and high-performance research instruments are installed, managed by professional staff, and are always ready for use. We also provide analysis services such as mass spectrometry and electron microscopy.

#### STAFF

Head, Prof.: Hiroaki Miki\*  
Assoc. Prof.: Shinji Higashiyama  
Assoc. Prof.: Naohisa Goto  
Assist. Prof.: Fuminori Sugiyama  
SA Researcher: Akinori Ninomiya



### Radioisotope Laboratory

established in 1967 and was designed for biomedical experiments involving RIs. Access to the controlled area and records of the use of radioisotopes are centrally controlled to maintain safety.

#### STAFF

Head, Prof.: Hiroaki Miki\*



### Office for Research Promotion

As a research support office, we aim to contribute to human resource development and the promotion of research in the institute. We are also engaged in the public engagement of science.

#### STAFF

Head, Prof.: Nobuyuki Takakura\*  
Assoc. Prof.: Ryo Iwamoto  
SA Assoc. Prof.: Saya Nakagomi\*  
SA Academic Policy  
Researcher: Kaori Nagato



### Administrative office

General Affairs Section / Accounting Section /  
Research Co-op Section



## Thailand-Japan Research Collaboration Center

The new coronavirus pandemic has wreaked havoc on the world's societies and economies. Infectious diseases can easily cross national borders and spread rapidly in a globalized society. It is difficult for a single country to control them on its own. In cooperation with the Ministry of Health of Thailand, we are engaged in infectious disease research and human resource development in Japan and Thailand. The research center is open to all universities and research institutes and can be used as a joint frontline base to control infectious diseases worldwide.



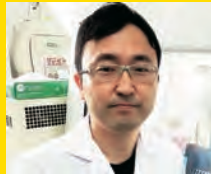
### Section of Bacterial Infections



We are developing practical diagnostic tools to detect bacterial pathogens and devise measures to prevent enteric infections, including those mediated by *Vibrio cholerae*.

STAFF

Prof.: Tetsuya Iida\*  
SA Assoc. Prof.: Kazuhisa Okada



### Section of Viral Infections



We are researching viral enteric infections and mosquito-borne infections that have been repeatedly transmitted in Thailand and other Asian countries, including Japan.

STAFF

Prof.: Takeshi Kobayashi\*  
SA Assoc. Prof.: Hiroto Mizushima  
SA Assoc. Prof.: Atsushi Yamanaka



### Section of Bacterial Drug Resistance Research

### Section of Antiviral Research

### Mahidol-Osaka Center for Infectious Diseases

\* Concurrent post

## International Partnership

We have concluded international academic agreements with research institutions and are actively engaged in research activities and personnel exchanges.

Country	Institution
Thailand	Bamrasnaradura Infectious Diseases Institute
Thailand	Faculty of Tropical Medicine, Mahidol University
Indonesia	Faculty of Medicine, Airlangga University
Indonesia	Institut Teknologi Bandung
Vietnam	National Hospital For Tropical Diseases in Hanoi
Bangladesh	Apollo Hospitals Dhaka
US	Departments of Pathology & Immunology, Baylor College of Medicine
Lithuania	Vilnius University
Germany	Immunosensation Cluster of Excellence, The Rheinische Friedrich-Wilhelms-University of Bonn
Australia	The Walter and Eliza Hall Institute of Medical Research

## Clinical Training Course on Tropical Infectious Diseases in Thailand



We have been offering a clinical training course in the Thailand-Myanmar border region. Supported by local hospitals in Thailand, the course provides Japanese medical doctors with clinical training on diagnosing and treating tropical infections.



## Taniguchi Scholarship: International Students Scholarship Program

We established a scholarship program for Students from ASEAN countries to study at RIMD as graduate students and provide leadership and support to become independent researchers.



The Research Institute for Microbial Diseases and the BIKEN Foundation were established in 1934 and have built a research system to improve public health and develop infectious diseases and immunology. Since its establishment, the RIMD and the BIKEN Foundation have contributed to preventing infectious diseases by developing vaccines such as the measles vaccine and varicella vaccine.



BIKEN Foundation Headquarters



Kanonji Institute Seto Center

## Vaccines Developed in RIMD

### Measles vaccine Dr. Yoshiomi Okuno

Dr. Okuno isolated the measles virus and produced a vaccine using SPF (Specific Pathogen Free) eggs from chickens.



### Varicella vaccine: Dr. Michiaki Takahashi

Dr. Takahashi isolated the Oka strain, still used in vaccine production today.



## BIKEN Innovative Vaccine Research Alliance Laboratories



The BIKEN Collaborative Research Institute for Next-Generation Vaccines develops essential technologies. To develop next-generation vaccines based on new ideas that are not bound by conventional concepts and promote research activities with the Research Institute Microbial Diseases and other universities and research institutes.

## Vaccine Creation Group

We aim to develop antigen delivery carriers and adjuvants that can effectively induce immune responses in our laboratory.

STAFF

SA Prof.: Yasuo Yoshioka\*  
SA Assoc. Prof.: Toshiro Hirai\*



## Virus Vaccine Group

We encourage research to develop vaccines that target infectious diseases that are difficult to develop for various reasons.

STAFF

SA Assoc. Prof.: Hirotaka Ebina\*



\* Concurrent post



# RIMD History

The Research Institute for Microbial Diseases (RIMD) was established in 1934 to study microbial and infectious diseases, the immune system, and cancer. The RIMD of today is the result of the hard work and amazing achievements of many researchers over the years.



RIMD buildings in 1934

## RIMD History

### HISTORY

#### 1934

##### Research Institute for Microbial Diseases opened

RIMD was founded through a merger of the Research Center for Communicable Diseases (Osaka Medical School), the Takeo Tuberculosis Institute (donated by Mr. Jiemon Takeo), and the Osaka Leprosy Institute (donated by an anonymous benefactor).



RIMD buildings in 1934



The Takeo Tuberculosis research Center



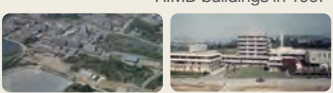
The main RIMD building at Dojima in 1934



The Osaka Leprosy Institute

#### 1967

##### RIMD moved to the Suita Campus



The Suita Campus, Osaka University

#### 1993

##### RIMD Hospital was merged with Osaka University Hospital

#### 2003

Selected for funding by the 21st Century COE programs on the theme of "Combined program on microbiology and immunology"

#### 2007

##### Immunology Frontier Research Center (IFReC) was founded

#### 2010

Approved as a Joint Usage / Research Center by Ministry of Education, Culture, Sports, Science and Technology

#### 2015

### KEY PERSON

#### 1950s

Discovered *Vibrio parahaemolyticus*



Tsunesaburo Fujino

#### 1960s

Discovered cell fusion



Yoshio Okada

Developed a measles vaccine



Yoshiomi Okuno

#### 1970s

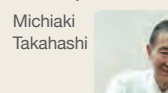
Discovered a viral oncogene



Kumao Toyoshima

#### 1980s

Developed a chickenpox vaccine



Michiaki Takahashi

#### 2000s

Elucidation of the Innate Immune System

Shizuo Akira

#### 2005

Three centers for specialized research on infectious disease and genome information launched. The Research Collaboration Center on Emerging and Re-emerging Infections in Thailand was founded

#### 2008

Selected for funding by the Global COE programs on the theme of "Frontier Biomedical Science Underlying Organelle Network Biology"

#### 2015

BIKEN Innovative Vaccine Research Alliance Laboratories was launched

## The Epochs in Biology

### HISTORY

#### 1870-1880

Establishment of the germ theory of disease  
L. Pasteur, R. Koch

#### 1798

Development of Smallpox vaccine (The first successful vaccine developed)  
E. Jenner

#### 1919

Proved chemical carcinogenesis  
K. Yamagiwa

#### 1928

Discovery of Penicillin (The first antibiotics)  
A. Fleming

#### 1957

Clonal selection theory in immunology  
F.M. Burnet

#### 1953

Discovery of the DNA structure  
J. Watson, F. Crick

#### 1965

Revealed Genetic code  
H. Khorana

#### 1975

Production of monoclonal antibodies using cell fusion technique.  
C. Milstein

#### 1977

Discovery of the genetic mechanism to produce antibody diversity  
S. Tonegawa

#### 1979

Discovery of oncogene, c-Src  
J.M. Bishop, H.E. Varmus

#### 1981

Establishment of Embryonic Stem Cells (ES cells)  
M. Evans, M. Kaufman

#### 2003

Human Genome Project completed

## KEY PERSON

### Tenji Taniguchi



Professor of Bacteriology at the Osaka Medical school. He played a huge role in the foundation of RIMD as he emphasized the need for a research institute in the KANSAI area that focused on microbial or infectious diseases.

### Gendo Yamaguchi



A successful businessman in the KANSAI area. He gave back to the community by offering his property for public benefit services and temples. He donated 200,000 yen to establish RIMD.

# Join us!

We welcome motivated grad-students and researchers to study basic medical science, including microbiology, immunology and oncology.  
The Orientation and lab tour would be held in May every year.  
Please check our website for detail.

## Message from International Researchers at RIMD

01

Dhira Saraswati Anggramukti  
(Department of Bacterial Infections D5)



02

Julio M. Castaneda  
(Department of Experimental Genome Research SA Asst. Prof.)



## Information in Osaka University website

Study at Osaka University  
Osaka University website for Global Affairs  
<https://www.osaka-u.ac.jp/en/international>

Study Abroad at Osaka University  
<https://www.osaka-u.ac.jp/sp/why/you/>

Student Support  
Center for International Education and Exchange(CIEE)  
<http://ciee.osaka-u.ac.jp/en/>

Support Office for International Students and Scholars  
<https://iss-intl.osaka-u.ac.jp/supportoffice/>

International Students Groups  
Osaka University International Students Association (OUIA)  
<http://ouisa.info/>

Osaka University Brothers and Sisters Program (BSP)  
<http://www.bsp-ou.net/>

Work at Osaka University  
IFReC Website for Overseas Researchers  
<http://www.ifrec.osaka-u.ac.jp/en/liaison/>

## Scholarship

Japan Student Services Organization (JASSO)  
<https://www.studyin-japan.go.jp/en/>

Japanese Government (MEXT) Scholarship Students  
<https://www.studyin-japan.go.jp/en/planning/scholarship/>

## Municipal Groups for International Exchange

Suita International Friendship Association  
<https://suita-sifa.org/en/>

Minoh Association For Global Awareness  
<https://mafga.or.jp/en/>

Association for Toyonaka Multicultural Symbiosis  
<https://www.a-atoms.info/information-for-foreigners/>

Osaka Foundation of International Exchange, Planning and Promotion Group  
<https://www.ofix.or.jp/english/>

