

# Research Activities

M E X T : Ministry of Education, Culture, Sports, Science and Technology  
 M H L W : Ministry of Health, Labour and Welfare  
 M E T I : Ministry of Economy, Trade and Industry  
 M O E : Ministry of the Environment  
 J S T : Japan Science and Technology Agency  
 A M E D : Japan Agency for Medical Research and Development  
 N I B I O : National Institute of Biomedical Innovation

## ■ Promotion Plan for the Platform of Human Resource Development for Cancer (MEXT)

Funding Period	Partner Organizations	Program	Responsible Department
2017-2021	Sapporo Medical University Hokkaido University Asahikawa Medical University Health Sciences University of Hokkaido	Hokkaido Promotion Plan for the Platform of Human Resource Development for Cancer	Faculty of Medicine

## ■ Activity in International Standardization in the Governmental Strategic Field (METI)

Funding Period	Project	Leader/R&D Chief
2017-2019	International Standardization of Care Coordination Equipment for Low Invasive Radiotherapy	Hiroki Shirato, M.D., Ph.D. Professor, Department of Radiation Medicine

## ■ Feasibility Study of the Ministry of the Environment (Cooperative Government Offices: MHLW, MEXT)

Funding Period	Collaborating Research Institutes in Hokkaido	Project	Hokkaido Regional Center Representative
2010-2032 Survey period: 21 years (recruitment: 3 years follow-up: 13 years analysis: 5 years)	Hokkaido University Sapporo Medical University Asahikawa Medical University The Japanese Red Cross Hokkaido College of Nursing	Japan Environment and Children's Study	Reiko Kishi, M.D., Ph.D., M.P.H. Specially Appointed Invited Professor, Center for Environmental and Health Sciences

## ■ Environment Research and Technology Development Fund of MOE

Funding Period	Project	Project Representative
2015-2017	Effect of Fetal Exposure to Endocrine Disruptor on Sex Differentiation, Gonadal Function and Puberty: Elucidation of Gene-Environment Interaction on Sexual Development	Nobuo Shinohara, M.D., Ph.D. Professor, Department of Renal and Genitourinary Surgery
2017-2018	Environmental Chemical Exposure in Early Life and the Neurodevelopment of Children: the Role of Environment, Gene and Epigenome.	Atsuko Araki, Ph.D. Associate Professor, Center for Environmental and Health Sciences

## ■ Next Generation Technology Transfer Program (NexTEP) (JST)

Funding Period	Program	Leader
2014-2023	Animal Experiment for Mechanism Elucidation in a Novel Cartilage Tissue Engineering Technique Using Ultra-purified Alginate Gel	Norimasa Iwasaki, M.D., Ph.D. Professor, Department of Orthopedic Surgery

## ■ The Center of Innovation (COI) Program (JST)

Funding Period	Program	Leader
2013-2021	Innovative Food & Healthcare MASTER	Akiko Tamakoshi, M.D., Ph.D. Professor, Department of Public Health

## ■ Science for Science Technology Innovation Policy (JST)

Funding Period	Program	Project Director
2016-2017	Realizing Policymaking Process of Infectious Disease Control using Mathematical Modeling Techniques	Hiroshi Nishiura, M.D., Ph.D. Professor, Department of Hygiene

■ Project of Translational and Clinical Research Core Centers (AMED)

Funding Period	Organization	Project	Representative
2017-2021	Hokkaido University Sapporo Medical University Asahikawa Medical University	Formation of an Open Access Center of Excellence for the sustainable creation of Medical Innovations	Toyoharu Nawa, Ph.D. President

■ Project for Global Discovery of the Brain Function Network through Innovative Technology (AMED)

Funding Period	Commissioned Project	Leader
2017-2020	Mapping the Structure and Function of the Cortico-basal Ganglia Network in Marmosets by Use of Pathway-specific Labeling and Manipulation Technology	Miwako Yamasaki, M.D., Ph.D. Associate Professor, Department of Anatomy

■ Strategic Basic Research Programs (CREST) (JST)

Funding Period	Program	Research Director
2016-2019	Detecting Premonitory Signs and Real-time Forecasting of Pandemics Using Big Biological Data	Hiroshi Nishiura, M.D., Ph.D. Professor, Department of Hygiene

■ Development of Medical Devices and Systems for Advanced Medical Services (AMED)

Funding Period	Program	Research Representative
2015-2018	Development of Next-generation High-precision Particle Radiotherapy that Integrates a Microparticulate Tumor Marker and Real-time 3D Perspective Projection	Hiroki Shirato, M.D., Ph.D. Professor, Department of Radiation Medicine
2017-2021	Development of Intraoperative On-the-fly Therapeutic Decision Support System during Quantum Beam Surgery (QBS) and post-QBS Surgical Operation	Shinichi Shimizu, M.D., Ph.D. Professor, Department of Radiation Oncology

■ Program for the Creation of Medical Innovation through Industry-Academia Collaboration as a Part of the Medical Research Result Development Project: Acceleration Transformative Research for Medical Innovation (ACT-M) (AMED)

Funding Period	Commissioned Project	Leader
2015-2017	[ <sup>18</sup> F] DiFA: New Hypoxic PET tracer for Innovative Cancer Diagnosis	Tohru Shiga, M.D., Ph.D. Associate Professor, Department of Nuclear Medicine

■ Development of Medical Devices through Collaboration between Medicine and Industry (AMED)

Funding Period	Commissioned Project	Leader
2016-2018	Development and Industrialization of Custom-made Spinal Implants for the Correction of Spine Deformity using 3D Modeling and 3D EBM Achieving Higher Adaptation and Shorter Operation	Hideki Sudo, M.D., Ph.D. Specially Appointed Associate Professor, Department of Advanced Medicine for Spine and Spinal Cord Disorders

■ Grant to Assist Research and Development of Orphan Drugs and Orphan Medical Devices (NIBIO)

Funding Period	Program	Development Representative
2014-2017	Treatment of Revertant Mosaicism-based Autologous Cultured Epidermal Sheet Transplantation for Refractory Congenital Skin Disorders	Hiroshi Shimizu, M.D., Ph.D. Professor, Department of Dermatology

■ Special Expenditures (MEXT)

Funding Period	Faculties	Project	Leader
2013-2017	Creative Research Institution Faculty of Advanced Life Science Faculty of Medicine	Better Quality of Living through Novel Soft and Wet Materials-Interdisciplinary Center for Polymer Materials Science and Regenerative Medicine	Kazushige Kawabata, Ph.D. Director, Executive Office for Research Strategy
2014-2019	Global Institution for Collaborative Research and Education (GI-CoRE) Faculty of Medicine Research Center for Zoonosis Control	Creation of a Global Brain Circulation Center for Resolving Global Issues	Toyoharu Nawa, Ph.D. President
2016-2018	Global Institution for Collaborative Research and Education (GI-CoRE) Faculty of Medicine Research Center for Zoonosis Control	Creative Medical Research through Quantum Medical Science and Engineering: Challenge to Provide Cancer Treatment Free of Relapse	Toyoharu Nawa, Ph.D. President
2016-2020	Faculty of Medicine	Plan to Nurture Individuals with Forensic Medical Knowledge for Cause-of-Death Investigation	Mitsuhiro Yoshioka, M.D., Ph.D. Dean