

Research Center for the 21st Century



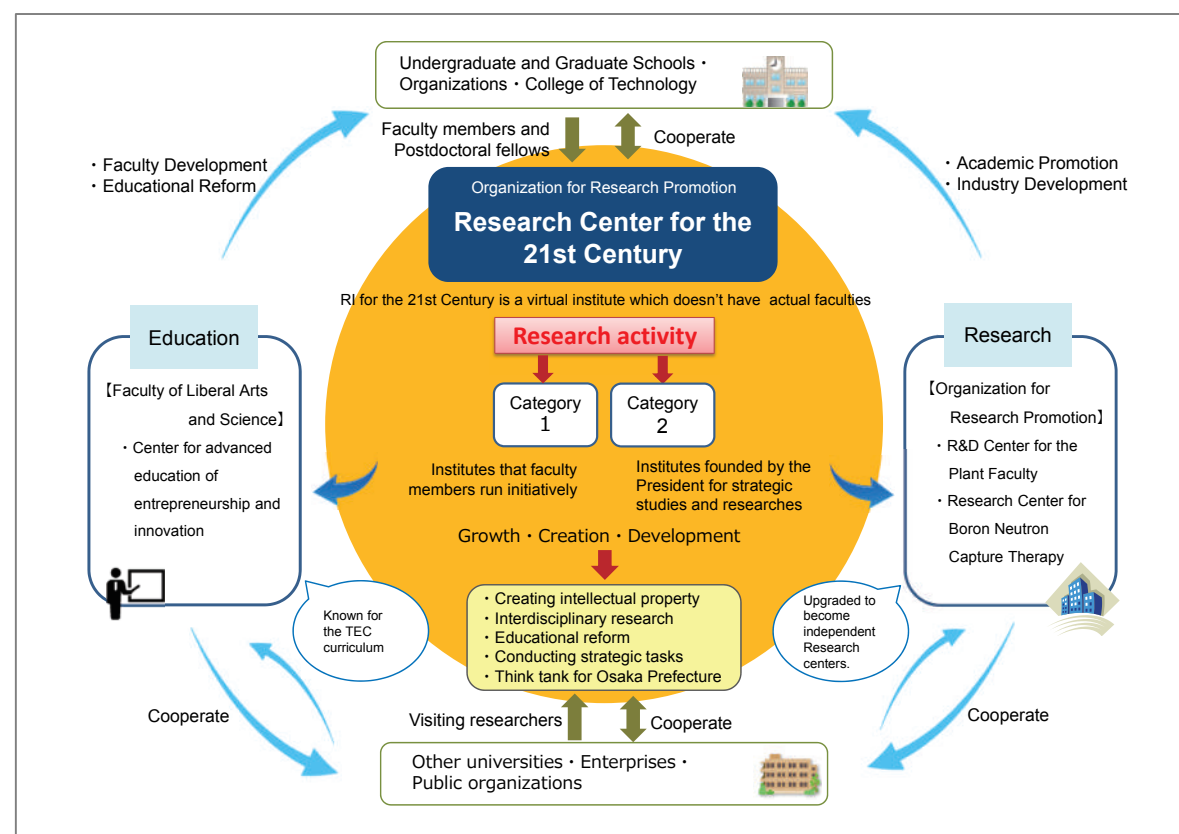
The "Research Center for the 21st Century" was established at Osaka Prefecture University to promote multidisciplinary collaborative research across different scientific fields and departments.

Consisting of two types of category of research laboratories with an organized yet flexible framework, RC-21 not only carries out innovative research as part of leading university but also contributes to the local community and government by acting as a think-tank and breathing new life into public service.

Osaka Prefecture University

Research Center for the 21st Century Created in 2020

OPU Incubation Model



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Bio-life science		Medical / Nursing / Health science	Social system / Society cooperation	Region / Community / Life support	Idea /
<div>BioMedical Forum</div> <div><div></div><div>Prof. Ikuo Fujii Graduate School of Science</div><div>The headquarter of five life science institutes involved in OPU Research Center: It proposes research strategies for life science and stimulates collabolations in OPU.</div><div><div></div><div></div></div></div>	<div>Live Cell Imaging Institute</div> <div><div></div><div>Prof. Kenji Sugimoto Graduate School of Life and Environmental Sciences</div><div>Visualization of living cell in the living state without photodamage and development of the evaluation system for food and chemicals by live cell imaging.</div><div><div></div></div></div>	<div>Research Institute for Nursing Management System</div> <div><div></div><div>Prof. Kyoko Shida Graduate School of Nursing</div><div>Support and Research related to business and nursing administration aiming improvement of nursing.</div><div><div></div><div></div></div></div>	<div>Research Institute for Tourism Industry</div> <div><div></div><div>Distinguished Prof. Shinya Hashizume Graduate School of Economics</div><div>Strategy Development of tourism industry motion and tourism policy, and research on creation of local brand etc.</div><div><div></div><div></div></div></div>	<div>Institute for Development of Social Work Theory and Practice</div> <div><div></div><div>Prof. Akiko Kojima Graduate School of Humanities and Sustainable System Sciences</div><div>Construction of new theory for social work in complicated modern society and development of its practical method.</div><div><div></div><div></div></div></div>	<div>Osaka Prefecture U</div> <div><div></div><div>Prof. Is Graduate School of Sustainable S</div><div>Collection, arrangement and investigation on its practical importance of archive compil</div><div><div></div></div></div>
<div>Research Center for Food Safety (RCFS)</div> <div><div></div><div>Prof. Masami Miyake Graduate School of Life and Environmental Sciences</div><div>The center actively takes various actions on assuring Food Safety, and promoting Food Quality and Functionality, through research and developmental activities and risk communication opportunities.</div><div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div>Research Institute for Chemical Biology</div> <div><div></div><div>Prof. Ikuo Fujii Graduate School of Science</div><div>Elucidation of vital phenomenon using chemical probe by designing and integrating molecule target compound, and development of next-generation medicine.</div><div><div></div><div></div></div></div>	<div>Research Institute for Advanced Nursing Technology (RIANT)</div> <div><div></div><div>Prof. Yukie Majima Graduate School of Humanities and Sustainable System Sciences</div><div>Research and development of medical care, nursing and care support system using remote monitoring, nursing/ care equipment and robot, etc..</div><div><div></div><div></div></div></div>	<div>Service Science Research Center</div> <div><div></div><div>Prof. Hiroyuki Morita Graduate School of Humanities and Sustainable System Sciences</div><div>Research and technical support for service science and data mining field.</div><div><div></div><div></div></div></div>	<div>Research Institute for Center of Community</div> <div><div></div><div>Prof. Masahiro Nishida Faculty of Liberal Arts and Sciences</div><div>Practice of community based education, promotion of fostering human resources corporated with community, and research for resolution of regional tasks.</div><div><div></div><div></div></div></div>	<div>The Research Institute for Educational Philosophical</div> <div><div></div><div>Associate Prof. Graduate School of Sustainable S</div><div>Philosophical research on com associated with humans and t</div><div><div></div><div></div></div></div>
<div>Bio-Medical Facility Center</div> <div><div></div><div>Prof. Toshiya Okada Graduate School of Life and Environmental Sciences</div><div>Promoting interdisciplinary collaboration in the biomedical sciences to benefit human and animal health and establishing a non-clinical research hub.</div><div><div></div><div></div></div></div>	<div>Research Center of Microorganism Control</div> <div><div></div><div>Prof. Masakazu Furuta Graduate School of Engineering</div><div>Development of advanced techniques for microbial growth and survival control in various fields by elucidating their mechanisms.</div><div><div></div><div></div><div></div></div></div>	<div>Gerontology Research Center (GEREC)</div> <div><div></div><div>Prof. Yumi Higuchi Graduate School of Comprehensive Rehabilitation</div><div>Improvement of functioning for the elderly people from the viewpoint of the specialized field of rehabilitation, medical engineering, food dietetics and social welfare.</div><div><div></div><div></div></div></div>	<div>Research Center for Social Welfare and Education</div> <div><div></div><div>Prof. Akiko Kojima Graduate School of Humanities and Sustainable System Sciences</div><div>Research center on education and welfare for a sustainable society and community well-being.</div><div><div></div><div></div></div></div>	<div>Research Institute for Evaluation Support of School Social Work</div> <div><div></div><div>Prof. Noriko Yamano Graduate School of Humanities and Sustainable System Sciences</div><div>Promoting the evidence-based School Social Work Program, which uses the program evaluation and creating a facilitator training model.</div><div><div></div><div></div></div></div>	<div>Institute of Res</div> <div><div></div><div>Prof. Is Graduate School of Sustainable Sy</div><div>Analyzing across education, r theories to build a fairer educ</div><div><div></div><div></div></div></div>
<div>Advanced Genomics Center</div> <div><div></div><div>Prof. Koji Otsuka Graduate School of Humanities and Sustainable System Sciences</div><div>This center aims to understand organisms inclusively, to promote study of genome medicine and pharmacy, and to solve agriculture and environmental problems.</div><div><div></div></div></div>	<div>Research Institute for Light-induced Acceleration System (RILACS)</div> <div><div></div><div>Prof. Takuya Iida Graduate School of Science</div><div>Promotion of research on light-induced acceleration system of biochemical reaction (LAC-SYS) based on interdisciplinary optical and quantum science.</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div>Smart Rehabilitation Research Center</div> <div><div></div><div>Prof.Ryouhei Ishii Graduate School of Comprehensive Rehabilitation</div><div>In the realm of rehabilitation therapy, We will develop new treatment methods adopting ICT technologies and propose more efficient preventive measures based on analysis with Artificial Intelligence.</div><div><div></div></div></div>	<div>Research Center for the Diversity Research Environment</div> <div><div></div><div>Prof. Yukie Majima Graduate School of Humanities and Sustainable System Sciences</div><div>Providing framework of facilitative research environment and leadership training to support women researchers and their promotion.</div><div><div></div><div></div></div></div>	<div>Research Center for Regional Disaster Damage Prevention (RD2P)</div> <div><div></div><div>Prof. Yasuto Itoh Graduate School of Humanities and Sustainable System Sciences</div><div>RD2P establishes relations with local communities for constructing risk-tolerant circumstance based on open geologic information.</div><div><div></div></div></div>	
<div>Research Institute for Drug Discovery Science</div> <div><div></div><div>Prof. Takashi Inui Graduate School of Life and Environmental Sciences</div><div>Research and development of drug discovery in a cross-disciplinary through industry-academia-government collaboration.</div><div><div></div><div></div></div></div>	<div>Asian Health Science Research Institute</div> <div><div></div><div>Prof. Shinji Yamasaki Graduate School of Life and Environmental Sciences</div><div>This institute aims to cooperate industry, government and schools in Asian countries and perform research for health of human, animal and environmental issues including human resource development .</div><div><div></div><div></div><div></div><div></div></div></div>		<div>Research Center for Innovation Education</div> <div><div></div><div>Prof. Toshiyuki Matsui Faculty of Liberal Arts and Sciences</div><div>Development of novel style of innovative entrepreneurship education, and its implementation.</div><div><div></div><div></div></div></div>	<div>Laboratory for Fostering PhDs in the Future</div> <div><div></div><div>Prof. Shuichi Kawamata Graduate School of Engineering</div><div>Develop and execute various programs by which junior high school students, who are highly interested in science, enhance their abilities as scientists in the future.</div><div><div></div><div></div></div></div>	
<div>Research Institute for Cellular Damage Evaluation of Ionizing Radiation and Blue Light</div> <div><div></div><div>Prof. Seiji Kodama Graduate School of Science</div><div>This institute aims to investigate cellular damage induced by ionizing radiation and blue light and evaluate protective action against the damage using live cell imaging.</div><div><div></div><div></div></div></div>					



of Institutes

Culture	Information / Communication / Nano	Manufacturing technology	Environment / Energy / Material	Frontier	
University Archives	<div>Institute of Document Analysis and Knowledge Science(IDAKS)</div> <div><div>Prof. Koichi Kise Graduate School of Engineering</div><div>Research on document analysis and knowledge science in addition to their integration and application research reflecting the results.</div><div></div></div>	<div>The Research Institute for Molecular Electronic Devices</div> <div><div>Prof. Hiroshi Ikeda Graduate School of Engineering</div><div>Research on high-performance molecular electronics based on theoretical design, efficient synthesis, and fabrication of opto-electronic devices with new concepts.</div><div></div></div>	<div>Research Institute on Material Cycling Engineering</div> <div><div>Prof. Takeyasu Saito Graduate School of Engineering</div><div>Creation of recycling society by effective utilization of wastes as resources.</div><div></div></div>	<div>Research Institute for Structural Dynamics</div> <div><div>Prof. Masakatsu Chiba Graduate School of Engineering</div><div>Research and technical support for dynamics of mechanical structures in the fields of land, sea and aerospace.</div><div></div></div>	<div>Research Institute for Millimeter and Terahertz Waves</div> <div><div>Prof. Toshikazu Onishi Graduate School of Science</div><div>Development of fundamental technologies for emission, focusing, transmission and detection of millimeter-terahertz waves.</div><div></div></div>
Environmental Philosophy and Anthropology	<div>Research Center for Information Systems</div> <div><div>Prof. Takao Miyamoto Graduate School of Humanities and Sustainable System Sciences</div><div>Research and development of information system and its element technology, and applied research as problem-solving based on information environment within the Campus.</div><div></div></div>	<div>Research Institute for Microreactor Systems</div> <div><div>Prof. Akinori Muto Graduate School of Engineering</div><div>Research on energy-saving and swift-and high-efficient synthetic reaction using micro reactor, and applied research on engineering and analysis for micro-analysis chip construction.</div><div></div></div>	<div>OPU Ecology Research Institute</div> <div><div>Prof. Atsushi Nakahira Graduate School of Engineering</div><div>Research on technological subjects for ecological problems such as polluted circumstances and waste recycle.</div><div></div></div>	<div>Research Institute for Quantum Beam Science</div> <div><div>Prof. Hiroto Matsuura Graduate School of Engineering</div><div>Research for the process of the reactions induced by quantum beams(ionizing radiation, accelerated particle beams, photon beams etc.) and those applications.</div><div></div></div>	<div>OPU Research Center for Space Science and Technology</div> <div><div>Prof. Nozomu Kogiso Graduate School of Engineering</div><div>Cross-sectoral research on space, science and technology in the fields of aerospace, physical astronomy and life environment etc in collaboration with JAXA and NICT, etc..</div><div></div></div>
Research Integrity	<div>NanoSquare Research Institute</div> <div><div>Prof. Shigeo Mori Graduate School of Engineering</div><div>The equipments and facilities introduced for the duration of the program is being managed and operated by NanoSquare Research Institute as ashared equipments.</div><div></div></div>	<div>R&D Center on Organic Functional Materials</div> <div><div>Prof. Shigeyuki Yagi Graduate School of Engineering</div><div>Development of functional organic materials in the fields of information appliance, motor vehicle, printing record and solar battery, and support for SMEs to upgrade technologies in Kansai region.</div><div></div></div>	<div>Research Center for Environmental Education</div> <div><div>Prof. Koji Otsuka Graduate School of Humanities and Sustainable System Sciences</div><div>This center manages making of OPU- USR report by students, improvement of OPU's environmental education program, and practical education at the campus biotope.</div><div></div></div>	<div>Research Center for Utilization of High Magnetic Field</div> <div><div>Prof. Satoru Noguchi Graduate School of Science</div><div>Promotion of extensive magnetic research by using MPMS3, and research and development of the high-magnetic-field environments.</div><div></div></div>	<div>Bioeconomy Research Institute</div> <div><div>Prof. Daisaku Ohta Graduate School of Life and Environmental Sciences</div><div>The critical hub for bioeconomy research and education of OPU. It aims at contributions toward SDGs by creating urban-type family farming systems.</div><div></div></div>
	<div>Research Center for Mathematical Science and Data Science Education</div> <div><div>Prof.Tetsuya Takahashi Faculty of Liberal Arts and Sciences</div><div>Develop and provide mathmatic/deta-science education mainly for higher education in Kansai area through Kansai Consortium for Data-related Human Resource Development.</div><div></div></div>	<div>Research Institute for Industrial Engineering Innovations</div> <div><div>Prof. Shigeo Morimoto Graduate School of Engineering</div><div>Research on advanced fundamental technologies essential for manufacturing, and development of innovative manufacturing industry by the technologies.</div><div></div></div>	<div>International Laboratory of Materials Science and Nanotechnologies (iLMNT)</div> <div><div>Prof. Masahide Takahashi Graduate School of Engineering</div><div>Formation of collaborative research base as the international network hub, and fostering young researchers taking a leap into the international arena.</div><div></div></div>	<div>Fusion Oriented Research Center for disruptive science and technology</div> <div><div>Director Jyoji Yamate Organization for Research Promotion</div><div>Through supporting the research projects funded by JST FOREST Program, the center provides support for young scientists with innovative research activities.</div><div></div></div>	<div></div>
		<div>Fine Feature Electrodeposition Research Center</div> <div><div>Prof. Takeyasu Saito Graduate School of Engineering</div><div>Fine feature électrodéposition has widely been used in on-chip, PCB and Li ion battery. Our center aim for startup company.</div><div></div></div>	<div>Research Institute for All-Solid-State Battery</div> <div><div>Prof. Akitoshi Hayashi Graduate School of Engineering</div><div>R&D headquarter of all-solid-state batteries with safety, high energy density, and long cycle life as ultimate next generation secondary batteries.</div><div></div></div>		
		<div>Center for Aquaculture Initiatives (CAINES)</div> <div><div>Associate Prof. Yasunori Nihei Graduate School of Engineering</div><div>To develop and give superior performance of automatic navigation ship "ROBOSEN". Sharing case study and knowledge with CAINES consortium.</div><div></div></div>			

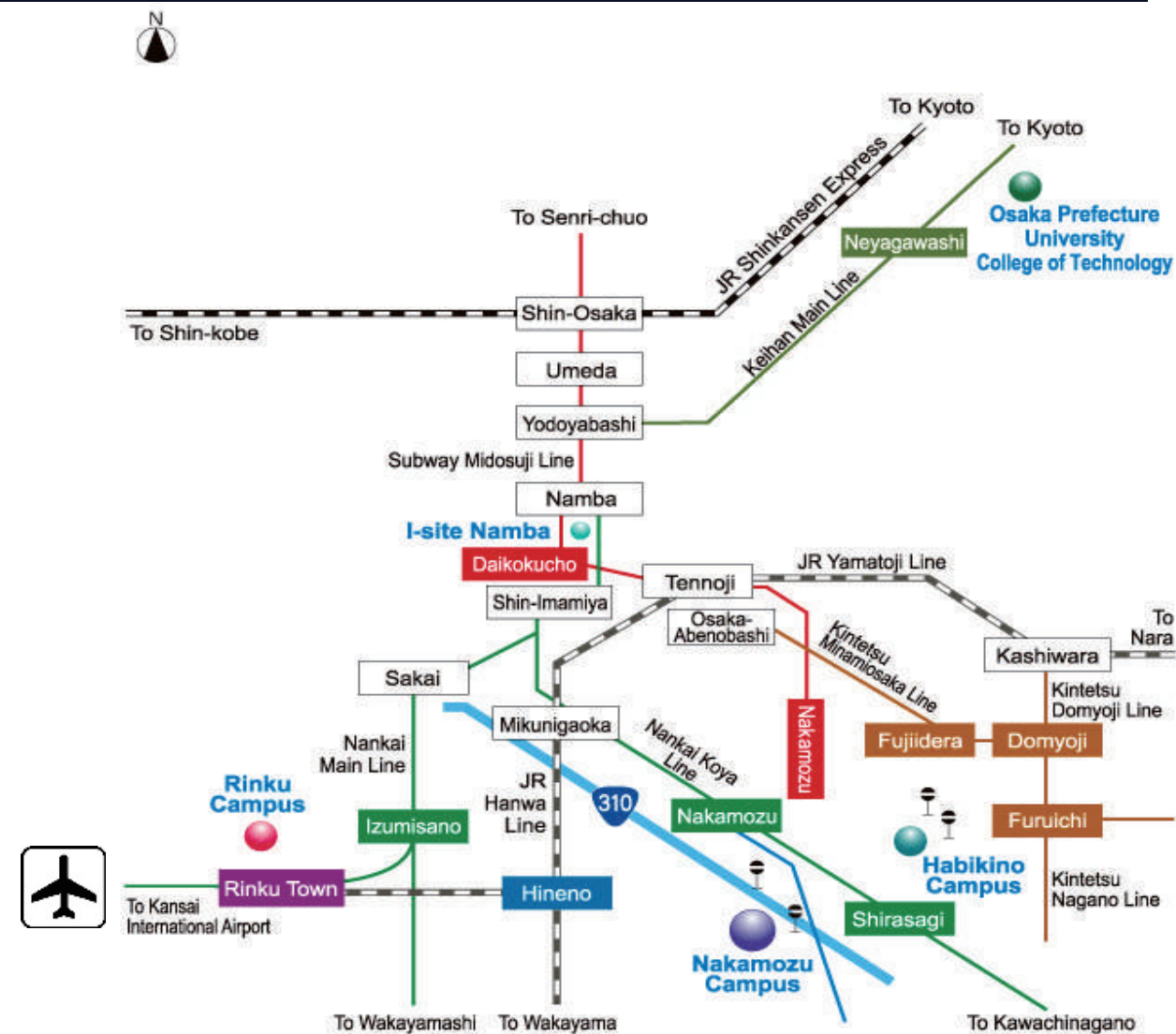
SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



he cross sectional research activities of 21st Century contribute to achieve all the 17 sustainable development object s (SDGs).



Access



OPU Nakamozu Campus (1h 10min. from Kansai-Airport)

- Kansai-Airport Station →(JR)→ Mikunigaoka Station →(Koya Line)→ Nakamozu Station→ (a 15 min. walk)
- Kansai-Airport Station →(Nankai Line)→ Tengachaya Station →(Koya Line)→ Nakamozu Station
→ (a 15 min. walk)

OPU Rinku Campus (12min. from Kansai-Airport)

Kansai-Airport Station →(JR or Nankai Line)→ Rinku-Town Station →(a 6 min. walk)

OPU Habikino Campus (1h 40min. from Kansai-Airport)

Kansai-Airport Station →(JR)→ Tennoji Station →(walk to)Osaka-Abenobashi Station→ (Kintetsu Line)→
Fujiidera Station →(Kintetsu Bus)→ Iryo Center → (a 10 min. walk)

OPU College of Technology (1h 30min. from Kansai-Airport)

Kansai-Airport Station →(JR)→ Kyobashi Station →(Keihan Line)→ Neyagawashi Station→ (a 10 min. walk)



Head Office of Research Center for the 21st Century
【URL】 <http://www.osakafu-u.ac.jp/academics/orp/21c/>
【TEL】 072-254-8327(Research Promotion Division)

Greetings from the Director of Organization for Research Promotion

Osaka Prefecture University (OPU) founded a path-breaking 'Organization for Research Promotion' (ORP) in April, 2017. With its emphasis on promoting interdisciplinary research that benefits industry, economy, culture and education, it is certainly an inspiration for our mission of creating "cutting-edge research for a global age."

ORP is determined to improve the function of Research Organization for the 21st Century, being a base for innovating strategic educational program and integrated research activities. It also manages Research Organization for University-Community Collaborations which is purposed to contribute to the community by offering various open lectures, by providing a framework that promotes partnerships among government, industry and university and fosters commercialization of knowledge. Under the supervision of ORP, they are ever interactive and developing a strong structure where high quality research activities can be conducted comprehensively.

ORP consists of five key centers; 'Research Center for the 21st Century,' 'Radiation Research Center,' 'Center for Research and Development of Bioresources,' 'Research Center for Boron Neutron Capture Therapy,' and 'R&D Center for the plant Factory,' reinforced by the associated organizations – 'Research Center for Advanced Sciences' and 'Collaboration Research Center for Science and Technology.'

ORP is positively oriented to offer strategies for interdisciplinary researches. By providing effective framework that strengthens tripartite partnerships among government, industry and university, it proclaims innovation. On the basis of viewpoints of the global, the organization also focuses on analyzing the latest trends of local industry and global trends for society to formulate mid to long term research strategies that contributes to achieve the strategic goals of OPU. Education, research and community contributions are important principles for cutting-edge research for a global age.

In 21st century, education, science, technology, economy, trade and industry are closely interwoven. Each of them has developed and evolved so deeply that we need to realize our responsibility as a citizen of the world for the environmental sustainability.

ORP has a mission of becoming an academic base of Osaka Prefecture as well as a business incubator geared toward speeding up the growth and success of startup and early stage research activities. In the view of OPU and Osaka City University integration, ORP will also initiate the tasks of planning strong strategies for making the base for global researches.

As the Director of ORP, I appreciate your support and partnership to achieve the University's goal – create the cutting edge research organization for a global age.

Jyoji Yamate

Director / Organization for Research Promotion

