

# Industry-academia collaboration/Regional revitalization

## Akita University Future Cooperative Research Organization

### Philosophy, background and structure

#### ■ Background and purpose

Akita University established the Future Cooperative Research Organization as a core institution to integrate and strategically promote research functions across the University. It is made up of three pillars: the Research Promotion and Support Office, the Priority Research Laboratories, and the Research Promotion Facilities. Its role is to provide cross-sectional support and oversight for all of the University's research activities, from optimizing the allocation of research resources and formulating research strategies to practical implementation of the research results in society.

#### ■ Continuation and development of focus research

The research fields which are of particular interest to the University, including resource recycling, electrification systems, renewable energy, medical-technical collaboration, and new materials/functional materials, have been reorganized from FY2025 into "Priority research laboratories" and are promoted on continuous and strategic basis. This will enable us to balance our contribution to regional issues with conducting internationally competitive research, and to intensify our efforts in these unique research fields.

#### ■ Strengthening the research support system

In order to strengthen our research support system, we have established a Research Support Office which integrates specialty functions such as research planning and management, industry-academia collaboration, intellectual property, clinical research support, and legal and contractual matters. Within this, we have set up an Innovation Office and a Clinical Research Support Office. In addition, research promotion facilities such as the Bioscience Education and Research Support Center, the Radioisotope Research Center, the Shared Equipment Center,

Center, and the Center for Artificial Intelligence Research have been reorganized to improve utilization of shared equipment for advanced research and the development of research infrastructure.

#### ■ University-wide support by URAs and specialists

Another major feature of the organization is that it systematically provides support functions for all aspects of research activities, including support related to external funding through specialty personnel, such as URAs (university research administrators), enhancement of research ethics, and support for development of young researchers.

#### ■ Outlook

The Future Cooperative Research Organization cooperates with the Education, Research and Management Strategy Office, which reports directly to the President, to strengthen Akita University's research capabilities and to fulfill the social mission of a university-wide research platform that supports cross-disciplinary collaboration and innovative research.

### Specific initiatives and prospects

The Future Cooperative Research Organization has established focus research laboratories corresponding to Akita University's five core research fields to drive cross-disciplinary and strategic research. We are building a system to promote the implementation of research results in society, dissemination of results internationally, industry collaboration, and integrated development of human resources.

#### ■ Global Resources Research Laboratory (Resource recycling and energy)

The laboratory undertakes research on the utilization of local resources, such as the development of high-efficiency

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### Research support office

- ☑ Collaborative projects with companies and local governments
- ☑ Support and collaboration with startup companies
- ☑ Intellectual property management and utilization of research outcomes
- ☑ Research ethics compliance and safety management
- ☑ Management of clinical trials and clinical research

Innovation Office

Clinical Research Support Office

Research Administrators (URA)

### Priority Research Labs

- ☑ Ensuring faculty research effort
- ☑ Functioning as a collective body of researchers across the university

Promoting research in the university's key strengths: Global Resources, Mobility Electrification, Green Innovation, Intelligent Applications, and Life Sciences

### Research Promotion Facilities

- ☑ Creating an environment that allows researchers to focus fully on research

Bioscience Education and Research Support Center

Shared Equipment Center

Radioisotope Research Center

Center for Artificial Intelligence Research

recycling processes for urban mines and used equipment, construction of energy-saving geothermal energy utilization systems, and evaluation and utilization of rare metal resources in Akita.



#### ■ Electrification of Mobility Laboratory (Electrification technology)

At the Evaluation Laboratory for Next Generation Motors, we have established a test environment related for electrification, including one of the largest motor characteristics testing facilities in Japan, and are engaged in evaluation of motorized equipment and empirical research for next-generation mobility. We are also planning to establish a start-up company that will conduct evaluation testing and other services on an independent basis.



#### ■ Green Innovation Laboratory (Renewable energy and storage technology)

We are contributing to regional energy self-sufficiency through the construction of energy supply and demand models with an eye on the introduction of offshore wind power generation, the development of high-capacity power storage devices and capacitor materials, and research on next-generation fuels such as hydrogen and ammonia.



#### ■ Artificial Intelligence Applications Laboratory (AI and smart systems)

We are researching the development of AI and XR technology to support medical training, the construction of remote medical consultation systems, and applied research in industrial fields, for the digitization of local communities and the development of next-generation human resources. We are also developing research using

robotics and natural language processing.



#### ■ Life Sciences Laboratory (Medical-technical collaboration, biomedical science)

The Graduate School of Medicine in particular is achieving high-level results in areas such as the development of

minimally invasive medical devices, biosensing technology, research into new treatments for tumors and immune diseases, and advanced research in molecular and cellular biology.



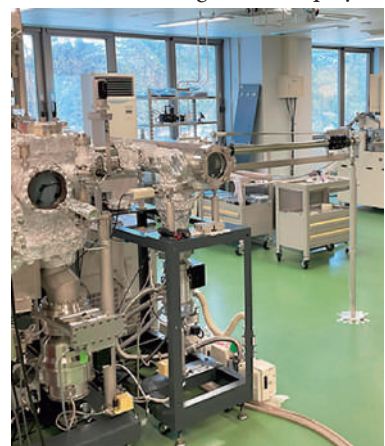
#### ■ Establishment of infrastructure for research support and societal implementation

The Research Support Office consists of the Innovation Office and the Clinical Research Support Office, and provides multifaceted research support centered on the URA system, including support for external funding applications, management of intellectual property, start-up support, and research ethics. The Innovation Office handles industry-academia collaboration, startup support, intellectual property management and utilization, and research compliance; the Clinical Research Support Office coordinates clinical trials and clinical research and provides support for advanced research.

Research promotion facilities such as the Shared Equipment Center work to improve research efficiency and enhance support systems both within and outside the University through the sharing of cutting-edge equipment and the provision of specialized technical support.

The Future Cooperative Research Organization plays a

role as the intellectual hub of Akita University through interdisciplinary research centered on our focus research areas, collaborative international research, and co-creation with local companies. It aims to promote the creation and delivery of research results of high social value.



## Regional Co-Creation Organization

### Philosophy, background and structure

#### ■ Background and purpose

Akita University established the Regional Co-Creation Organization in April 1995 as a core university-wide organization for identifying issues together with the local community and creating and developing initiatives to resolve these. The Center for Regional Development, the Headquarters for the Promotion of the Regional Knowledge, Research Center for Regional Disaster Prevention and Mitigation and the Recurrent Education Center have undertaken various initiatives related to regional cooperation, disaster prevention, and human resource development, and have been reorganized to adopt a more cross-sectional and functional approach.

#### ■ Philosophy of regional co-creation

Based on the philosophy of “With the community and beyond the community” the organization aims to return the results of its education and research to the local area and to achieve co-creation based on feedback from the community. By consistently supporting the process from the identification of regional issues to social implementation, we aim to simultaneously promote sustainable development in the region and strengthen the University’s role in society. While engaging in activities rooted in the local community, we will also leverage innovative thinking and human resource networks both within and outside the prefecture to enhance our problem-solving capabilities and contribute to cooperation between the regions.

#### ■ Organizational structure and key functions

The organization is comprised of three core divisions:

the Recurrent Education Department, the Regional Cooperation Department and the Regional Disaster Prevention and Mitigation Department. It operates on a cross-sectoral basis, including management of the Akita Recurrent Education Platform (AREP), collaborating with local companies, local governments, and educational institutions, and engaging in education and awareness-raising on disaster prevention and mitigation. The Regional Cooperation Department creates opportunities for two-way learning and interaction with local residents through co-creation workshops on local issues in collaboration with external stakeholders, promoting joint projects based on comprehensive cooperation with local governments, and planning and arranging events and functions.

#### ■ Rebuilding the foundations for cooperation with the local community

The framework of cooperation with our branch schools in Kitaakita, Oga and Yokote, which serve as centers for our activities in the region, has also been restructured under this organization, and we now carry out a variety of educational, research, and public contribution activities through these centers rooted in the local community. In future, we will intensify our co-creation activities based on regular consultation with the local community, utilizing our existing collaboration platform and improving the quality of our problem-solving partnerships with local government. The Regional Co-Creation Organization aims to achieve more effective co-creation as a core institution for the efficient and sustainable development of Akita University’s community outreach activities.



Lecture to develop DX resources in the local community.

## Specific initiatives and prospects

### ■ Recurrent Education Department: Full-scale rollout from 2025 based on results achieved

We are promoting initiatives to support lifelong learning for working adults and human resource development for companies, through the 'Akita Recurrent Education Platform (AREP),' which focuses on industry-academia-government-finance collaboration. In 2024, we collaborated with companies in the prefecture to offer courses aimed at developing DX resources established in the local community. Based on the results so far, full-scale deployment is scheduled to begin from 2025. We will work to establish a regional human resource development platform catering for diverse learning needs through online and face-to-face study and providing digital badges for working adults in fields such as the environment and regional management.

### ■ Regional Collaboration Department: A forum for co-creation between the University and the local community

In collaboration with local government and local organizations, the Regional Collaboration Department is developing various initiatives to give back the educational and research achievements of the University to the local community. One of our principal initiatives is the Medical Science Café, where talks are given on medical and health-related topics across different academic departments, creating a forum for intellectual exchange with local residents.

In addition, educational lectures are held in collaboration

with municipal boards of education, with students from the University visiting their former junior high schools to share their experiences of working to achieve their dreams and goals. These events are positioned as opportunities for junior high school students to take the initiative in choosing their own direction in life.

Through these activities, the University utilizes its expertise as a health and education resource for the community.

### ■ Regional Disaster Prevention and Mitigation Department: Continuing disaster relief support tailored to actual circumstances in the region

The Regional Disaster Prevention and Mitigation Department brings together faculty members from all faculties to carry out surveys, research, and educational activities on a cross-faculty basis to contribute to regional disaster prevention and mitigation. By working closely with the local community, it disseminates and raises awareness of disaster prevention education for all generations, from children to the elderly, in order to create a system to support local residents in taking proactive disaster prevention measures.

### ■ Outlook: Sustainable co-creation with our feet on the ground

The Regional Co-Creation Organization aims to deepen co-creation activities based on trust with the local community. With an emphasis on "steady development" rather than expansion, we aim to realize sustainable regional co-creation through education, research, and public contribution as a core hub that connects university knowledge with local practice.



Educational lecture



Dissemination and awareness of disaster prevention education for all generations, from children to the elderly