Regional revitalization/Industry-academia collaboration

In 2004 Akita University became an Incorporated National University. It embraced this opportunity to reaffirm that education, research, and social contributions were the focal points of university management policy. We have been promoting the "open university project" as the hub of public intellect. The root of the university's social contributions is the belief that one's education not only takes place as a student, but that it is a lifelong process. Therefore the university should make proactive efforts to provide educational resources to the whole community. This concept acts as the basis for the expansion of various educational activities. Furthermore, We offer programs for high school students and their parents and guardians, as well as for elementary and junior school pupils. We newly established the Center for Regional Development in April 2016, making our university a base for regional learning and regeneration. The Center contributes to the promotion and revitalization of local businesses and to the development of talent which serves the community, through collaborative research and aid initiatives to promote the local economy and prevent regional disasters, and research to support the growth of local industry.

Regional Cooperation; Social Contribution initiatives

■Open lectures

Every year open lectures are held on a wide variety of topics. These open lectures act as an excellent educational resource for anyone in the community at large who wishes to engage in lifelong learning.

*For the list of open lectures offered during 2019 please refer to Akita University Official Website.

■Children's Observation Day

Every year during summer vacation "Children's Observation Day" is held for elementary school students and their parents. The purpose is to raise young students' interest in the university through campus tours, watching experiments in laboratories, viewing the night sky at the campus observatory, and other fun, educational events.

■Class on prevention of throwing and pitching related injuries

This class uses methods such as ultrasound scans to educate people about the physical issues and injuries which can arise from pitching when playing sport. Its purpose is to make us aware of how important it is for us to look after our bodies. The class is aimed at anyone who is involved in baseball-type sports in the prefecture, such as scout groups or parents and guardians. Using methods such as ultrasound scans, checks are made on players' bones and muscles, the flexibility of their arms, legs and core, and their throwing action. Based on this, advice and guidance is given on stretching exercises and on throwing and pitching technique.

■"Medical Science Café Next"

As part of our university-wide social contribution initiatives, we make the University's knowledge and learning available to local residents in an easy to understand format by inviting lecturers from our different departments to come to speak, with all departments helping each other. For example, the Head of the Graduate School of Medicine has become a "Science Cafe Master", giving talks on medicine and health-related topics from a variety of perspectives.

■Support initiatives: "Voluntary student projects" addressing regional problems and issues

These support activities help spread an awareness and recognition of the features and characteristics of the area. Students work in groups as they address regional problems and issues in cooperation with others,focusing on the local area. As more students become involved in the community, our aim is to contribute to the training of human resources to resolve local issues by fostering a community-oriented mindset amongst students.

Local Disaster Prevention

1. Investigation and Research regarding how local disaster prevention should be conducted considering the characteristics of Akita Prefecture

① Conduct basic research regarding earthquakes and disaster prevention within Akita Prefecture.
② Investigate the extent of the impact of previous *tsunami* that have occurred on Akita prefectural shores, and research ways to minimize *tsunami* damage.
③ Investigate and research earthquakes and *tsunami* that may have the potential to inflict enormous damage on Akita Prefecture in the future.

2.Giving instruction on disaster prevention

We conduct disaster education for local government, neighborhood associations and educational institutions, so that, in the event of an earthquake, local residents can put disaster mitigation initiatives in place on their own.

3.Provide instruction and advice to the prefecture and the cities, towns, and villages within it regarding disaster prevention measures

We provide instruction and advice on disaster prevention and mitigation measures to prefectural municipalities, tailored to take account of Akita Prefecture's natural characteristics, so they can put in place earthquake disaster prevention measures, as well as predict earthquake damage in the area.

Regional Business Research

■ Resource development and environmental recycling research and development projects

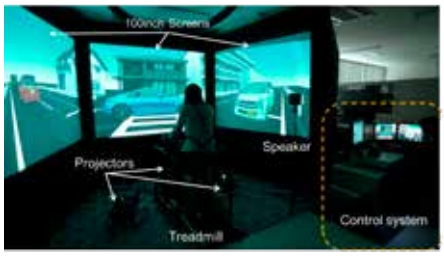
We are developing the integrated modern research and educational activities incorporating international contributions on the sustainable utilization of natural resources, including petroleum, gas, minerals and secondary resources, for the resource production and processing, purification and recycling of wasted-materials as well as environmental protection.

■ New materials; functional materials research and development projects

We undertake researches related to discovering new and advanced materials, based on the results of our core researches at Akita University. Realizing our capability as one of the leading research institutes in this area, we aim to develop new businesses and new jobs, through the collaboration works with universities, companies, public institutions in Akita.

■ Automotive / aircraft industry research and development projects

We contribute to the development of aircraft and automobiles for the transportation industry through our research and development activities. We focus on molding and CAE structural design for composite materials, as well as high efficiency power systems and infrastructure to support drivers and pedestrians with respect to next generation aircraft and automobiles.



■ New energy research and development project

Akita has an abundant range of renewable energy resources. We are committed to supporting industry through the development of human resources, and are particularly focused on promoting the development of industries using wind power.

■ Medical science and engineering collaborative industry research and development project

In the medical and welfare fields related to the aging population, we develop and promote new equipment and devices with companies mainly in Akita Prefecture.
We are committed to the development of the medical devices industry through industry-academia-government partnerships, and have expanded our remit to include the development of equipment for general users to promote healthy living and longevity, as well as medical equipment.

■ Research and development on new manufacturing technologies and on junction and bonding inspection technologies for composite materials (Research leader: Mikio Muraoka, Professor of the Graduate School of Engineering Science)

We develop innovative, low-cost manufacturing and inspection technologies for composite materials used in aircraft fuselages. Together with local businesses, we aim to create a strong manufacturing base in Akita Prefecture, and established the Akita New Composite Production Technology Research Association in April 2017 to work on the commercial development of aircraft parts and components.
From 2018, in addition to working with domestic auto manfacturers on the test production of complex auto components using thermoplastic resin and carbon fiber base materials, we have also applied our research to the field of civil engineering and construction focused on renovation and repairs for public infrastructure.