

# University Common Use Facilities



## ● Research Center for Biosignal

### [Purpose of Establishment]

Conduct unique research activities involving the biological information molecules of lipids, proteins, nucleic acids, etc., cooperate organically with similar Japanese and foreign organizations (for example Gunma University) and maintain an environment for an open science and technology dialog with the Japanese people, continuously share the research results obtained at this school with the community and the world.



## ● Information Integration Center

### [Facilities and Equipment]

- Educational PCs (total 378): PC study rooms 1-5, PC study rooms A/B, Hondo PC study room, Group study corner, Scanner corner, Multilingual corner
- Information services: Web mail, Large-size printer, Large-scale computing server (Express5800/A1080a-D), Virtual server hosting(Express/B120b-d)
- Information network : LAN cable (1-4 Gbps to the floor switch), Wireless LAN, Connection network outside the university (1 Gbps)

## ● Cooperative Research Center

### [Purpose of Establishment]

Advance joint research with extra university organizations to develop Akita University's education and research level. Promote to share intellectual property and intellectual property within the community from the research results. Contribute to the technological development and technological development promotion in society.

## ● International Center for Research and Education on Mineral and Energy Resources

### [Purpose of Establishment]

Train advanced resource development professionals with a global perspective, and contribute to the establishment of Japan's resource security and stable resource-supply system. Create an international resource network for further international exchange and global contributions.



## ● Bio-science research and education support center

### [Facilities and Equipment]

- Animal Center: [Small animals section] SPF animal housing rooms (16 rooms), clean animal housing rooms (9 rooms), procedure rooms (4 rooms) [Mid-Large animals sections] SPF animal housing room (1 room), clean animal housing room (1 room), Conventional Breeding Lab (4 Labs), procedure rooms (4 rooms), X-ray room, etc. [Special Experiment section] Infectious animal procedure room, chemical hazard procedure room, etc.
- Radioisotope Laboratory: [Management Equipment] comprehensive radiation control system and various survey meters [Procedure Equipment] various centrifuges, 2 GeneAmp PCR Systems [Measurement Equipment] 2 liquid scintillation counters [Modified Genetics Procedure Equipment] rotating incubator, Safety cabinets etc.
- Department of Molecular Medicine: Transmission electron microscope, various spectrophotometers, gene transferring equipment, DNA sequencer, DNA amplification equipment, flow cytometer/cell sorter, confocal laser scanning microscope, high speed liquid chromatography/mass Spectrometry etc.
- Department of Education and Research Liaison



## ● Radioisotope Research Center

### [Facilities and Equipment]

- Unsealed source experiment area: -10°C and 4°C experiment laboratories: 3 fume hoods and 1 biosafety cabinet, liquid scintillation counter, tritium gas measuring and experiment equipment, various scalers, survey meters and plate analyzers
- Sealed source experiment area: Multi-channel ray spectrometer, high-performance liquid chromatograph mass spectroscopy, image analyzer, horizontal x-ray diffractometer

16 types of unsealed sources and 5 types of sealed sources are available for use.



## ● Environmental Research Center

### [Facilities and Equipment]

- Waste Treatment Building: inorganic waste – ferritization processing, organic waste/hazardous solid waste – spray combustion/incineration, mercury, cyanide waste – oxidative decomposition and absorption processing, fluorine-phosphoric acid-based waste – calcification processing, COD waste – Fenton treatment
- Experiment and Analysis Building: Gas chromatograph/ mass spectrometer, gas chromatograph, atomic absorption spectrophotometer, liquid chromatograph, X-ray analysis equipment, other necessary equipment

# for Education and Research



## ● Regional Innovation Center Building No. 1

### [Facilities and Equipment]

(Equipment implemented at the Akita Industry Academia and Government Cooperative Research Center installed in the Center)

Ultrapur water production system, fume hood, microwave sample pretreatment system, ultra-high resolution field emission scanning electron microscope, carbon, hydrogen, nitrogen, sulfur, oxygen fully automated analyzer, flame/furnace high-resolution continuum source atomic absorption spectrometer, elemental analyzer, high-resolution nuclear magnetic resonance spectrometer (600MHz), x-ray photoelectron spectrometer, micro-focus x-ray CT fluoroscopy equipment, mercury porosimeter, ultra-high performance liquid chromatographic system, light scattering GPC molecular weight measurement device, Terahertz spectral measurement device, bipolar power supply, activated sludge treatment equipment, spray dryer equipment, specific surface area and pore size distribution measuring apparatus, catalyst analyzer, real-time PCR system, multi-label counter, rotational viscometer, quadrupole – flight time MS/MS analysis system, gas absorption measuring equipment, modular electrochemical measurement system, confocal laser scanning microscope, matrix-assisted laser desorption ionization flight time mass spectrometer bio-clean bench.

## ● Regional Innovation Center

### [Purpose of Establishment]

As a university which serves as a base for learning in the region, we contribute to the promotion and revitalization of local businesses, developing talent which serves the community, through collaborative research and support initiatives to promote the local economy and prevent disasters in the region, and research which supports local businesses.

## ● Regional Innovation Center Building No. 2

### [Purpose and Establishment]

- New recycling technique and assessment system: Particle size and surface potential analyzer, Ion chromatograph, Measuring microscope, Scanning probe microscope, ICP emission spectrometer, Differential thermal balance, Disk-type manual grinder, Roll-type magnetic separator, Laser date electrometer, ERIEZ nonferrous metal sorter, Vacuum arc melting furnace, etc.
- High-function material planning and assessment systems: Field Emission Scanning Electron Microscope, Multilayer film production device, Multiple alloy film production device, Scanning electron microscope, High vacuum scanning probe microscope, High sensitivity magnetization measurement device, High vacuum heat treatment apparatus, Thin film x-ray diffraction apparatus, Powder x-ray diffraction apparatus, Magnetic storage material analysis and evaluation system

# Center for Education and Research

	Purpose of Establishment
<b>Center for Evaluation</b>	<ul style="list-style-type: none"> <li>● To support self-evaluation, assessment activities, and the effort to improve the student experience at Akita University</li> <li>● To research and develop student/faculty evaluation systems</li> </ul>
<b>Center for Promotion of Educational Research and Affairs</b>	<ul style="list-style-type: none"> <li>● To promote the structure and educational activities of an education system centered on a fundamental core curriculum education</li> <li>● To improve and enhance fundamental core curriculum education and specialized education through investigation, research, and development</li> <li>● Research and development into methods of linking high school and university study or screening applicants</li> </ul>
<b>Student Support Center</b>	<ul style="list-style-type: none"> <li>● To provide student-life support to students through various types of consultation, and financial aid through tuition waivers, scholarship, and award recommendations.</li> <li>● To provide support for extracurricular activities such as the university festival, and to promote the maintenance and improvement of extracurricular activity facilities</li> <li>● To provide career selection guidance and support career search activities by providing career-related information, etc.</li> </ul>
<b>Center for Teaching License Extension</b>	<ul style="list-style-type: none"> <li>● To plan and execute training for educators who need to extend their teaching license</li> <li>● Liaise with Akita boards of education, prefectural universities and education organizations</li> </ul>
<b>International Exchange Center</b>	<ul style="list-style-type: none"> <li>● Planning and advertising activities related to international exchange</li> <li>● To promote international scholarly exchange</li> <li>● To promote international educational exchange</li> </ul>

# Technological Organization

	Purpose of Establishment
<b>General Technology Section</b>	<ul style="list-style-type: none"> <li>● To provide campus-wide technological support for educational research activities</li> <li>● To maintain and develop the expertise of the engineering faculty as a common asset of the university, and to improve those capabilities and qualities and to ensure excellent tech support.</li> </ul>