

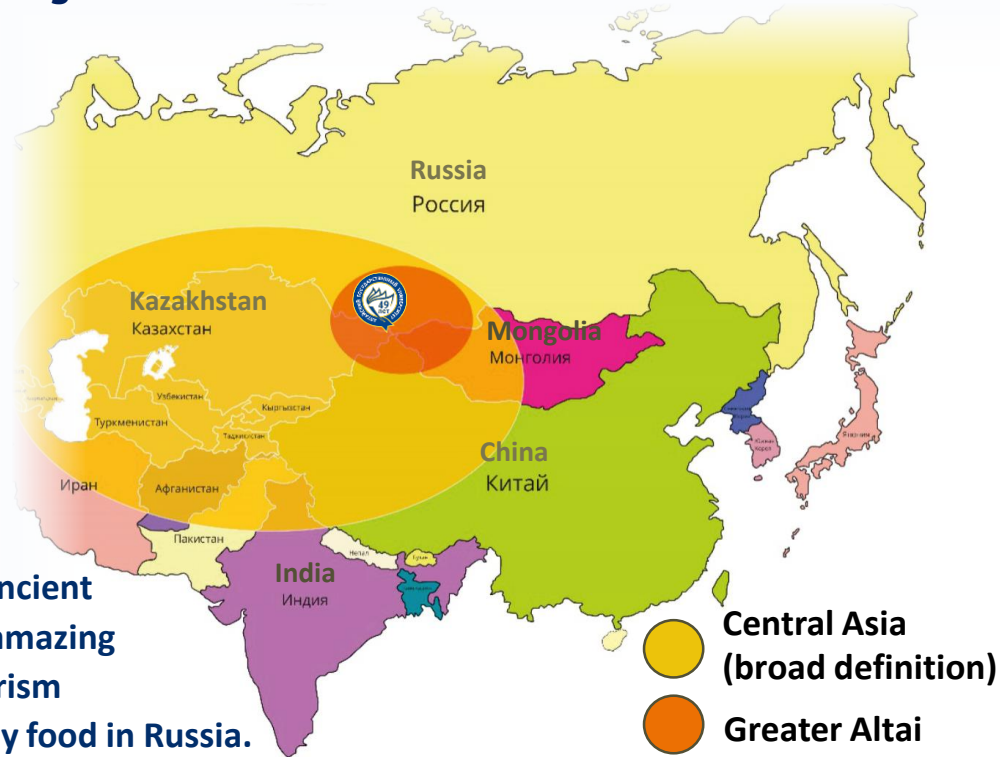
Altai State University



www.asu.ru

Leading university in the cross-border region of the Greater Altai and Central Asia

- 20%** international students
(2000+ students/40 countries)
- 8%** international staff
(70 professors/5 countries)
- >300** partner universities; membership in international university networks
(University of Shanghai Cooperation Organization, Association of Asian Universities, etc.)



Altai State University (AltSU) is located in the city of Barnaul, the capital of Altai Krai.

Altai is the geographical center of Eurasia, the cradle of ancient cultures and civilizations, one of the most beautiful and amazing places on the planet, the leading region of ecological tourism development and the largest manufacturer of eco-friendly food in Russia.



Key indicators and external evaluations



#707-710 / #18 in Russia

Top 50 under 50: #91-100/#2 in Russia

BRICS: #98/#23 in Russia

EECA: #121/#26 in Russia



SCIMAGO
INSTITUTIONS
RANKINGS

#544 in the World



THE UNIVERSITY
IMPACT
RANKINGS
INAUGURAL PARTICIPANT

TOP-300 in the World / #2 in Russia

**National “Priority-2030”
Program Participant**

приоритет2030[^]

лидерами становятся



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9 Institutes

College

Preparatory Department
with Russian as a foreign
language program



Classical University



Majors for developing international cooperation programs

Leading research areas:

Archeology and religious studies of the ancient and medieval peoples of Eurasia

Studying the biological diversity of the Greater Altai and Asia

High-energy astrophysics



Technologies and Innovations:

Biotechnologies for agriculture and food industry

Environmentally friendly plant raw materials for the pharmaceutical industry (production methods, efficiency analysis)

Genetic certification for the control of quality and ecological cleanliness of agricultural crops

Remote sensing of the Earth from space (near real time monitoring of the atmosphere and land surface)

Design and management of tourist and recreational areas, national parks and biosphere reserves



Altai State University

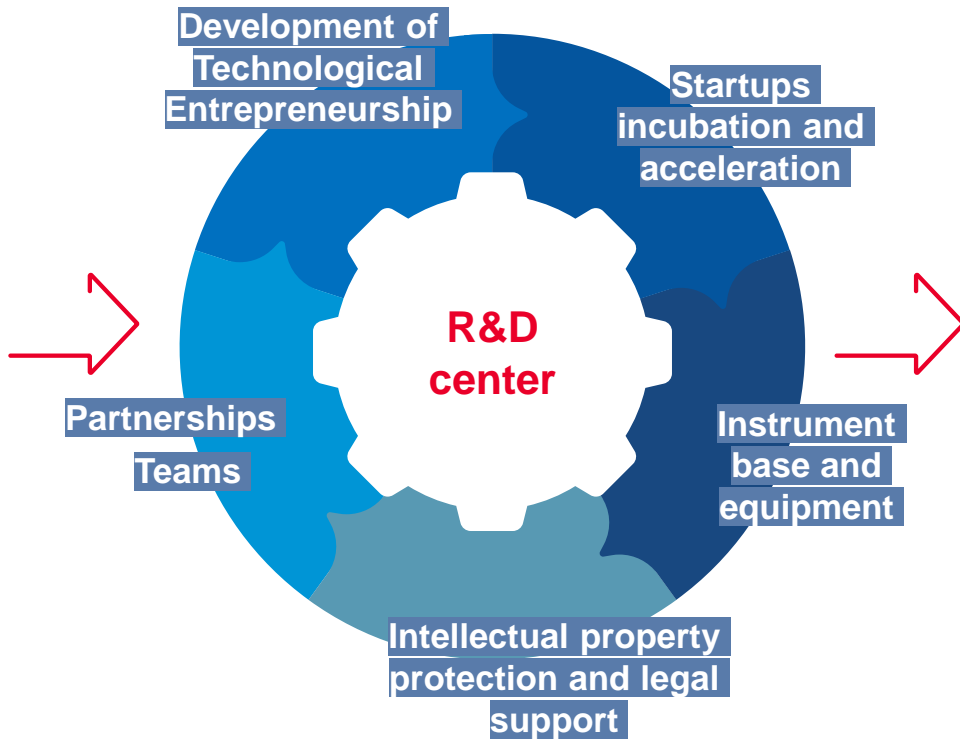
R&D center of ASU

200+
R&D projects

50 +
employees
qualified specialists

300 + units
of high-tech equipment

18 research
laboratories



90+
partnership network of
enterprises and scientific
organizations

24+
patent rights

100+
commissioned R&D
from partners

9+
license agreements

60+
Events
on R&D topics



SCIENTIFIC PROJECTS OF THE DEVELOPMENT PROGRAM PRIORITY 2030

3
strategic projects

16
scientific projects

33.8 million rubles
amount of funding from the Priority 2030 program

30 million rubles
amount of funds raised (grants, economic agreements)

20
units of high tech. equipment

18
patents

17
scientific internships

Strategic projects

Main results

AgroEcoSystems

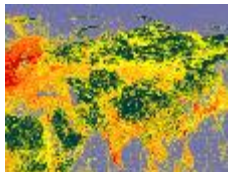
- Methods of genetic certification of rare and endangered plant species
- Methods for improving the sustainability of agricultural land use
- Nature-like technologies for the restoration of degraded pastures

AgroBioTech

- Innovative biological products for the agro-industrial complex
- Methods of plant health improvement and propagation of virus-free planting material
- Technology of agro-climatic monitoring

Health saving

- Functional health products
- Assessment of social security and risk of the population of Altai Krai in the context of the COVID-19 pandemic
- Projects for the development of resort and recreational areas



Engineering center "PROMBIOTECH"

Main activities:

- Laboratory and industrial testing of innovative biological products for the agro-industrial complex
- Engineering and research services for the development of technological processes for the production of biological products for crop production, animal husbandry, food and processing industries
- Development of new biological products based on joint scientific research



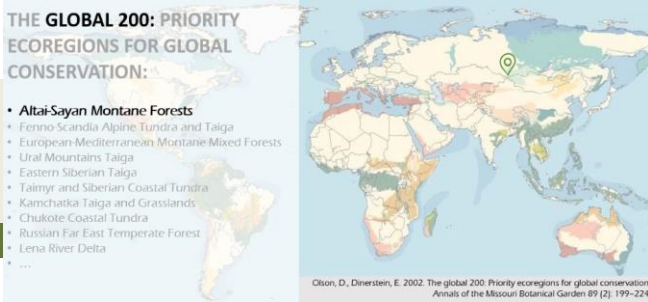
Main results:

Industrial scale-up of a probiotic preparation for animal husbandry based on bacteria of the genus *Bacillus*

Development of producers of recombinant enzymes for cheese making. Selection of cultivation conditions for producers of valuable enzymes and pigments (*Phaffia rhodozyma* - producer of astaxanthin, *Kluyveromyces lactis* - producer of chymosin)



- **Living collection** - 3500+ species and varieties of plants (rare, endemic, medicinal, ornamental, etc.)
- **Herbarium fund**, numbering **more than 450 thousand copies** is mainly from the territory of the Altai mountainous country (Republic of Altai, Altai Krai, Tyva, Khakassia, Kazakhstan, Mongolia, and China). Part of the images of the sheets of the herbarium of the material, as well as the type material are presented in the "Virtual Herbarium ALTB " (<http://altb.asu.ru/index.php>)



- The routes of the SSBG scientific expeditions run through the transboundary territory of the Altai mountainous country within Russia, Mongolia, Kazakhstan and China

- Since 2018, a new **greenhouse complex** has been **operating on an area of more than 500 sq. m.** The complex is designed to solve three problems: scientific, educational and commercial

**Scientific
journals**



Q2 | Scopus



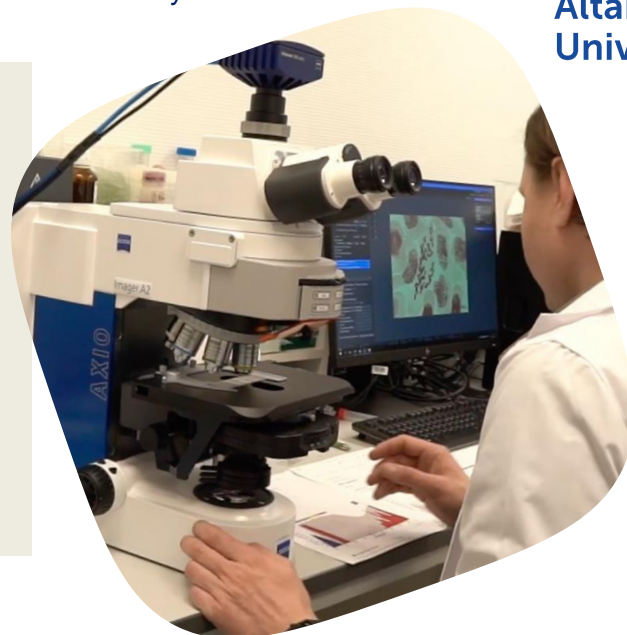
Q1 | Scopus

Directions of fundamental research:

- biotechnology, microclonal reproduction of plants, creation of a gene bank of rare, endangered and economically valuable plants;
- biochemistry of resource plant species (chemosystematics, identification, content, dynamics, variability);
- karyology and molecular phylogenetics, search for DNA markers for species identification;
- computerization of work in the field of introduction and acclimatization of plants and the creation of a unified botanical information system;

Directions of applied R&D:

- Development and implementation of technological regulations for determining the species composition of plant and animal components that make up dietary supplements and medicines based on them.
- Certification of methods for measuring the quantity of components of raw materials and finished products based on molecular genetic analysis of DNA in accordance with GOST R 8.563-2009 "State System for Ensuring the Uniformity of Measurements (GSI).
- Development of standard samples of the composition and properties of raw materials of plant and animal origin in accordance with GOST 8.315-97. "The nomenclature list of standard samples corresponds to the names and purposes of measurement procedures.»



Main activities:

- Biotechnological bases of in vitro propagation of food, medicinal, ornamental and industrial crops, rare and endangered plant species
- Study of adaptation mechanisms of "color" wheat with a high content of natural antioxidants for use in cell breeding
- The study of pathogenic microflora of wheat seeds



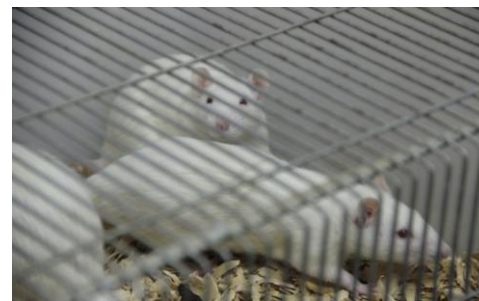
Grants from the Government of Altai Krai for the development of qualitatively new technologies, the creation of innovative products and services in the areas of food processing and production, pharmaceutical production and biotechnology:

- "Biotechnological bases for the production of planting material of hard-to-propagate varieties for nursery and agriculture"
- "Development of technology for clonal micropropagation of varietal hops for laying industrial plantations"



Main activities:

- High resolution tandem HPLC mass spectrometry and nanocalorimetry. Accurate analysis of the chemical composition of mixtures and the study of intermolecular interactions
- Studies on animal and human cell cultures
- Conducting all key stages of preclinical trials, including evaluation of the chemical composition of raw materials, their pharmacokinetic and chemical-technological properties, biological activity and safety in vitro and in vivo
- Search and study of biologically active substances of natural origin for the creation and development of dietary supplements and medicines and personalized nutrition products.



Developed jointly with the pharmaceutical plant "Galen" Dietary supplements and personalized nutrition products based on medicinal plant materials of Altai Krai

The Remote Sensing Center is a joint project of scientists from Altai State University and the Regional Department for civil defense, emergency situations and fire safety of Altai Krai with the support of the Governor and the Government of Altai Krai.

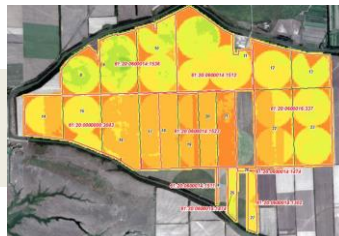
- Determining the composition and structure of sown areas, soil mapping
- Monitoring the state and development of crops, vegetation indexes (NDVI etc.)
- Yield forecasting
- Determining the need of soils for fertilization
- Identifying overgrown fields, assessing land use efficiency and prospects



05/03/2018 -
Seedlings



06/22/2018 - Active
vegetation



08/28/2018 - Harvest

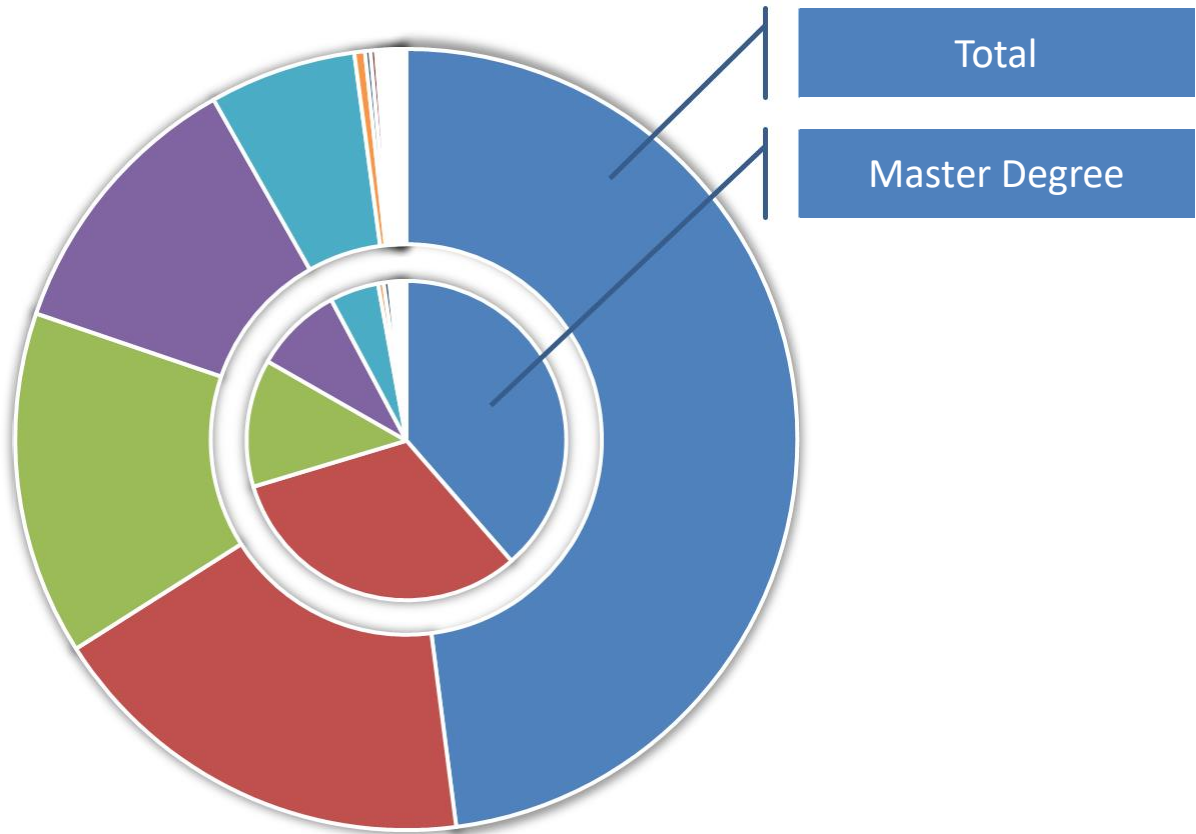


Remote sensing data allows to provide a comprehensive operational monitoring of agriculture, assess the composition and structure of crop areas, analyze land use efficiency, and forecast yield

Foreign Students of the Altai State University



- Kazakhstan
- China
- Tajikistan
- Kyrgyzstan
- Uzbekistan





Altai State
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Russian language courses

The Preparatory Department provides training courses aimed to help foreign citizens enter undergraduate, graduate and postgraduate programs of Altai State University, as well as other higher and secondary specialized education institutions in Russia



International students life



Human resource exchange activities

Seasonal schools for academic exchanges between universities of Russia and other countries



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International Educational Forum “Altai-Asia” Asian Students Forum of the Association of Asian Universities Forum of Youth Leaders “New Generation”





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