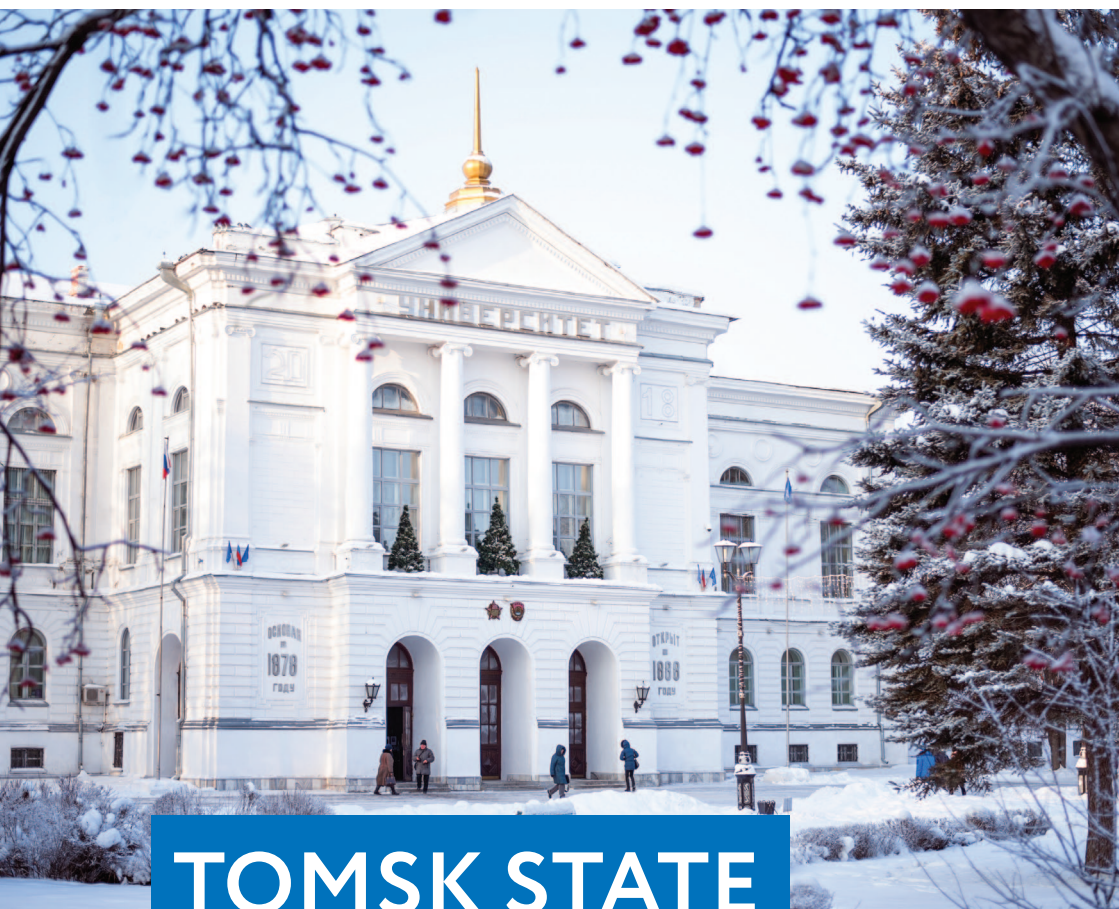




National Research

**Tomsk
State
University**





**TOMSK STATE
UNIVERSITY**

SCIENCE



**WHERE
WE STAND**

Subject Rankings

	QS World University Rankings	Physics and Astronomy	top 250
		Modern Languages	top 300
		Art and Humanities	328th place
		Natural Sciences	group 401-450
		Chemistry	top 500
<hr/>			
	Times Higher Education	Humanities	group 201-250
		Natural Sciences	group 201-250
		Engineering and Technology	group 251-300
<hr/>			
	Shanghai Ranking	Metallurgy	group 101-150
		Physics	group 401-500

49
scientific
and educational
centers

66
world-class
laboratories,
in which the Russian
and international
scientists work



- Siberian Physical-Technical Institute
- The Scientific Research Institute of Applied Mathematics and Mechanics
- Research Library
- Siberian Botanical Garden



Strategic Academic Units of TSU are focused on transformations of the human society. There is one main area for research within each StrAU at TSU: environment, human, society, and technological environment.



**StrAU Institute
of Biomedicine
(IB)**



**StrAU Institute
of Smart Materials
and Technology (SMTI)**



**StrAU Institute
of the Human of the
Digital Era (IHDE)**



**StrAU TSSW:
Siberian Institute
of the Future (SIF)**

Key projects of StrAUs



**Extra-early
diagnostics
and therapy of
oncological and
cardiovascular
diseases**



**Creation and
implementation of
an interdisciplinary
and integrated
environment for the
analysis of social
networking data
to solve the global
challenges of the
modern society**



**Technologies
of functional
nanoelectronics for
new markets and
global scientific
experiments
(electronics and
photonics of the
future)**



StrAU Institute
of Biomedicine,



StrAU Institute
of Smart Materials
and Technology



StrAU Institute of the
Human of the Digital Era,



StrAU TSSW: Siberian
Institute of the Future



StrAU Institute of
Smart Materials and
Technology,

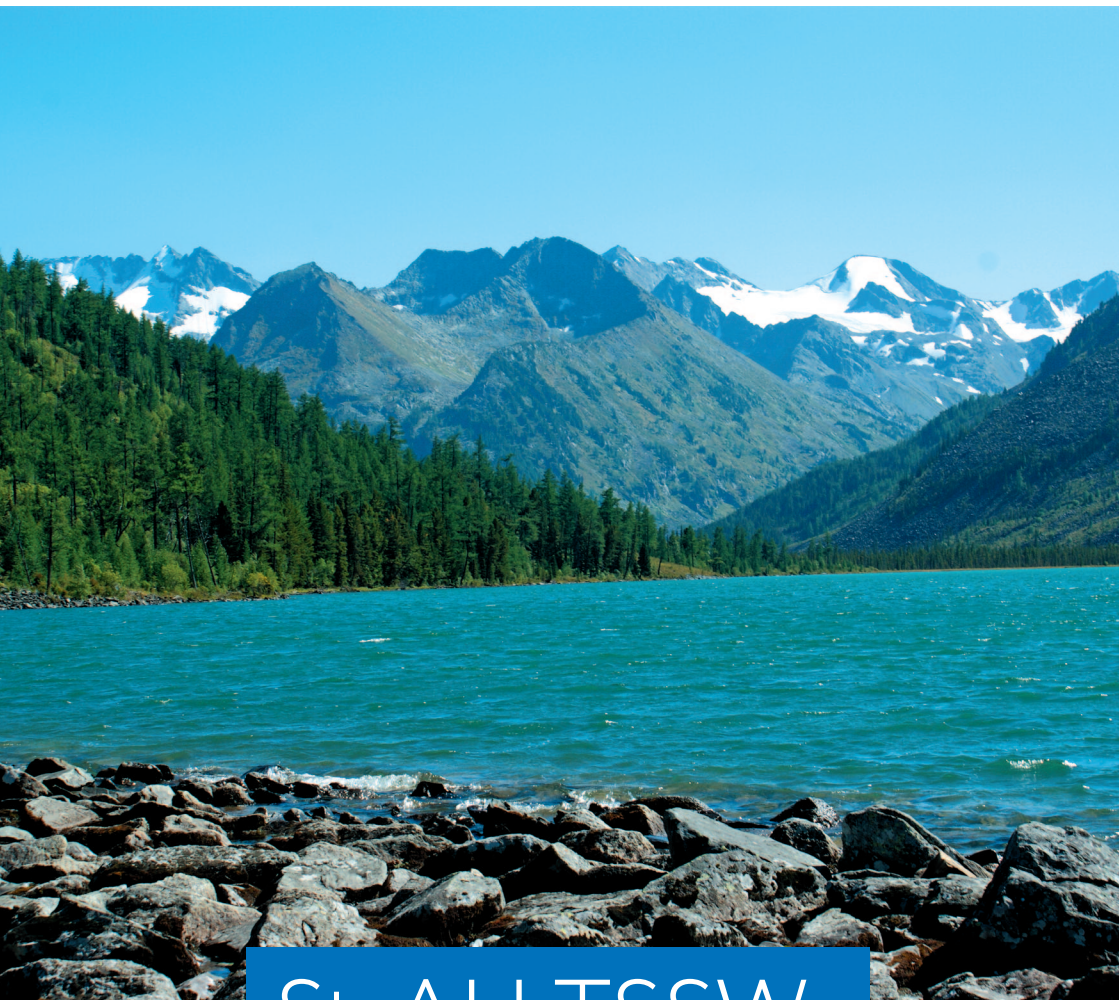


StrAU Institute of
Biomedicine

Characteristics:

- Integration of research, innovations, and education
- Management in Interdisciplinary Academic Programs
- Comprehensive problems and transdisciplinary research methods
- Orientation to the knowledge transfer to the economy

StrAU is an
interdisciplinary
institute of Master's
and Postgraduate
Programs



StrAU TSSW:
Siberian Institute
of the Future (SIF)



StrAU's Mission

Involvement of the world into development of Siberia, determination of the role of Siberia in the global division of labor during transition to the new technological mode.

The main research projects

- **The project of the international INTERACT network for ground-based research and monitoring in the Arctic**
- **SIWA (EU JPI-Climate Project). Climate impact on carbon emissions and its export by inland waters**
- **Investigation of the impact of global processes on the territory and society of Siberia**
- **The human in the changing world. Identity and social adaptation: the present and the future**
- **Biogeochemical cycles of arctic swamp and lake landscapes of Western Siberia as an indicator of global climate change and the basis for rational nature management of the region**

- Vasyuganskaya, a new observation station of TSU was opened
- Environmental Monitoring Station in Laos was opened

Autonomous academic programs



The Study of Siberia and the Arctic



Siberia: resources and modern practices of regional development



Eurasian integration



Migration research

Contacts

TSSW

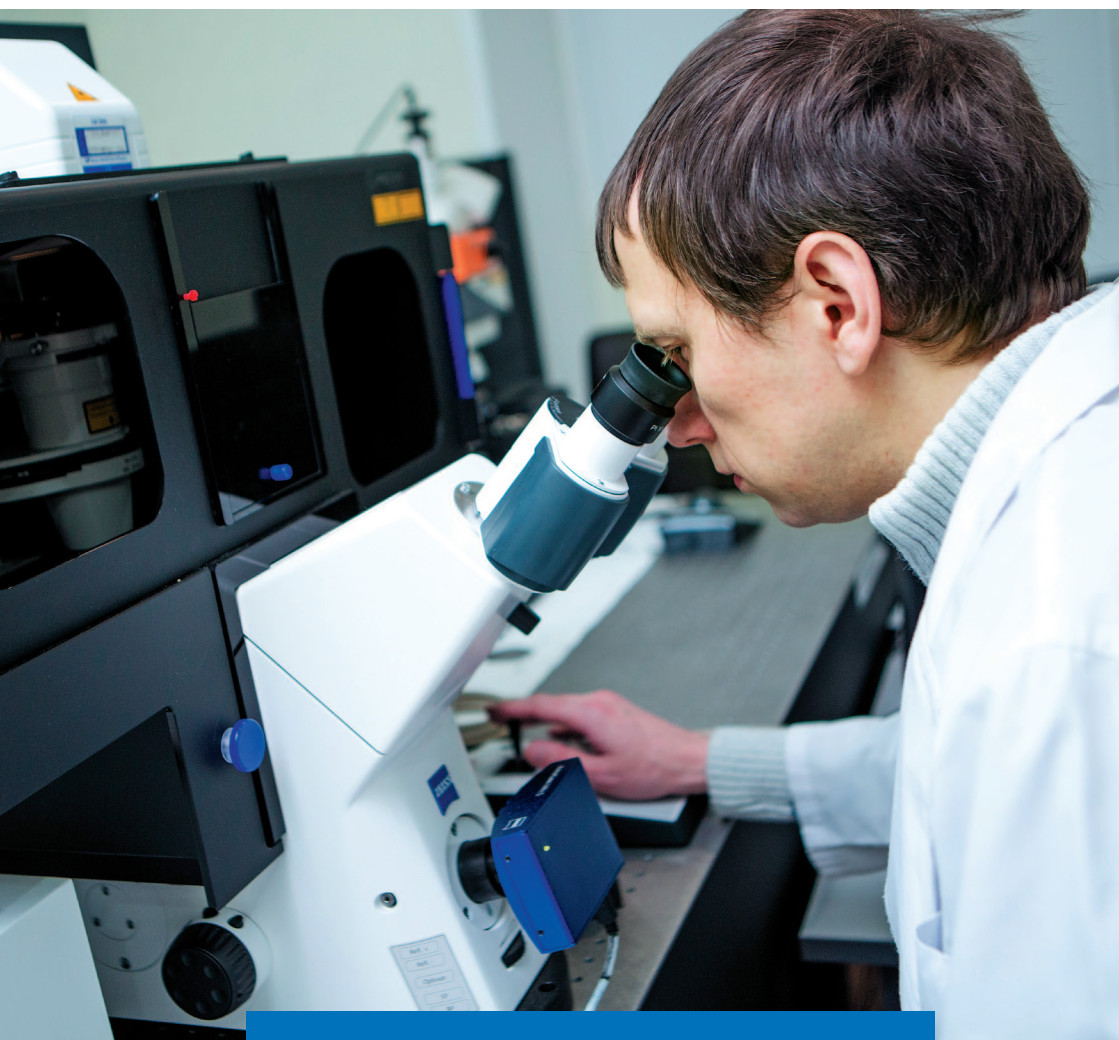
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StrAU Institute
of Biomedicine (IB)

Implemented and planned academic programs

- Genetics, Fundamental and Applied Biology, Physiology, Biochemistry, Biotechnology, Bioinformatics of Plants and Microorganisms
- Physics Methods and Informational Technologies in Biomedicine, DD
- Biophotonics
- Mechanics of BioComposites, Design and Modeling its Structure
- Intellectual Analysis of Big Data
- Innovations and Society: Science, Engineering, and Medicine



314
place in
the world

TSU is in top
3 universities
of Russia in RUR
Subject Rankings
in Medicine

The first surgery
to cover bone tissue
defects by the
porous nanoceramic
implant was made
in Russia

Contacts

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Executive director

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StrAU Institute
of the Human of the
Digital Era (IHDE)



Areas of interest

- Research of social and human issues of the society based on Big Data analysis and digital technologies
- Artificial intelligence and methods to maintain decision-making
- Research of factors to develop and teach humans in the digital society; Cognitive Linguistics
- Digital Humanities
- E-learning

Interdisciplinary Master's programs

- Human Development: Genetics, Neural Science, and Psychology
- Humanitarian Informatics
- Digital Technologies in Socio-Humanitarian Practices
- Intellectual Analysis of Big Data
- Computer Linguistics
- Cognitive Linguistics
- Digital Technologies in Publishing

MOOC

My friend is a robot
(author: N. Zilberman)
is in top 10 courses
at Coursera
(April 2017); winner
of the international
competition
EdCrunch Award 2017



Contacts

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Galina Mozhaeva

Executive director

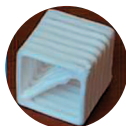
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.....



StrAU Institute of
Smart Materials and
Technology (SMTI)

Implemented and planned academic programs



Translational Chemical and Biochemical Technologies



Fundamental and Applied Chemistry of Substances and Materials



Innovative Polymers and Management of Chemical Production

Materials and Devices of Functional Electronics and Photonics

Research and production agenda

- Advanced technologies of industrial sensorics: implementation of smart sensors and controllers into equipment
- Advanced chemical and additive technologies to obtain new materials and process renewable raw materials
- Advanced technologies of theoretical and computer forecasting and design of materials and engineering technologies



Cleansing of the heat exchanger by antirzhavin, which production technology is developed by researchers of the TSU Laboratory of Catalytic Research, entered the list of the best practices of Rosneft. The product is recommended to be used by all oil-refining plants of the company.

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THE NEW PARADIGM TO DEVELOP INNOVATIONS

TSU won a competition by the Ministry of Education and Science of the Russian Federation and became the center to create innovations in Russia.

TSU won the competition Universities as Centers of Spaces to Create Innovations by the Ministry of Education and Science of the Russian Federation. The objective of the priority project is to develop competitive economy and social sector of the region. It is based on the partnership of universities, business, and authorities.



Acquired in 2017:

87
patents

4
know-
hows

15
license
agreements

35.6 mln
rubles for all
royalties

The first
Russian University
Venture Fund
was created in 2017

33.3
mln rub

Venture
Fund

Registered at TSU

34

programs with
the innovation
and business
focus

914

intellectual
property
items

43

small
innovative
enterprises
(SIE)

In 2017, three new SIEs were registered

- **Cifronomika, LLC**

The company aims at creation of the commercial center for data storage and processing based on blockchain technologies

- **Alrekom, LLC**

The company is focused on creation of the general competence database of the university and participation in tender procedures

- **Novye obrazovatelnye tekhnologii, LLC**

The enterprise is aimed at creation and exploitation of online platforms for full-time and distance learning of Russian and other than Russian languages and design of interactive audiovisual technologies to teach any subjects



Engineering Center of Chemistry and Technology (ECCT) at TSU

was in top 3 in 2017 among similar structures, created at the leading Russian universities

>100
mln rub
turnover
of ECCT
in 2017

>50

new products and technologies were brought to the market by ECCT within three years

85

research and industrial partners and customers

20

issues of chemical and pharmaceutical industry of Russia were solved in 2017



Implementation of the entrepreneurial track

36

events
per year

2,472

participants,
952 of which are
TSU students
and staff

> 5,000

online
participants



TSU is in Consortium on Development of Student Technological Entrepreneurship

The resident center
opened at TSU
Innovative and
Technological Business
Incubator. The center
is the venue for
communication between
startups and mentors,
where everybody can get
an opinion of a potential
investor.





National Research

**Tomsk
State
University**

International Division

Head of the
International Division

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