The First in Siberia
Tomsk State University

Georgy MAYER, Rector
Sergey KIRPOTIN, Vice-Rector
Grigory DUNAEVSKY, Vice-Rector
Siberian Imperial University was established in 1878

- Tomsk State University (TSU), which was established in 1878 by Alexander’s II royal command as an Imperial Siberian University, is the first higher educational institution in the Asian part of Russia.

D. Mendeleev
• In 2006 Tomsk State University became one of 17 universities which won an all-Russia competition in innovation educational programs which was held within the framework of the national project "Education". The Tomsk University Project was called "The Innovation Educational Program at a Classical (Research) University as the Basic Institutional Structure of the National Innovation System".

• In 2010 TSU became a wing of the second competition of development programs of universities, which obtained status “National Research University”
1. Peopleware and research-innovative provision of nanotechnologies and materials.
2. Peopleware and research-innovative provision of informational, telecommunication and supercomputer technologies.
3. Peopleware and research-innovative provision of conservation and biological systems.
4. Peopleware and research-innovative provision of perspective space and rocket-artillery systems engineering.
5. Socio-humanitarian knowledge and techniques in modernization of economy and social sphere.
1. Peopleware and research-innovative provision of nanotechnologies and materials.
   - Scientific basis and technologies of production of superdispersed and nanosized materials and goods based on it.
   - Scientific basis and technologies of creation of new generation of biocompatible materials and implants based on titanium nickelide.
   - Scientific basis and technologies materials production and electronic component base of sensory and functional electronics for diagnostic and security systems.
   - Scientific basis and technologies of covering by inorganic nanostructured surfaces for using in machinery construction, energy, oil and gas sectors.
2. Peopleware and research-innovative provision of informational, telecommunication and supercomputer technologies.
- Modeling and complex analysis of mathematical models of systems of transmitting, storage, treatment, and security of Information,
- Elaboration of methods and technologies of testing and modernization of distributed informational-telecommunicational systems.
- Elaboration of methods and technologies of parallel computing and creation of distributed data-processing supercomputing systems.
- Mathematic modeling and calculus of approximations in tasks of mechanics, global and local geodynamics, medicine and ecology.
- Elaboration of algorithms and technologies of treatment and recovering of images of concealed objects and signals recognition.
3. Peopleware and research-innovative provision of conservation and biological systems.
- Complex technique of evaluation and monitoring of Siberian biological and soil resources.
- Provision of the necessary facilities for new perspective oil and gas fields and modeling of natural disasters.
- Production of cellular cultures of medical plants, producing biologically active substances.
- Molecular methods of study of Chemolithotrophic microorganisms functioning in different systems.
- Technologies for cytodiagnosis, genodiagnostics of mosquitoes for regulation of its quantity, liquidation of niduses and control of elk and other animals protection.
- Original and not having analogs in the world science resonance mechanism of solar-biospheric connections, influencing on central nervous and heard vascular systems.
4. Peopleware and research-innovative provision of perspective space and rocket-artillery systems engineering.
- Technologies of space crafts designing with large-size transformable reflectors.
- Integrated system of project work support for computer modeling of perspective space crafts for communications.
- Mathematic models for evaluation of dynamics of elements of informational satellite systems (GLONASS, GPS, GALILEO etc.)
- Perspective non-traditional designers schemes of solid rocket motors.
- Systems of ballistic projecting, plants and experimental stands for exploration of system for throwing.
5. Socio-humanitarian knowledge and techniques in modernization of economy and social sphere.
- Researches in the field of methodological synthesis in historical researches, motivology, psychological, philosophic and linguistic antropology.
- Researches in the field of law.
- Theoretical-methodological and methodical basis for study and creation of innovative behavior of person.
- Based in 1917 Tomsk dialectological school has won State prize in the field of science and technics and have got a status of leading scientific school of RF.
- TSU is the recognized scientific centre for studying of cultural heritage of Russia as a factor of national identification and safety.
FIELDS OF ACTIVITIES

- fundamental research efforts
- applied research efforts
- new technologies

- educational services
- new knowledges
- advanced technology products
- information service

- master-degree study
- post-graduate study
- doctorate study
- supplementary education

science

education

society
Aim of TSU program consists in implementation of complex of measures, intended to structure the research classic university, which provides the first-rate quality of fundamental and applied scientific researches and efforts for high-technology fields of economics and social sphere with the proper support by human resources and realizing the efficacious forms of integrations of science, education and the real economy as one of the main factor of application of the achievements of science.
CRITERIA VALUATION

Leading research and educational schools

Material and technical basis of scientific researches

Infrastructure of innovative activity

High quality of education

Infrastructure of high qualification specialists training

System of selection and support of talented youth

Infobase of educational and scientific activity

International cooperation
TASKS OF THE PROGRAMM

TASK № 1
Perfection of educational activity, aimed at creation and development of scientific-educational field of generation of graduate's research and technological competences for staff assistance of science, high-technology economy and social sphere

TASK № 2
Perfection of scientific-innovative activity, aimed at creation and developing of the field of new knowledges and technological innovations generation and their application in the field of high technologies and social sphere.

TASK № 3
Developing and perfection of university’s information-communicational sphere on the basis of principals and mechanisms of network cooperation with scientific-educational centers and real economy enterprises.

TASK № 4
Perfection of university managing as an integrated scientific-educational complex.
STRATEGIC PARTNERS

- Nuclear energy Agency
- Institutes of RAS
- Rocket-and-space corporation “Energy”
- Foreign universities
- Industry and science intensive enterprises
- Scientific educational funds
- Administrations of Siberian Federal District regions
- Commercial banks
More than 23,000 students are studying at TSU in 130 undergraduate and graduate programs, 750 students in 82 Candidate of Science Degree Programs (Ph.D.), 100 – in 34 Doctor of Science Degree Programs.

24 Faculties and 162 Departments comprise the Main TSU campus, 5 branches and 45 pre-admission training centers are located in different cities of Siberia and Kazakhstan.
TSU is one of the leaders in Russian higher education in the field of fundamental research. Among the university faculty there are 350 Doctors of Sciences, more than 700 Candidates of Sciences, 4 Members of the Russian Academy of Sciences and Russian Academy of Medical Sciences, 4 Corresponding Members of RAS, 2 Corresponding Members of RAO, 2 Corresponding Members of RA RAS, 86 Members of RF Public Academies.
45 TSU scientists have become RF State Scientific Prize winners, RF Government Scientific Prize winners, and RF President Prize in Education winners. TSU researchers and professors were awarded more than 500 grants of Russian Government Scientific Funds as well as International Scientific Funds.
Leading Scientific Schools

- 35 Scientific groups of TSU were included in the RF Presidential List of Leading Scientific Schools of Russia
The University Takes Pride in its Talented Youth

- Young researchers make great contributions to the achievements of the university. Annually young scientists win 10-15% of the grants for internships and 8-10% of the grants for participation in international conferences on Integration Program.
- During last 10 years young researchers won 16 medals of RAS, 101 medals and 315 diplomas of Russian Ministry of Education and Science.
MISSION OF RESEARCH UNIVERSITY

Fundamental researches
Applied researches
New technologies

Specialists
Bachelors
Masters
Additional education
Post-graduate studies
Doctoral studies

Educational facilities
New knowledge
Hi-tech goods
Information facilities
FIELD OF CRITERIAL ESTIMATIONS OF RESEARCH UNIVERSITY
("whales" on which the Research university is based)

- Infrastructure of innovation activity
- Leading research-pedagogical schools
- Financially technical base of scientific researches
- Infrastructure for training of personnel of highest qualification
- High quality of education
- International collaboration
- System of selection, supports and fastenings of talented youth
- Information base of educational and scientific activity
22 small innovative enterprises
Annual turnover – about 100 Mio. Rub.
Purpose:
Development of high-speed protected channels of satellite connection (C-, Ku-band) for:
- data transmission;
- direct data delivery;
- video conference;
- TV and radio broadcast;
- telephony.
“ACADEMIC UNIVERSITY” (Special Federal Program ‘Integration’)
“INNOVATIONS IN HIGHER EDUCATION” (National Training Foundation, World Bank, Russian Ministry of Education)
“RESEARCH UNIVERSITY” (National Training Foundation, World Bank, Russian Ministry of Education)
“PRESIDENTIAL PROGRAM OF MANAGERS TRAINING” (Ministry of Economical Development of Russia)
“CENTER FOR ADVANCED STUDIES AND EDUCATION” (Carnegie Foundation, Russian Ministry of Education)
Research and Education Center “PHYSICS AND CHEMISTRY IF HIGH-ENERGY SYSTEMS”, CRDF foundation (CRDF, Russian Ministry of Education)
TELEPORT (Russian Ministry of Education, Administration of Tomsk Region)
“SIBERIAN OPEN UNIVERSITY” (Association of more than 30 universities of Eurasia)
“ENVIRONMENTAL MANAGEMENT” (Series of TEMPUS-Tacis projects)
17 TEMPUS Tacis projects

18 INTAS projects

PROJECTS of the National Training Foundation & World Bank of Reconstruction and Development

OXFORD-RUSSIA Foundation project

“Center for Advanced Studies and Education” projects

Research and Education Center “Physics and Chemistry of High-Energy Systems”, CRDF foundation

«CISCO ACADEMY» project

“University Partnership for Management and Economic Analysis of Forest Resources and Products in the Tomsk Oblast”, US Department of State
LIST OF INTAS PROJECTS

- INTAS NIS Network Grant 2003-10 (from 2001 until now)
- INTAS-01-00262 Quantization of general gauge systems. (2001-2004)
- INTAS 03-51-6294 The effect of climate change on the pristine peatland ecosystems and (sub)actual carbon balance of the permafrost boundary zone in Sub-arctic Western Siberia (2004-2006)
- INTAS –01-0200 Small-scale mobile devices for water pollution and air detection in city based on novel high intensity electrodeless discharge lamps and new high selective atomic absorption technique (HFWATER)
- INTAS 03-53-5203 Fundamental researches of condensate formation by burning of the hard nuclear fuel
- INTAS 01-0320 Development of Nanostructured Titanium Materials for Medical Use (2001-2004)
- INTAS 03-51-5015 Self-organized ultra small Ge quantum dots in Si with very high density for nanoelectronics
- INTAS 06-84-0001 (01.01.2006 – 30.06.2007) Regional Information Bureau
- INTAS 06-1000012-8593 Evaluating the recent and future climate change and glacier dynamics in the mountains of Southern Siberia (2006-2008)
- YSF Collaborative Call with Council of Rectors of Tomsk Universities (06-1000016) INATS – Rector’s Council (6 individual scholarships 2006-2008)
- 500329 Biotechnology for metal bearing material in Europe (BioMinE) 2006
Recently TSU has been visited by dozens of delegations from foreign universities, embassies, international foundations and organizations to discuss new projects of cooperation. A number of ambassadors of the different countries have visited TSU: of the USA (twice), of Germany (twice), of South Korea (twice), of China, India, France, Poland, Finland, Japan, Israel, Singapore, European Union.
THANK YOU FOR YOUR ATTENTION!