



TOMSK POLYTECHNIC UNIVERSITY– university of resource- efficient technologies



Дата

Tomsk Polytechnic University



- founded in **1896**, the oldest in the Asian part of Russia
- over **20,000** students
- **17%** international students from 42 countries
- undergraduate, postgraduate and doctorate studies

Rankings



Top **300** in Times Higher Education World University Rankings 2015/2016



Top **500** in QS World University Rankings 2015/2016



Top **3** of Russia's technical universities

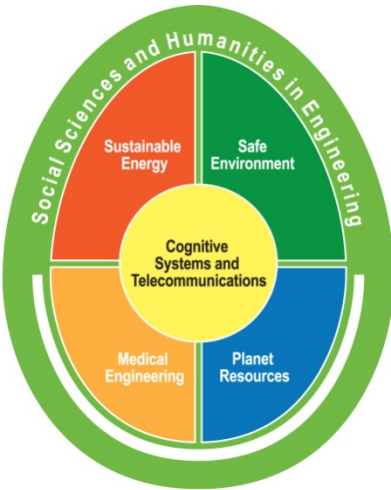


Institutes

- Institute of Natural Resources
- Institute of High Technology Physics
- Institute of Power Engineering
- Institute of Cybernetics
- Institute of Non-Destructive Testing
- Institute of Physics and Technology
- Institute of Humanities, Social Sciences and Technologies
- Institute of International Education and Language Communication
- Institute of Strategic Partnership and Competences Development



NETWORK CENTRE OF EXCELLENCE RESOURCE-EFFICIENT TECHNOLOGIES



The REFFIT Centre of Excellence is aimed at concentration of scientific and research activity in global demanded areas.

The major projects of TPU researchers are carried out within 6 interdisciplinary clusters:

- Safe Environment
- Sustainable Energy
- Medical Engineering
- Planet Resources
- Cognitive Systems and Telecommunications
- Social Sciences and Humanities in Engineering

Safe Environment: projects

Development of Materials to be Used
in Space, Hydrospace and the Arctic

The project envisages creation of glass and carbon plastics and nanocoatings for spacecraft and new methods of endurance testing.

Technology and Facilities for Tomographic
Nondestructive Testing of a New
Generation

Multifunctional facilities are designed for non-destructive testing of various materials and products. The facilities can be applied for aviation, space industry, precise engineering and other areas.





Sustainable Energy: projects

Hybrid Modelling and Control in Smart Grid Systems

A hybrid modelling complex and improved software has being developed to ensure control and reliability, reduce accidents and minimize loss in complex dynamic power grids.



Sustainable
Energy

Medical Engineering: projects

Creation of Innovative Diagnostic and Therapeutic Agents for Radiation Medicine

The project is focused on development of new ^{99m}Tc and ^{186}Re radiopharmaceutical agents, radiation medicine methods and facilities for diagnostics and treatment of oncological and cardiovascular diseases.



Medical
Engineering





Planet Resources

Planet Resources: projects

Comprehensive Study of Non-Conventional Oil and Gas Reservoirs

The project is focused on methods and a setup to determine porosity and the nature of pore space saturation of ultra low-permeable disintegrated rocks.

Siberian Shelf as a Source of Greenhouse Gases of Worldwide Significance: quantitative evaluation of streams and identification of possible environmental and climatic impacts

The study revealed new data on methane emissions in ESAS to change global climate models.



Cognitive systems and telecommunications

Telecommunication Systems for Monitoring and Control of Autonomous Subsea Robots

TPU scientists are solving tasks on navigation and telecommunication control of subsea unmanned underwater vehicles based on integration of heterogeneous communication channels (sonar, radio, satellite).



Social sciences and humanities in engineering

Measurement and Quality Assessment of
Living Environment in Resource-
Producing Regions of Siberia: ecological,
social, economic, institutional and
technological aspects

*The IT project is aimed at designing the development
of sustainable development models and
management processes of regional economy.*



RESOURCE-EFFICIENT
TECHNOLOGIES



REFFIT

HOSTED BY



ELSEVIER

RESOURCE-EFFICIENT TECHNOLOGIES (REFFIT)

Major areas

- alternative and sustainable energy,
- green and environmental chemistry,
- novel functional materials and materials efficiency,
- efficient use of natural resources,
- waste processing and recycling technologies

Open access journal, ScienceDirect platform, free publication for authors

We invite authors for publication in REFFIT!

<http://www.sciencedirect.com/science/journal/24056537>



World Resource-efficiency Forum

6-7 September 2016

Themes:

- The Arctic as a source of global warming
- Oil, gas and coal: to look for an alternative or to improve efficiency?
- New features of nuclear power
- Clean water: a luxury or common benefits

Key speakers: Nobel laureates, leading scientists, public figures and businessmen

Panel discussions, conferences, round tables with industrial speakers

Special issue of the REFFIT journal

Young poster session, workshops by leading scientists, the best resource-efficiency development competition

Contact: 120@tpu.ru



THANK YOU FOR YOUR ATTENTION!