



# Nuclear Education in Russia

 **#SUSTAINABLE AND DEVELOPMENTAL TECHNOLOGIES**  
*/ Sustainable Future /*

 **#EDUCATION FOR THE FUTURE**  
*/ Education for life /*

# Why nuclear education?

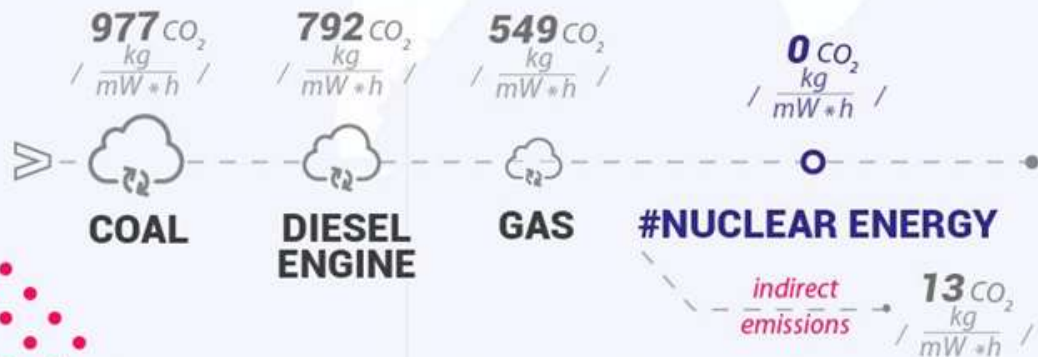


**#NUCLEAR ENERGY** is vital to **MAKING #ELECTRICITY AVAILABLE TO EVERYONE** while preserving the environment and fighting climate change

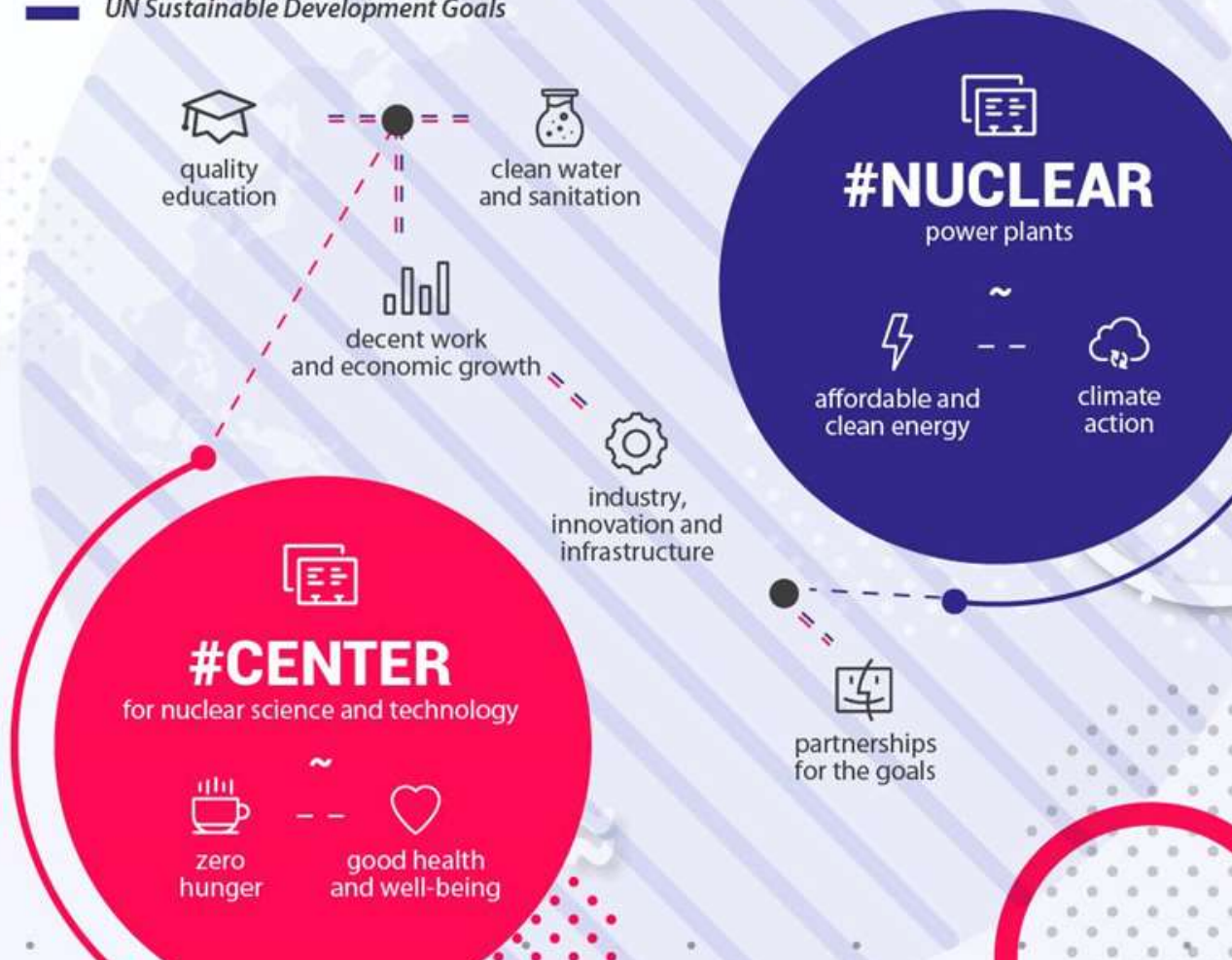
Huge energy consumption



**REDUCING #GREENHOUSE GAS** emissions



**#NUCLEAR TECHNOLOGY – FOR A SUSTAINABLE DEVELOPMENT**  
UN Sustainable Development Goals





# Why nuclear education?



## #CLEAN ENERGY

- Σ Nuclear power plants
- & Low power reactors
- ∫ Floating nuclear power plants
- ± Atomic fleet



## #MODERN MEDICINE AND PHARMACEUTICALS

- Σ Radionuclide and brachytherapy
- & Production of radiopharmaceuticals
- ∫ Sterilization of medical devices
- ± Processing of components for pharmaceuticals



## #SOLVING ENVIRONMENTAL PROBLEMS

- Σ Water desalination
- & Protecting forests from pests and diseases
- ∫ Waste processing, waste water treatment, gas treatment



## #CONSERVATION AND PRESERVATION OF AGRICULTURAL PRODUCTS

- Σ Disinfection of products
- & Increasing of seed germination
- ∫ Increasing the shelf life of products



## #NEW MATERIALS

- Σ Improving the performance of materials
- & Obtaining composite materials



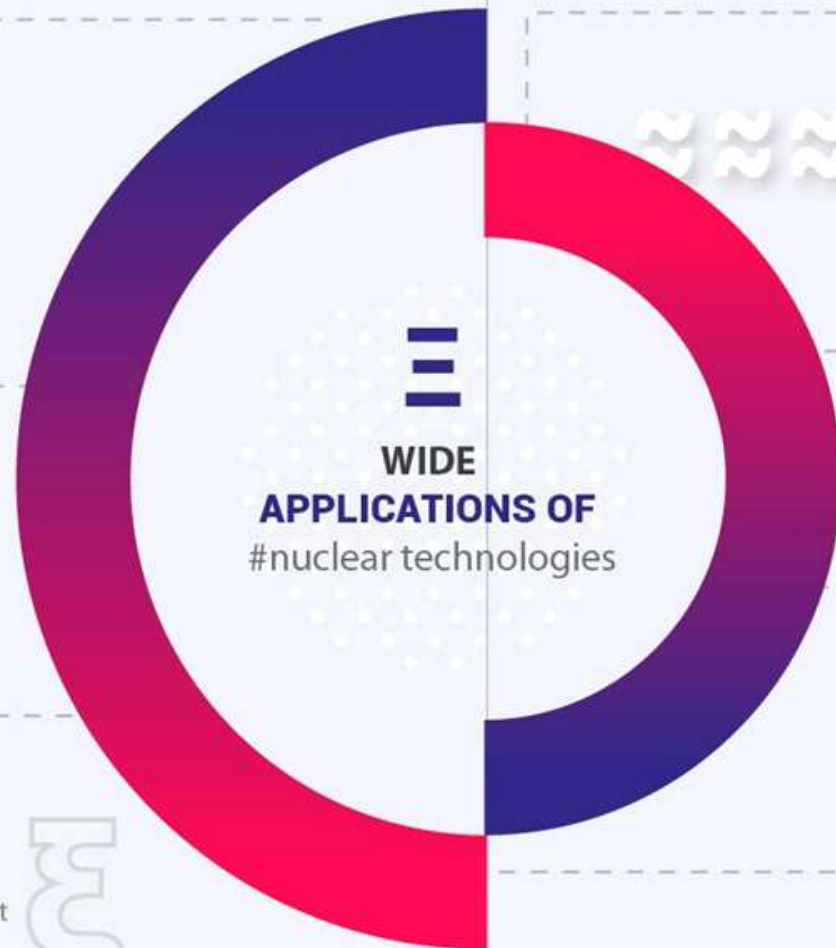
## #SPACE

- Σ Nuclear power sources for spacecraft
- & Sources of alpha particles, neutron and gamma-ray detectors for the study of space objects



## #SAFETY

- Σ Non-destructive testing
- & Creation of inspection systems for people and baggage



# Russia – leader in the field of peaceful nuclear energy



## THE NUCLEAR INDUSTRY OF RUSSIA

75 YEARS

**THE WORLD'S FIRST**  
nuclear **POWER PLANT** with a capacity  
of 5 MW was launched  
/ in the city of Obninsk /

1954

2016

**THE WORLD'S ONLY POWER**  
unit with fast breeder reactor BN-800 was put  
into operation

**THE WORLD'S FIRST**  
VVER-1200 generation 3+ **REACTOR**  
was commissioned

february 2017

**REACTORS** in 15 countries of the world  
provided with nuclear fuel  
produced at Rosatom enterprises

75

**POWER UNITS**  
currently  
in operation

38

**THE WORLD'S ONLY**  
nuclear-powered icebreaker  
**FLEET**

1



**130** billion dollars  
portfolio worth of foreign orders

The State Atomic  
Energy Corporation

«**ROSATOM**»

is a global technological leader



**ROSATOM**

The only company in the world  
capable of providing  
**A FULL RANGE OF SERVICES IN THE  
FIELD OF #NUCLEAR ENERGY**

**35** NPP units

**Nº1 in the world** by the number of NPPs  
under construction abroad



**36** %

**Nº1 in the world** by uranium enrichment







# Educational platform of the State Corporation "Rosatom"

Association of Higher Education Institutions «CONSORTIUM OF FLAGSHIP UNIVERSITIES OF THE STATE ATOMIC ENERGY CORPORATION «ROSATOM»

**\.NATIONAL RESEARCH NUCLEAR UNIVERSITY "MEPHI" \ MEPHI \** - the main university of Rosatom, **the main university of the Association**, the exporter of nuclear education  
*/ information will be provided in more detail /*

\.MOSCOW STATE TECHNICAL UNIVERSITY \ MSTU NAMED AFTER N.E.BAUMAN \

\.MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY \ MIPT \

\.NATIONAL RESEARCH MOSCOW STATE UNIVERSITY OF CIVIL ENGINEERING \ MSUCE \

\.NATIONAL RESEARCH TECHNOLOGICAL UNIVERSITY "MISIS" \ MISIS \

\.NATIONAL RESEARCH UNIVERSITY "MPEI" \ MPEI \

\.RUSSIAN UNIVERSITY OF CHEMICAL TECHNOLOGY NAMED AFTER D.I. MENDELEEV

 - the main university of Rosatom, the exporter of nuclear education  
*/ information will be provided in more detail /*

**\.SAINT PETERSBURG STATE UNIVERSITY**

**\.PETER THE GREAT ST. PETERSBURG POLYTECHNIC UNIVERSITY "SPBPU" \ SPBPU \**

**\.SAINT PETERSBURG STATE TECHNOLOGICAL INSTITUTE (TECHNICAL UNIVERSITY)**

**\.IVANOVO STATE POWER ENGINEERING UNIVERSITY NAMED AFTER V.I. LENIN**

**\.NIZHNY NOVGOROD STATE TECHNICAL UNIVERSITY NAMED AFTER R.E. ALEKSEEVA \ NNSTU \**

**\.NATIONAL RESEARCH NIZHNY NOVGOROD STATE UNIVERSITY NAMED AFTER N.I. LOBACHEVSKY**

**\.KAZAN NATIONAL RESEARCH TECHNICAL UNIVERSITY NAMED AFTER A.N. TUPOLEV**

**\.VORONEZH STATE UNIVERSITY**

**\.SEVASTOPOL STATE UNIVERSITY**

**\.URAL FEDERAL UNIVERSITY NAMED AFTER THE FIRST PRESIDENT OF RUSSIA B.N. YELTSIN "URFU" \ URFU \**

**\.NATIONAL RESEARCH TOMSK POLYTECHNIC UNIVERSITY "TPU" \ TPU \**



# Opportunities for Nuclear Education in Russia



## EDUCATION in the field

- Σ Nuclear energy and technology
- & Materials science
- J Electrical and thermal power engineering
- ± Nuclear medicine, ecology, biotechnology
- ✓ Chemical technology



## PROGRAMS

1

/year/

- Preparatory faculty  
/ russian language + special subjects /

5.5

/years/

- Specialist

4

/years/

- Bachelors degree

2

/year/

- Masters degree



In 2021

**200 SCHOLARSHIPS**

~

for **FREE EDUCATION**  
in Russian universities  
in nuclear  
and related fields



There are already

**1,600 STUDENTS**

studying in nuclear  
and related fields in Russia

~

from **48 COUNTRIES**  
around the world



Graduates  
from Belarus, Vietnam,  
Kazakhstan, Turkey,  
India, Egypt  
are already  
working in the nuclear  
industry

**LEADING  
UNIVERSITIES  
OF THE COUNTRY**  
included in  
**#THE GLOBAL  
RANKINGS**





# Practical training



Resource Centre in **MOSCOW AND OBNINSK**



Moscow site of MEPhI and Obninsk Institute of Atomic Energy - branch of MEPhI

### SPECIALIZATION

Non-energy use of nuclear technologies, radiation safety



- / REACTOR IRT-2000
- / FUNCTIONAL SIMULATOR OF THE VVR-TS REACTOR PLANT
- / FGBNU VNIIRAE - ALL-RUSSIAN RESEARCH INSTITUTE OF RADIOLOGY AND AGROECOLOGY
- / RESEARCH PHYSICO-CHEMICAL INSTITUTE IM. L. YA. KARPOVA
- / MRNTS IM. A.F. TSYBA



Resource Centre in **VOLGODONSK**



Volgodonsk Engineering and Technical Institute - branch of MEPhI

### SPECIALIZATION

Specialization in structures and main modes of operation equipment for NPP power units



- / ROSTOV NPP / "VOLGODONSKATOMENERGOREMONT"
- / BRANCH OF JSC "AEM - TECHNOLOGIES" "ATOMMASH"
- / VOLGODONSK INDUSTRIAL CLUSTER OF NUCLEAR ENGINEERING



Resource Centre in **NOVOVORONEZH**



Novovoronezh Polytechnic College - branch of MEPhI

### SPECIALIZATION

With the specialization in NPP control with VVER reactors



- / TRAINING CENTRE OF THE NOVOVORONEZH NUCLEAR PLANT / TRAINING AND TRAINING CENTER "NOVOVORONEZHATOMENERGOREMONT"
- / "EXPERIMENTAL DEMONSTRATION ENGINEERING CENTER FOR DECOMMISSIONING"





# Bachelor's / Specialist programs



## #NUCLEAR ENERGY TECHNOLOGY

- 14.03.01 Nuclear Power Engineering and Thermal Physics
- 14.03.02 Nuclear Physics and Technologies
- 14.05.01 Nuclear Reactors and Materials
- 14.05.02 Nuclear Power Plants: Design, Operation and Engineering
- 14.05.04 Electronics and Automation of Physical Installations

	<u>MEPhI</u>	<u>SPbPU</u>	<u>MPEI</u>	<u>TPU</u>	<u>UrFU</u>	<u>NNSTU</u>	<u>MIPT</u>
14.03.01 Nuclear Power Engineering and Thermal Physics	\.ru \.en	\.ru	\.ru			\.ru	
14.03.02 Nuclear Physics and Technologies	\.ru \.en			\.ru	\.ru		
14.05.01 Nuclear Reactors and Materials	\.ru						
14.05.02 Nuclear Power Plants: Design, Operation and Engineering	\.ru			\.ru	\.ru		
14.05.04 Electronics and Automation of Physical Installations				\.ru			

## #ELECTRIC POWER INDUSTRY AND HEAT-POWER ENGINEERING

- 13.03.01 Heat-Power Engineering and Heating Engineering
- 13.03.02 Electric Power Engineering and Electrical Engineering
- 13.03.03 Power-Plant Engineering

13.03.01 Heat-Power Engineering and Heating Engineering		\.ru	\.ru			\.ru	
13.03.02 Electric Power Engineering and Electrical Engineering		\.ru	\.ru			\.ru	
13.03.03 Power-Plant Engineering		\.ru	\.ru			\.ru	

## #MATERIAL TECHNOLOGIES

- 22.03.01 Materials Science and Technology

22.03.01 Materials Science and Technology	\.ru					\.ru	
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## #PHYSICS AND ASTRONOMY

- 03.03.02 Physics
- 03.03.01 Applied Mathematics and Physics

03.03.02 Physics	\.ru						
03.03.01 Applied Mathematics and Physics							\.ru \.en

## #CHEMICAL TECHNOLOGIES

- 18.03.01 Chemical Technology
- 18.05.02 Chemical Technology of Modern Energy Materials

18.03.01 Chemical Technology					\.ru		
18.05.02 Chemical Technology of Modern Energy Materials				\.ru			

## #PHOTONICS, INSTRUMENT MAKING, OPTICAL AND BIOTECHNICAL SYSTEMS AND TECHNOLOGY

- 12.03.04 Biotechnical Systems and Technology

12.03.04 Biotechnical Systems and Technology	\.ru \.en						
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### PROGRAMS

in #nuclear and related fields

\.ru – Russian language program  
\.en – English language program





# Master's programs



**PROGRAMS**  
in #nuclear  
and  
related fields

*.ru* – Russian  
language program  
*.en* – English  
language program

## #NUCLEAR ENERGY TECHNOLOGY

- 14.04.01 Nuclear Power and Thermal Physics
- 14.04.02 Nuclear Physics and Technologies

## #ELECTRIC POWER INDUSTRY AND HEAT-POWER ENGINEERING

- 13.04.01 Heat-Power Engineering and Heating Engineering
- 13.04.02 Electric Power Engineering and Electrical Engineering
- 13.04.03 Power-Plant Engineering

## #MATERIAL TECHNOLOGIES

- 22.04.01 Materials Science and Technology

## #PHYSICS AND ASTRONOMY

- 03.04.02 Physics
- 03.04.01 Applied Mathematics and Physics

## #CHEMICAL TECHNOLOGIES

- 18.04.01 Chemical Technology

## #PHOTONICS, INSTRUMENT MAKING, OPTICAL AND BIOTECHNICAL SYSTEMS AND TECHNOLOGY

- 12.04.04 Biotechnical Systems and Technology

MEPhI

SPbPU

MPEI

TPU

UrFU

NNSTU

MIPT

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# Nuclear Education Exporting Universities



Universities of the Consortium of flagship universities of the State Atomic Energy Corporation "Rosatom", **TRAINING FOREIGN STUDENTS** in nuclear and related fields in 2021





# MEPHI



#NATIONAL RESEARCH NUCLEAR  
UNIVERSITY «MEPHI»

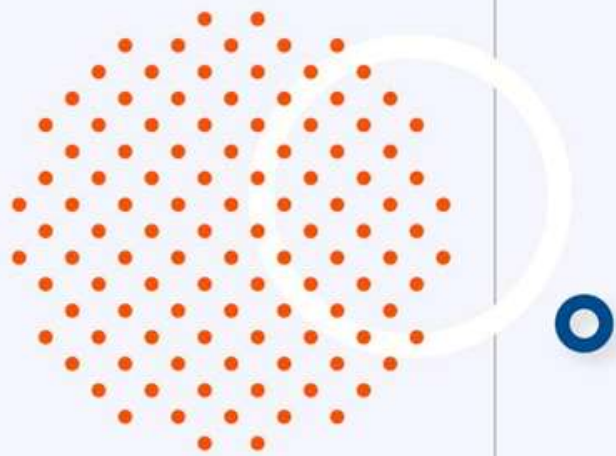
\. Moscow >



## MEPhI

National Research  
Nuclear University MEPhI

 official.MEPhI  
 @mephi\_official  
 mephi\_official

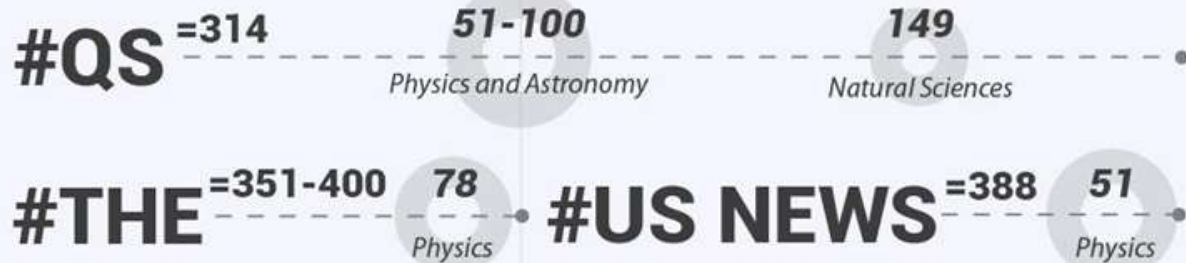






# About MEPhi

**RANKINGS 2020**



Video clip about the university



**800**

scientific and academic staff



**~ 10 000**

enrolled students

**≥ 88**

foreign partner universities



**2** academic campuses  
- Moscow and Obninsk  
for the foreign students

**8**

institutes



**1**

faculty



**154**

educational programs



## FOREIGN STUDENTS

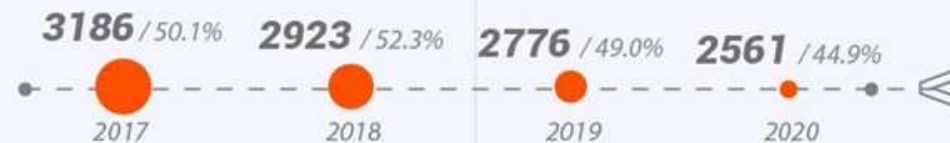
number / % of the total number of students



**82**  
Countries

## STUDENTS

in nuclear and related fields of study,  
number / % of the total number of students



**56**  
Countries

## GRADUATES

in nuclear and related fields of study, number





# About MEPhi



## #LABORATORIES

- Σ Experimental nuclear physics
- & Silicon photomultipliers
- J Advanced technologies for creating new materials
- ± Modelling physical processes to substantiate the safe operation of nuclear power plants
- ✓ Functional electrophysical diagnostics and non-destructive testing
- ≥ Reactor physics, management and safe operation of nuclear power plants
- ÷ Thermal hydraulic and physics of boiling



**TRAINING  
INFRASTRUCTURE**  
in #nuclear  
and related fields



## #REACTOR IRT - 2000 \\ 2.5 MW



- Σ Study of rare nuclear fission processes in which long-lived fission products are absent
- & Development of reliable control and protection systems for nuclear reactors
- J Testing of sensors and equipment for monitoring the neutron flux with respect to the generation of nuclear power and in the submarine fleet
- ± Conducting research on neutron capture therapy of oncological tumours



## #«EXPERIMENTAL COMPLEX NEVOD»

- Σ The only scientific installation in the world that allows fundamental and applied research using natural particle fluxes on the Earth's surface, in the entire range of zenith angles and in the record energy range from 1-10<sup>10</sup> GeV



## EQUIPMENT

- \\Cherenkov water detector
- \\Coordinate-track detector
- \\Muon hodoscopes
- \\Installation for registration of atmospheric neutrons URANUS
- \\Calibration telescope system





# MEPhI programs



in the field of **#NUCLEAR TECHNOLOGIES**

## PROGRAMS

in # nuclear and related areas

*\.ru* – Russian language program  
*\.en* – English language program

*/O/* – Obninsk  
*/M/* – Moscow

 14.03.01 /Direction of study/  
 **NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**

 14.04.01 /Direction of study/  
 **NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**

 14.05.01 /Direction of study/  
 **NUCLEAR REACTORS AND MATERIALS**

 14.05.02 /Direction of study/  
 **NUCLEAR POWER PLANTS: : design, operation and engineering**



### & **BACHELOR'S DEGREE**

- | *\.Installation, Commissioning and Rehabilitation of NPP Equipment / O / \.ru*
- | *\.NPP Operation / O / \.ru*
- | *\.Nuclear Technologies / O / \.en*
- | *\.Research Nuclear Reactors: Physics and Technologies / O / \.en*
- | *\.Nuclear Technologies / O / \.ru*




### Σ **MASTER'S DEGREE**

- | *\.Advanced Nuclear Reactors and Power Plants / M / \.ru*
- | *\.Modern Technologies of Light Water Nuclear Reactors / M / \.ru*
- | *\.Operation of Nuclear Power Plants and Installations / O / \.ru*
- | *\.Nuclear Power Engineering / M / \.en*
- | *\.Nuclear Power Plants / O / \.en*



### f **SPECIALIST DEGREE**

 *\.ru*

- | *\.Innovative Nuclear Reactors / M /*
- | *\.Nuclear Reactors / O /*



### f **SPECIALIST DEGREE**

 *\.ru*

- | *\.Radiation Safety of Nuclear Power Plants / M /*
- | *\.Design and Operation of Nuclear Power Plants / M / O /*
- | *\.Control and Monitoring Systems for Nuclear Power Plants / M / O /*



**#PRACTICAL TRAINING**

*\.Resource centres of the "Rosatom"*





# MEPhI programs



in the field of **#NUCLEAR TECHNOLOGIES**

 14.03.02 /Direction of study/  
**NUCLEAR PHYSICS AND TECHNOLOGIES**



## & **BACHELOR'S DEGREE**

- | *\.Radiation Ecology and Ensuring Human and Environmental Safety / M / \.ru*
- | *\.Nuclear Physics and Cosmophysics / M / \.ru*
- | *\.Experimental Research and Modelling Fundamental Interactions / M / \.ru*
- | *\.Particle Physics and Cosmology / M / \.ru*
- | *\.Radiation Technologies in Life Sciences / O / \.en*
- | *\.Physics of Fundamental Interactions / M / \.ru*
- | *\.Physics of Extreme States of Matter / M / \.ru*
- | *\.Physics and Thermal Physics of Nuclear Power Plants / M / \.ru*
- | *\.Innovative Nuclear Technologies / O / \.ru*
- | *\.Radiation Safety / O / \.ru*



 14.04.02 /Direction of study/  
**NUCLEAR PHYSICS AND TECHNOLOGIES**



## $\Sigma$ **MASTER'S DEGREE**

- | *\.Radioecology and Radiation Protection / O / \.en*
- | *\.State Regulation of Safety in the use of Atomic Energy / M / \.ru*
- | *\.Physics of the Extreme State of Matter / M / \.ru*
- | *\.Experimental Nuclear Physics, Cosmophysics and Physics Fundamental Interaction / M / \.ru*
- | *\.Experimental Methods of Nuclear Physics and Particle Physics / M / \.ru*
- | *\.Particle Physics and Astrophysics / M / \.ru*
- | *\.Particle Physics and Cosmology / M / \.ru*
- | *\.Next Generation Nuclear Power Technologies / M / \.ru*
- | *\.Engineering Computer Modeling in the Nuclear Industry / M / \.ru*
- | *\.Nuclear Engineering / M / \.en*
- | *\.Innovative Nuclear Technology / O / \.ru*
- | *\.Radioecology and Radiation Safety / O / \.ru*
- | *\.Materials for Nuclear Application / M / \.en*
- | *\.High Energy Physics and Astrophysics / M / \.en*



## **#PRACTICAL TRAINING**

- | *\.Resource Center in Obninsk*
- | *\.MEPhI Nuclear Center*



## **PROGRAMS**

in # nuclear  
and related  
areas

*\.ru* – Russian  
language program  
*\.en* – English  
language program

*/O/* – Obninsk  
*/M/* – Moscow





# MEPhI programs



in the field of **#MATERIALS SCIENCE**



## PROGRAMS

in # nuclear  
and related  
areas

/O/ – Ozninsk  
/M/ – Moscow

\ru – Russian  
language program  
\en – English  
language program

 22.03.01 /Direction of study/  
 **MATERIALS SCIENCE AND TECHNOLOGY**

 22.04.01 /Direction of study/  
 **MATERIALS SCIENCE AND TECHNOLOGY**



**& BACHELOR'S DEGREE**

| \Physics of Materials and Processes / M / \ru



**Σ MASTER'S DEGREE**

| \Development of Materials for Innovative Technologies / M / \ru  
| \Materials Design and Engineering / M / \en





# MEPhI programs



in the field of **#NUCLEAR TECHNOLOGY APPLICATIONS**



## PROGRAMS

in # nuclear  
and related  
areas

/O/ – Obninsk  
/M/ – Moscow

\.ru – Russian  
language program  
\.en – English  
language program

 03.03.02 /Direction of study/  
**PHYSICS**

 03.04.02 /Direction of study/  
**PHYSICS**

 12.03.04 /Direction of study/  
**BIOTECHNICAL SYSTEMS AND TECHNOLOGY**

 12.04.04 /Direction of study/  
**BIOTECHNICAL SYSTEMS AND TECHNOLOGY**



### & **BACHELOR'S DEGREE**

- | \.Nuclear Physics Technologies in Medicine / O / \.ru
- | \.Biophysics / M / \.ru
- | \.Medical Physics / M / \.ru



### Σ **MASTER'S DEGREE**

- | \.Medical Physics of Radiation Diagnostics and Therapy / M / \.ru \.en
- | \.Medical Physics of Nuclear Medicine / M / \.ru
- | \.Biomedical Photonics / M / \.ru
- | \.Biomedical Photonics / M / \.en
- | \.Physics in Nuclear Medicine / M / \.en
- | \.Medical Physics of Radiation Diagnostics and Therapy / M / \.en



### & **BACHELOR'S DEGREE**

- | \.Bionanotechnologies / M / \.ru
- | \.Bionanotechnologies / M / \.en
- | \.High-Tech Diagnostic Systems / M / \.ru



### Σ **MASTER'S DEGREE**

- | \.Biomedical Nanotechnologies / M / \.ru
- | \.Biomedical Nanotechnologies / M / \.en
- | \.High-tech Diagnostic Systems / M / \.ru







# Student life at MEPHI

## #SPORTS INFRASTRUCTURE



### Moscow campus

\.The game room \.Gymnastics room \.2 Samba halls \.Table tennis hall \.2 outdoor sports fields \.Gym  
\.Sports and health camp "Volga"

### Obninsk campus

\.Sports complex for team sports \.Wall climbing  
\.Football field \.Gyms \.Outdoor sports ground



## #HEALTH CARE

# 8500

cost of medical insurance,  
rubles per year

## #STUDENT ORGANIZATIONS



\.MEPhI academic men's choir \.Vocal studios  
\.Dance clubs \.MEPhI art center \.Theatre  
\.Sports club "Reactor"

## #EVENTS



\.Festival «All flagged personnel must visit us!»

\.Festival of International Students \.Global Nuclear MEPhI Fest \.Conference "AtomFuture" \.International Summer School on Engineering Computer Modeling in Nuclear Technologies



## IN #MEPHI





# Student dormitories

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$

**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE  
IN THE # HOSTEL**



**~1-4**  
students  
in the room



## #CORRIDOR TYPE

\\.kitchen \.shower  
(on the floor)



## #APARTMENT TYPE

\\.kitchen \.shower  
(in the apartment)



## ROOM

\\.furniture  
\\.beddings



Cost  
**~450-600**  
rubles / month

**DISTANCE**  
from the campus  
~**1,6** km



## PUBLIC space

\\.Reading room  
\\.gym  
\\.tennis tables  
\\.laundry rooms



## WIFI

\\.internet  
access







# MIPT

#MOSCOW INSTITUTE OF PHYSICS AND  
TECHNOLOGY



\. Moscow >



- MIPT.eng
- @mipt.ru
- mipt\_eng





# About MIPT



## RANKINGS 2020



#THE =201-250 **47** Physics • #ARWU =401-500 **151-200** Physics

# THE THREE UNIVERSITY MISSIONS =46 • #US NEWS =385 **40** Physics



Video clip about the university



**80**

academics and members-correspondents of the Russian Academy of Sciences



**7 000**

enrolled students

**43**

foreign partner universities

from

**25**

countries across the globe



## FOREIGN STUDENTS

number / % of the total number of students



**96**  
Countries



**6**

physics-technical schools



**7**

fields of study for undergraduate and specialist degree programs



**8**

fields for the master's degree program





# MIPT programs



in the field of **#NUCLEAR TECHNOLOGIES**

14.04.02 / Direction of study /  
**NUCLEAR PHYSICS AND TECHNOLOGY**

03.03.01 / Direction of study /  
**APPLIED MATHEMATICS AND PHYSICS**

03.04.01 / Direction of study /  
**APPLIED MATHEMATICS AND PHYSICS**



**#PRACTICAL TRAINING** | *\United Institute for Nuclear Research*

## PROGRAMS

in # nuclear  
and related  
areas

*\.ru* – Russian  
language program

*\.en* – English  
language program



**Σ MASTER'S DEGREE** *\.ru \.en*

**Σ BACHELOR'S DEGREE** *\.ru \.en*

**Σ MASTER'S DEGREE** *\.ru \.en*





# Student life at MIPT

## #SPORTS INFRASTRUCTURE



- \Sports Complex
- \Swimming pool
- \Stadium

## #EVENTS



- \Conversation club in Russian language
- \Exchange club

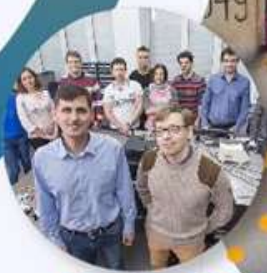
## #HEALTH CARE

7500

cost of medical insurance,  
rubles per year

$\Sigma$   
&  
 $\int$   
 $\pm$

**IN #MIPT**





# Student dormitories

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$

**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE  
IN THE # HOSTEL**



~2-3  
students  
in the room



5-10 min  
walk on foot



**DISTANCE**  
from the campus  
~  
**200-600m**



**#CORRIDOR TYPE**

\.kitchen \.shower  
(on the floor)



**#APARTMENT TYPE**

\.kitchen \.shower  
(in the apartment)



**ROOM**

\.furniture  
\.beddings



Cost

**919 - 1400**  
rubles / month



**PUBLIC**  
space

\.reading room  
\.sports hall  
\.public printer  
\.laundry rooms



**WIFI**  
internet  
access







**MPEI**

**#NATIONAL RESEARCH UNIVERSITY  
«MOSCOW POWER ENGINEERING INSTITUTE»**

*\. Moscow* > 



**МЭИ**

 MpeilntDep  
 MPEI.Univer  
 @uvidenovmei





# About MPEI

**RANKINGS 2020**

**#THE** =1001+ **801-1000** **601-800**  
 Physics Engineering and technology



Video clip about the university



**1200**

scientific and academic staff

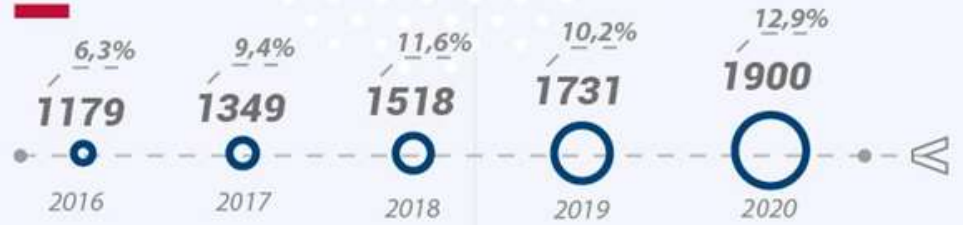


**~ 12 000**

enrolled students

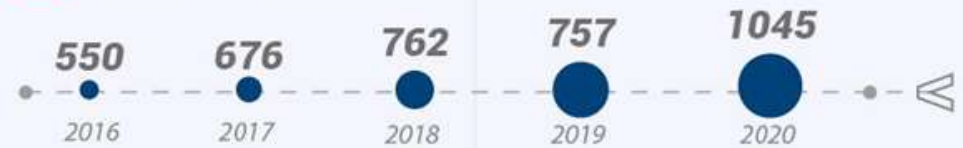


**FOREIGN STUDENTS**, number / % of the total number of students



**50**  
Countries

**FOREIGN STUDENTS** in nuclear and related fields of study, number / % of the total number of students



**38**  
Countries

**GRADUATES** in nuclear and related fields of study, number



**≥ 150**  
foreign partner universities

**74**

countries across the globe

**12**

institutes



**24**

fields of program studies for bachelors and specialists

**17**

for the master's degree program.





# About MPEI



## LABORATORIES



- $\Sigma$  \.NEUTRON PHYSICS LABORATORY
- $\&$  \.URANIUM-WATER SUBCRITICAL STAND
- $\int$  \.CLASS OF ANALYTICAL SIMULATORS AND SYSTEM THERMO-HYDRAULIC CODES
- $\pm$  \.LABORATORY OF PHYSICAL AND CHEMICAL PROCESSES IN NUCLEAR POWER PLANT EQUIPMENT
- $\checkmark$  \.NUCLEAR POWER PLANT THERMAL HYDRAULIC LABORATORY
- $\approx$  \.STAND FOR THE STUDY OF THE HYDRODYNAMICS OF THE COOLANT IN THE LOWER-DOWN SECTION OF THE VVER REACTOR
- $\div$  \.LABORATORY OF MODERN NUCLEAR POWER PLANT DESIGN TECHNOLOGIES



**TRAINING  
INFRASTRUCTURE**  
in #nuclear  
and related fields



**IN #MPEI**





# MPEI programs



in the field of **#NUCLEAR TECHNOLOGIES**

## PROGRAMS

in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program

14.03.01 /Direction of study/  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**

14.04.01 /Direction of study/  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**



**#PRACTICAL TRAINING**

| \.JSC "Atomenergoproekt"  
| \.JSC "Atomtekhenergo"



**& BACHELOR'S DEGREE** \.ru

- | \.Nuclear Power Plants and Installations
- | \.Thermal Physics
- | \.Thermonuclear Reactors and Plasma Plants



**Σ MASTER'S DEGREE** \.ru

- | \.Physics And Technical Problems  
Of Nuclear Power
- | \.Thermal Physics And Molecular  
Physics
- | \.Applied Plasma Physics And Controlled  
Thermonuclear Fusion



| \.National Research Center "Kurchatov Institute"  
| \.Joint Institute for High Temperatures RAS





# MPEI programs

in the field of **#THERMAL-POWER ENGINEERING**

 13.03.01 / Direction of study /  
 **THERMAL POWER ENGINEERING AND THERMAL ENGINEERING**

 13.04.01 / Direction of study /  
 **THERMAL POWER ENGINEERING AND THERMAL ENGINEERING**

in the field of **#THERMAL-POWER ENGINEERING**

 13.03.03 / Direction of study /  
 **13.03.03 POWER PLANT ENGINEERING**

 13.04.03 / Direction of study /  
 **13.03.03 POWER PLANT ENGINEERING**

  
**PROGRAMS**  
in # nuclear  
and related  
areas

*\.ru – Russian  
language program  
\.en – English  
language program*



**& BACHELOR'S DEGREE**  *\.ru*  
| *\.Thermal Power Stations*  
| *\.Water and Fuel Technology at the Thermal Power Plant*  
| *and the Nuclear Power Plant*



**Σ MASTER'S DEGREE**  *\.ru*  
| *\.TPP: Schemes, Systems and Aggregates*  
| *\.Water and Fuel Technology*  
| *in the Energy Sector*



**& BACHELOR'S DEGREE**  *\.ru*  
| *\.Power Engineering Equipment Manufacturing*



**Σ MASTER'S DEGREE**  *\.ru*  
| *\.Power Engineering Equipment Manufacturing*







# MPEI programs



in the field of **#ELECTRICAL POWER INDUSTRY**



## PROGRAMS

in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program



13.03.02 / Direction of study /

**ELECTRICAL POWER ENGINEERING  
AND ELECTRICAL ENGINEERING**



13.04.02 / Direction of study /

**ELECTRICAL POWER ENGINEERING  
AND ELECTRICAL ENGINEERING**



**& BACHELOR'S DEGREE**  \.ru

- \.Electrical Engineering
- \.Electrical and Electronic Devices
- \.Electric Drive and Automation
- \.Power Supply
- \.Power Supply and Cable Networks
- \.Electromechanical Energy Conversion and Methods of its Research
- \.Electric Drive and Automation
- \.Relay Protection and Automation of Electrical Systems
- \.High Voltage Electrical Power and Electrical Engineering
- \.Management in Power Engineering and Electrical Engineering



**Σ MASTER'S DEGREE**  \.ru

- \.Electric Power Control and Distribution Devices
- \.Electromechanical Energy Conversion and Methods of its Research
- \.Electric Drive and Automation
- \.Relay Protection and Automation of Energy Systems
- \.Intelligent Protection, Automation and Control for Distributed Energy Systems and Increasing the Efficiency of their Operation
- \.Electric Power Systems and Power Grids, their Modes, Stability, Reliability and Power Quality
- \.Engineering in the Electric Power Industry
- \.High Voltage Engineering and Electrophysic
- \.Project Managements in Electrical Engineering





# Student life at MPEI



## #SPORTS INFRASTRUCTURE



- \Swimming pool
- \Sports shooting range
- \Stadium «Energy»
- \Student health and sports camp «Energy»
- \Student health and sports camp "Alushta"
- \Training Center «Institute of Sambo development named after A. A. Kharlampiev»
- \Health resort

## #HEALTH CARE

8000

cost of medical insurance,  
rubles per year

## #STUDENT ORGANIZATIONS



- \Dance studios
- \MPEI choir
- \Theater Studio

## #EVENTS



- \Interfestival
- \Exhibition of national cultures
- \MPEI Open Olympiad in the Russian language for international students
- \Freshman day
- \International Sports Day
- \Ethnic cuisine contest
- \Talent competition



IN #MPEI





# Student dormitories

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$

**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE  
IN THE # HOSTEL**

  
**~1-3**  
students  
in the room



## #CORRIDOR TYPE

*\.kitchen \.shower  
(on the floor)*



## #APARTMENT TYPE

*\.kitchen \.shower  
(in the apartment)*



## ROOM

*\.furniture  
\.beddings*



  
Cost  
**~1199-2500**  
rubles / month

  
**DISTANCE**  
from the campus  
~  
**200-800m**



## PUBLIC space

*\.laundry room  
\.electric stove  
\.ironing board*

  
**WIFI**  
internet  
access







# NNSTU

#NIZHNY NOVGOROD STATE TECHNICAL UNIVERSITY  
NAMED AFTER R.E. ALEKSEEV



\. Nizhny Novgorod >



 @nntu.alekseeva

Σ Σ Σ



Σ Σ Σ



# About NNSTU



## FOREIGN STUDENTS

number / % of the total number of students



Video clip  
about the university

## FOREIGN STUDENTS

in nuclear and related fields of study,  
number



## GRADUATES

in nuclear and related fields of study,  
number



1031

scientific and academic staff

Foreign companies

## #PARTNER ORGANIZATIONS

from

40

countries across the globe

7

institutes



3

faculty



~ 13 000

enrolled students

146

educational  
programs





# About NNSTU



## LABORATORY «REACTOR HYDRODYNAMICS»



- Σ Optimization of designs of advanced **fuel assemblies of nuclear reactors**
- & Investigation of mixing of **non-isothermal flows**
- J Research of heat-hydraulic and resource characteristics of **high-stress heat exchange elements, processes of non-stationary heat exchange**
- ± Research of heat exchange of a **heavy liquid metal heat carrier, specific emergencies in circuits with HLMC**. Development of technologies for creating installations and equipment for low-power fast neutron reactors
- ✓ Experimental studies of the effect of **neutron radiation** on the resource characteristics of metals and alloys, biological protection materials



\. **Video clip**  
about laboratory

## EQUIPMENT

- \. Multipurpose high-pressure **aerodynamic stand** with air coolant
- \. Stand for studying the **hydrodynamics of the coolant flow** in the main equipment of NPP with a capacity of 1.5 megawatt
- \. Multifunctional **thermophysical water-water stand** with coolant parameters corresponding to the standard parameters of nuclear power plants
- \. Multipurpose research **stand with lead-bismuth coolant**
- \. Multipurpose research **stand with lead coolant**
- \. The world's **largest multipurpose circulation stand** with a lead coolant flow rate of 2000 t/h
- \. **Neutron Converter**

**TRAINING**  
**INFRASTRUCTURE**  
in #nuclear  
and related fields





# NNSTU programs



in the field of **#NUCLEAR TECHNOLOGIES**




 14.03.01 / Direction of study /  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**

 14.04.01 / Direction of study /  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**



**& BACHELOR'S DEGREE**  \.ru  
|.Nuclear Power Plants and Installations



**Σ MASTER'S DEGREE**  \.en \.ru  
|.Low-power nuclear power plants  
|.Physical and Technical Problems of Nuclearpower  
|.Engineering

**PROGRAMS**  
in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program



**#PRACTICAL TRAINING**

| \.Atomic Energy Information Center \.JSC "Teploenergo" \.JSC PKO "Heat exchanger" \.FBU "State Regional Center for Standardization of Metrology and Testing in the Nizhny Novgorod Region" \.JSC "Greenatom" Nizhny Novgorod branch \.LLC "Lukoil-Energoseti" \.Laboratories of the Department of Nuclear and Thermal Plants \.NSTU



in the field of **#THERMAL-POWER ENGINEERING**

 13.03.03 / Direction of study /  
**POWER-PLANT ENGINEERING**

 13.04.03 / Direction of study /  
**POWER-PLANT ENGINEERING**



**& BACHELOR'S DEGREE**  \.ru  
|.Thermal Power Plants



**Σ MASTER'S DEGREE**  \.ru  
|.Piston and Combustion Engines



**#PRACTICAL TRAINING**

| \.LLC "Scientific and Production Centre" ANOD \.JSC PKO" Teploobmennik " \.LLC" United Engineering Centre "(GAZ Group) \.LLC" Avtoliga-Center "  
|.LLC" Gazprom transgaz Nizhny Novgorod " \.Laboratories of the department" Power plants and heat engines "



# NNSTU programs



in the field of **#MATERIALS SCIENCE**

## PROGRAMS

in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program

22.03.01 /Direction of study/  
**MATERIALS SCIENCE AND TECHNOLOGY**

22.04.01 /Direction of study/  
**MATERIALS SCIENCE AND TECHNOLOGY**



### #PRACTICAL TRAINING

| \JSC Vyksa Metallurgical Plant \PJSC Krasnoe Sormovo Plant \JSC Krasny Yakor Plant \PJSC Normal \LLC Gazprom transgaz Nizhiny Novgorod  
| \JSC PKO Heat exchanger \LLC Liebherr-Nizhny Novgorod \department laboratories "Materials science \technology of materials and heat  
treatment of metals"



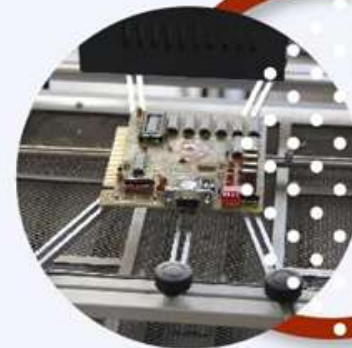
### & BACHELOR'S DEGREE

| \.Materials Science, Nanomaterials and Composites Technologies  
| \.Materials Science and Heat Treatment of Metal Materials



### Σ MASTER'S DEGREE

| \.Materials Science, Processes  
of Production and Processing  
of Inorganic Materials  
| \.Materials Science and Heat  
Treatment of Metal Materials





# NNSTU programs



in the field of **#THERMAL AND ELECTRICAL POWER ENGINEERING**

## PROGRAMS

in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program

13.03.01 /Direction of study/  
**THERMAL-POWER ENGINEERING AND THERMAL  
ENGINEERING**

13.04.01 /Direction of study/  
**THERMAL-POWER ENGINEERING AND THERMAL  
ENGINEERING**

13.03.02 /Direction of study/  
**ELECTRIC POWER ENGINEERING AND ELECTRICAL  
ENGINEERING**

13.04.02 /Direction of study/  
**ELECTRIC POWER ENGINEERING AND ELECTRICAL  
ENGINEERING**



**& BACHELOR'S DEGREE** \.ru

- \.Thermal Power Engineering and Heat Engineering
- \.Thermal Power Stations



**Σ MASTER'S DEGREE** \.ru

- \.Heat and Mass Transfer Processes and Installations



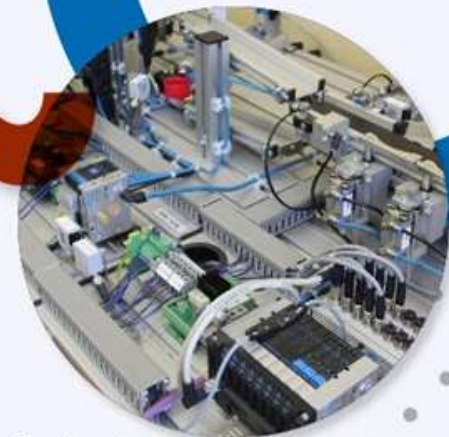
**& BACHELOR'S DEGREE** \.ru

- \.Electric Power Systems and Power Grids
- \.Power Supply and Relay Protection
- \.Electromechanical Systems of Autonomous Objects
- \.Electrical Engineering Installations and Systems
- \.Electric Drive and Automation



**Σ MASTER'S DEGREE** \.ru

- \.Electric Power Systems and Power Grids
- \.Optimization of Power Supply Systems
- \.Relay Protection and Automation of Electric Power Systems
- \.Electromechanical Systems of Autonomous Objects
- \.Digital Control Systems for Electric Drives



## #PRACTICAL TRAINING

- \.JSC Teploenergo \.LLC Avtozavodskaya CHPP \.PJSC T Plus \.JSC PKO (Teploobmennik) \.State Regional Centre for Standardization
- \.Metrology and Testing in the Nizhny Novgorod Region \.Laboratories of the Department of Nuclear and Thermal Plants \.NSTU





# Student life at NNSTU

## #SPORTS INFRASTRUCTURE



- \.2 gyms
- \.3 aerobics halls
- \.Track and field arena
- \.2 tennis halls
- \.Martial arts hall
- \.Outdoor sports complex (with an area of 2000 sq. m.)
- \.Ski base



## #HEALTH CARE

~6600

cost of medical insurance,  
rubles per year

## #STUDENT ORGANIZATIONS



- \.NNSTU international youth club

## #EVENTS



- \.Sightseeing city tour
- \.Carnival
- \.City interuniversity tournament among
- \.International students in mini-football and table tennis
- \.Annual international youth scientific and practical conference «Harmonization of interethnic relations in a global society»
- \.Annual training seminar for international students «We are together!»

Σ  
&  
∫  
±



IN #NNSTU





# Student dormitories

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$

**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE IN THE # HOSTEL**

  
**~2-3**  
students  
in the room



30 min  
on public transport  
transport

  
**DISTANCE**  
from the campus  
~  
**6-7 km**

  
**#BLOCK TYPE**  
Kitchen  
bathroom  
in each block

  
**ROOM**  
furniture  
beddings



  
Cost  
**~768**  
rubles / month

  
**WIFI**  
additional fee 500-600  
rubles



  
**PUBLIC**  
space  
household rooms  
(laundries, dryers)  
table tennis room  
assembly hall  
student club







# SPbPU

#PETER THE GREAT ST. PETERSBURG POLYTECHNIC UNIVERSITY



\. Saint Petersburg >



 **POLYTECH**

-  [spbstu.official](https://www.facebook.com/spbstu.official)
-  [@polytech.eng](https://www.instagram.com/polytech.eng)
-  [@studyenergyinpolytech](https://www.instagram.com/studyenergyinpolytech)

Σ Σ Σ



Σ Σ Σ



# About SPbPU



## RANKINGS 2021



Video clip about the university



> 500

professors, doctors of science



~ 33 000

enrolled students

≥ 400

foreign partner universities

from

68

countries across the globe

11

institutes



49

fields of program studies for bachelors and masters

+

9

for the specialist program



## FOREIGN STUDENTS, number / % of the total number of students



## FOREIGN STUDENTS in nuclear and related fields of study, number



32 Countries



# SPbPU programs



in the field of #NUCLEAR TECHNOLOGIES

**PROGRAMS**  
in # nuclear  
and related  
areas

\ru – Russian  
language program  
\en – English  
language program

14.03.01 /Direction of study/  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**

14.04.01 /Direction of study/  
**NUCLEAR POWER ENGINEERING AND THERMAL PHYSICS**



#PRACTICAL TRAINING

| \Resource Centre of the State Corporation "Rosatom" in  
| Volgodonsk



& **BACHELOR'S DEGREE** \ru

| \Nuclear Power Plants and Installations Program



**MASTER'S DEGREE** \en

| \Nuclear Power Engineering Program



**MASTER'S DEGREE** \ru

| \Designing, Operation and Engineering  
of nuclear Power Plants Program



| \Higher School of Nuclear and Thermal Power Engineering, SPbPU  
| \Institute of Energy, SPbPU





# SPbPU programs



in the field of #THERMAL POWER ENGINEERING

13.03.01 /Direction of study/  
HEAT-POWER ENGINEERING AND HEATING ENGINEERING

13.04.01 /Direction of study/  
HEAT-POWER ENGINEERING AND HEATING ENGINEERING

## PROGRAMS

in # nuclear  
and related  
areas

\ru – Russian  
language program  
\en – English  
language program



#PARTNERS

| \University of Hanover Leibniz

in the field of #POWER- PLANT ENGINEERING

13.03.03 /Direction of study/  
POWER-PLANT ENGINEERING



& **BACHELOR'S DEGREE** \ru

| \Industrial Thermal Power Engineering



Σ **MASTER'S DEGREE** \en

| \Power Plant Engineering



Σ **MASTER'S DEGREE** \ru

| \Thermal and Electrical Power  
Production Technology Program



| \Lappeenranta University of Technology



& **BACHELOR'S DEGREE** \ru

| \Gas Turbine, Steam Turbine Plants and Engines  
\Internal Combustion Engines  
\Hydraulic Machines, Hydraulic Drives and Hydro Pneumatic  
Automation  
\Compressor and Refrigeration Machines and Installations  
\Aircraft Engines and Power Plants  
\Gas Turbine Units of Gas Pumping Stations



# SPbPU programs

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$



in the field of #ELECTRICAL POWER ENGINEERING

13.03.02 /Direction of study/  
**ELECTRIC POWER ENGINEERING AND ELECTRICAL ENGINEERING**

13.04.02 /Direction of study/  
**ELECTRIC POWER ENGINEERING AND ELECTRICAL ENGINEERING**



## PROGRAMS

in # nuclear and related areas

\.ru – Russian language program  
\.en – English language program



#PRACTICAL TRAINING | \.Institute of Energy, SPbPU



& **BACHELOR'S DEGREE**  \.ru

- | \.High Voltage Power and Electrical Engineering
- | \.Electrical Power Systems and Networks
- | \.Electrical Power Stations
- | \.Relay Protection and Automation of Electrical Power Stations
- | \.Electrical Power Supply
- | \.Electrical and Electronic Devices
- | \.Electromechanics
- | \.Electrical Equipment and Electrical Facilities of Enterprises, Organizations and Institutions



Σ **MASTER'S DEGREE**  \.en

- | \.Electrical Engineering

#PARTNER 

- | \.Lappeenranta University of Technology
- | \.University of Hanover Leibniz
- | \.Brandenburg Technical University Cottbus



Σ **MASTER'S DEGREE**  \.ru

- | \.Power Plants based on the use of Renewable Energy Sources
- | \.Electrical Power Plants and Substations
- | \.Electric Power Systems, Networks, Power Transmissions, their Modes, Stability and Reliability
- | \.Power System Automation

| \.Higher School of High Voltage Power Engineering SPbPU







# Student life at SPbPU

## #SPORTS INFRASTRUCTURE



- \.Polytechnic stadium: running tracks, multi-purpose playgrounds, football field
- \.25-meter **swimming pool**
- \.Sport Halls for **volleyball, basketball, Boxing**
- \.Outdoor **exercise equipment**



## #HEALTH CARE

**~100000**

cost of medical insurance, rubles per year

## #STUDENT ORGANIZATIONS



- \.EESTEC
- \.PolyUnion
- \.Polyrock Music Studio
- \.FabLab

## #EVENTS



- \.Harmony festival
- \.Olympiad in the Russian language
- \.Sport competitions

Σ  
&  
∫  
±



IN #SPbPU





# Student dormitories



FOREIGN STUDENTS ARE PROVIDED WITH A PLACE  
IN THE # HOSTEL



~2-3  
students  
in the room



5 min  
walk on foot



DISTANCE  
from the campus

~  
200-500m



#APARTMENT TYPE

\\ kitchen  
\\ bathroom  
in each apartment



ROOM

\\ furniture  
\\ beddings



Cost  
~1000  
rubles / month



WIFI

\\ internet  
access



PUBLIC  
space

\\ tennis room and gym  
\\ study rooms  
\\ self-service  
laundry rooms







# TPU

#NATIONAL RESEARCH TOMSK POLYTECHNIC UNIVERSITY

\. Tomsk >



 TOMSK  
POLYTECHNIC  
UNIVERSITY

 user/TPUmedia

 TPUnews

 @tomskpolytechnicuniversity

 TPUnews\_en





# About TPU



## RANKINGS 2020



#QS = 401



#THE



#ARWU



Video clip about the university



1534

scientific and academic staff



>13 000

enrolled students

85

foreign partner universities from

26

countries across the globe for academic exchange programs

10

research and engineering schools



27

bachelor's degree training fields



34

master's degree



## FOREIGN STUDENTS, number / % of the total number of students



## GRADUATES in nuclear and related fields of study, number





# About TPU



#RESEARCH NUCLEAR REACTOR IRT-T  
1.6MW



#THE TPU REACTOR reached  
**A MAXIMUM** flux density of #thermal  
neutrons at  $1.5 \cdot 10^{14}$  N / cm<sup>2</sup>, and #fast  
neutrons at  $7.1 \cdot 10^{13}$  N / cm<sup>2</sup>

- Σ Development and conduct of nuclear-physical and atomic methods of analysis of the element composition and structure of materials and substances
- & Research and development of radiation nanotechnology to obtain materials with new and predetermined properties
- J Fundamental and applied research on the physics of the interaction of charged particles, neutrons and gamma of quanta with matter
- ± Production of radionuclide drugs and medical products



TPU is an associate member of the experimental research at  
**THE #LARGE HADRON COLLIDER** and is part of  
**THE #CERN collaborations:** NA64, RD51, LHCb, CMS, COMPASS



**TRAINING  
INFRASTRUCTURE**  
in #nuclear  
and related fields

Σ  
&  
J  
±



IN #TPU





# TPU programs

${}^{235}_{92}\text{U} + e^{-} + \bar{\nu}_e$



in the field of #NUCLEAR TECHNOLOGIES

14.03.02 / Direction of study /  
NUCLEAR PHYSICS AND TECHNOLOGIES

14.04.02 / Direction of study /  
NUCLEAR PHYSICS AND TECHNOLOGIES

#### #PROFILES:

\.Nuclear Power Engineering  
\.Nuclear Medicine  
\.Safety, Security and Non-Proliferation of Nuclear Materials

14.05.02 / Direction of study /  
NUCLEAR POWER PLANTS: Design, Operation and Engineering

14.05.04 / Direction of study /  
ELECTRONICS AND AUTOMATION OF PHYSICAL INSTALLATIONS

in the field of #CHEMICAL TECHNOLOGIES

18.05.02 / Direction of study /  
CHEMICAL TECHNOLOGY OF MODERN ENERGY MATERIALS



#PRACTICAL TRAINING

\.Resource centres of the "Rosatom"

## PROGRAMS

in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program



& BACHELOR'S DEGREE \.ru



Σ MASTER'S DEGREE

| \.Nuclear Reactors and Power Plants \.ru  
| \.Nuclear Medicine \.en  
| \.Nuclear Science and Technology \.en  
| \.Isotope Technologies and Materials \.en  
| \.Nuclear and Radiation Safety Security \.ru

∫ SPECIALIST DEGREE \.ru

| \.Nuclear Power Plants: Design, Operation  
and Engineering

∫ SPECIALIST DEGREE \.ru

| \.Control Systems for Technological Processes  
and Physical Installations



∫ SPECIALIST DEGREE

| \.Chemical Technology  
of Nuclear Fuel Cycle Materials \.ru





# Student life at TPU



## #SPORTS INFRASTRUCTURE



- \.Swimming pool
- \.Stadium "Polytechnic"
- \.Athletic building
- \.Climbing wall
- \.Football field with artificial turf

## #HEALTH CARE

3700

cost of medical insurance,  
rubles per year

## #STUDENT ORGANIZATIONS



- \.TPU Student Council
- \.Student dance club
- \.Student musical association "Dominanta"
- \."Music Studio"
- \.Pop vocal studio "Reflection"
- \.Photo studio Art-concept
- \.Buddy Building Club

## #CULTURAL LIFE



\.International Cultural Centre

Σ  
&  
J  
±

≡ IN #TPU





# Student dormitories



**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE  
IN THE # HOSTEL**



**~2-3**  
students  
in the room



5-10 min  
walk on foot



**DISTANCE**  
from the campus  
~  
**200-1000m**



## #SECTIONAL TYPE

\.toilet \.shower  
(in the room)  
\.kitchen  
(on the floor)



**ROOM**  
\.furniture  
\.beddings



Cost  
**~2700**  
rubles / year



**WIFI**  
internet  
access



## PUBLIC space

\.training rooms  
\.gym  
\.laundry rooms  
\.kitchen







**UrFU**

**#URAL FEDERAL UNIVERSITY NAMED AFTER  
THE FIRST PRESIDENT OF RUSSIA B.N. YELTSIN**

*\. Yekaterinburg >* 



 **Ural Federal  
University**

 @urfu.ru  
 ural.federal.university





# About UrFU



## RANKINGS 2020



Video clip about the university



3921

scientific and academic staff



36 000

enrolled students

≥ 500  
foreign partner universities  
from  
72  
countries across the globe

13

institutes

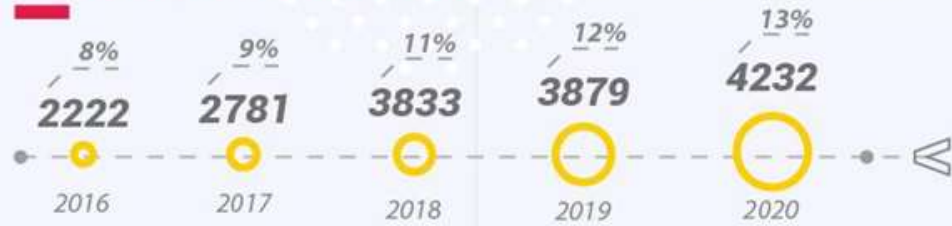


409

educational programs



## FOREIGN STUDENTS, number / % of the total number of students



96  
Countries

## STUDENTS in nuclear and related fields of study, number / % of the total number of students



## GRADUATES in nuclear and related fields of study, number



10  
Countries



# About UrFU



## #CYCLOTRON CENTRE FOR NUCLEAR MEDICINE

- Σ Production of radiopharmaceuticals
- & Study of processes in materials under the influence of charged particles
- J Dosimetrical streams of charged particles



### EQUIPMENT

- | \Cyclotron
- | \Thermal cameras
- | \Radiation detectors
- | \Radiation dosimeters



## #TRAINING COMPLEX FOR MAINTENANCE AND REPAIR OF NUCLEAR POWER PLANT EQUIPMENT

- Σ Training in the maintenance of nuclear power plant engineering systems



### EQUIPMENT

- | \Reactor models
- | \Industrial unit control simulator
- | \Models of heat exchange and ventilation equipment of the power unit



## TRAINING INFRASTRUCTURE in #nuclear and related fields



## #DOSIMETRY AND SPECTROMETRY LABORATORIES

- Σ Education and retraining in the fields of dosimetry and spectrometry of ionizing radiation
- & Develop methods regarding the dosimetry of radiation
- J Development of radiation spectrometry techniques



### EQUIPMENT

- | \Sources, dosimeters, spectrometers of gamma and neutron radiation,
- | \Spectrometers of charged particles



## #RADIATION STERILIZATION CENTRE

- Σ Radiation sterilization
- & Radiation treatment of polymers
- J The dosimetry of the electronic beam
- ± Research in physics, biology and chemistry using electronic radiation



### EQUIPMENT

- | \Electron accelerator
- | \Conveyor line
- | \Absorbed dose dosimeters





# UrFU programs



in the field of **#NUCLEAR TECHNOLOGIES**

14.05.02 /Direction of study/  
**NUCLEAR POWER PLANTS: Design, Operation and Engineering**

14.03.02 /Direction of study/  
**NUCLEAR PHYSICS AND TECHNOLOGY**

14.04.02 /Direction of study/  
**NUCLEAR PHYSICS AND TECHNOLOGY**



in the field of **#NUCLEAR MEDICINE**

12.04.04 /Direction of study/  
**BIOTECHNICAL SYSTEMS AND TECHNOLOGY**

**PROGRAMS**  
in # nuclear  
and related  
areas

\.ru – Russian  
language program  
\.en – English  
language program



**#PRACTICAL TRAINING**

| \.UrFU Innovation and Implementation Sterilization Center  
| \.UrFU Cyclotron center of Nuclear Medicine



**SPECIALIST DEGREE** \.ru  
| \.Nuclear Plants: Design, Operation and Engineering



**BACHELOR'S DEGREE** \.ru  
| \.Nuclear Physics and Technology



**MASTER'S DEGREE** \.ru  
| \.Radiation Safety Technologies  
| \.Physics of High-energy Processes



**MASTER'S DEGREE** \.ru  
| \.Nuclear Medicine Technologies



| \.Enterprises of Rosatom in the Ural region  
| \.Sverdlovsk regional oncological dispensary  
| \.PET-technologies



# UrFU programs



in the field of **#CHEMICAL TECHNOLOGY**

 18.03.01 /Direction of study/  
**CHEMICAL TECHNOLOGY**

 18.04.01 /Direction of study/  
**CHEMICAL TECHNOLOGY**

## PROGRAMS

in # nuclear  
and related  
areas

$\backslash ru$  – Russian  
language program  
 $\backslash en$  – English  
language program



in the field of **#MATERIALS SCIENCE**

 22.04.01 /Direction of study/  
**MATERIALS SCIENCE AND TECHNOLOGY**



**#PRACTICAL TRAINING**

$\backslash$ .Enterprises of the State Corporation "Rosatom" of the  
Ural region  
 $\backslash$ .Enterprise for radioactive waste management "RosRAO"



**& BACHELOR'S DEGREE**  $\backslash ru$

$\backslash$ .Chemical Technology of New Technological Materials



**Σ MASTER'S DEGREE**  $\backslash ru$

$\backslash$ .Analytical Control of Natural and Technical  
Objects  
 $\backslash$ .Technology of Rare and Rare Earth Elements  
 $\backslash$ .Office of Environmental Safety of  
Radiochemical Technology



**Σ MASTER'S DEGREE**  $\backslash ru$

$\backslash$ .Materials Science and Materials Technology  
in Nuclear Power



$\backslash$ .Institute of High-Temperature Electrochemistry, Ural Branch of the Russian  
Academy of Sciences  
 $\backslash$ .Institute of Solid State Chemistry, Ural Branch of the Russian Academy of  
Sciences  
 $\backslash$ .Institute of Metallurgy, Ural Branch of RAS





# Student life at UrFU

## #SPORTS INFRASTRUCTURE



\.Summer and winter stadiums \.a sports complex \.the university swimming pool \.11 specialized sports halls and grounds \.2 ski resorts \.14 sports grounds on the campus



## #HEALTH CARE

> **1675**

cost of medical insurance, rubles per year

## #STUDENT ORGANIZATIONS



\.Union of Students \.17 communities  
\.Council of Young Scientists \.Union of young innovators  
\.AIESEC in Yekaterinburg  
\.Erasmus Student Network (ESN)

## #ACCOMPANYING INTERNATIONAL STUDENTS



\.Buddy system UrFU

## #EVENTS



\.Peoples' Friendship Festival  
\.Test drive UrFU  
\.National cuisine festival  
\."Day One" at UrFU



$\Sigma$   
&  
 $\int$   
 $\pm$



IN #UrFU





# Student dormitories



**FOREIGN STUDENTS ARE PROVIDED WITH A PLACE IN THE # HOSTEL**


  
**~2-4**  
students  
in the room



7-8 min  
walk on foot

  
**DISTANCE**  
from the campus  
~  
**200-700m**

## #CORRIDOR TYPE

  
\kitchen \shower  
(on the floor)

## #SECTIONAL TYPE

  
\shower  
(on the floor)  
\kitchen  
(in the room or on the floor)



## ROOM

\furniture  
\beddings



Cost  
**~1000**  
rubles / month



## WIFI

\internet  
access

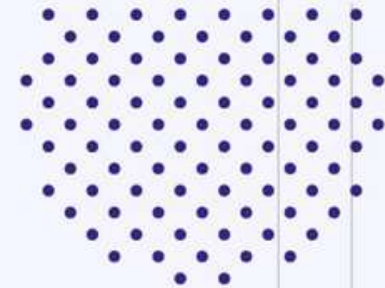


## PUBLIC space

\study rooms  
\cinema  
\sports hall  
\laundry rooms







# Study in Russia.

## Apply for scholarship

### *education-in-russia.com*

**#NUCLEAR EDUCATION** in Russia is your **KEY** to success!  
/ +7-914-65-000-20 / [studynuclear@gmail.com](mailto:studynuclear@gmail.com) /  
/ +7-905-796-64-49 / [studynuclear.africa@gmail.com](mailto:studynuclear.africa@gmail.com) - for Africa region