

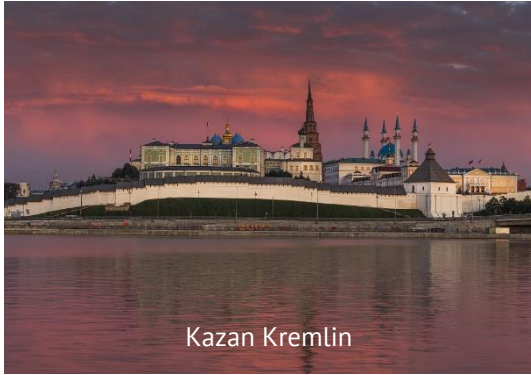


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# Geology and Petroleum Technologies at Kazan Federal University

#29 in the world  
QS Subject Rankings in Petroleum Engineering

## Tatarstan and its capital city Kazan



Kazan Kremlin



Peter and Paul's Cathedral, Kazan



Marriage Center, Kazan



Kazan Federal University



Romashkino Oilfield



White Mosque, Bolgar



# History of Kazan University - Milestones

1804 – Imperial Kazan University established by Emperor Alexander I

1821 – Nikolay Lobachevsky offers first outlines of non-Euclidean geometry (later served as rector 1827 - 1846)

1837 – first ever Department of Chinese Language in Russia

1844 – ruthenium (44<sup>th</sup> chemical element) discovered by Professor Karl Claus

Since 1858 – Alexander Butlerov and his students develop the theory of organic compounds

1885 – first ever laboratory of psychophysiology in Russia established by Vladimir Bekhterev

1887 – Vladimir Ulyanov (Lenin) enrolls in Kazan University but is expelled after a student protest

1901 – Engelhardt Astronomical Observatory opened in a suburb of Kazan

1922 – Kazan Agricultural Institute splits from Kazan University

1925 – the University assumes the title of Ulyanov-Lenin Kazan State University

1930-1932 – three new institutes – in chemical technology, aviation, and medicine – split from Kazan University

1944 – Yevgeny Zavoisky discovers electron paramagnetic resonance

1945 – Kazan Center of the Russian Academy of Science opens doors

1973 – 1978 – major campus expansion and renovation in Kazan city center

1996 – central campus in Kazan inducted into the Russian Registry of the Most Valuable Objects of Cultural Heritage

2010-2013 – Kazan Federal University established after a series of mergers with local institutions

2021 – Kazan University joins Priority 2030, a federal academic excellence initiative



401 in the world  
5 in Russia



# Kazan Federal University – Studies and structure

## Natural Sciences

Medicine and biology  
Environmental science  
Geology and petroleum technologies  
Chemistry

## Territorial campuses

Yelabuga, Russia  
Naberezhnye Chelny, Russia  
Jizzakh, Uzbekistan  
Cairo, Egypt

## Physics, Mathematics, IT

Physics  
Astronomy  
Mathematics and mechanics  
Computer science  
Engineering (heat, electrical, automotive, civil, mechanical, biotechnical, cryogenics, materials science)

## School and Pre-school Education

IT Lyceum  
Lobachevsky Lyceum  
University School of Yelabuga  
We are Together Kindergarten

## Social Sciences and Humanities

International relations  
Law  
Philology and linguistics – over 20 languages  
Psychology  
Philosophy and theology  
Sociology  
Political science  
Design and environmental arts  
Economics and finance  
Management and public service  
Teacher education



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## University at a glance

**52,000 students**

**11,500 international students  
from 100+ countries**

**300+ partner institutions from  
52 countries**

**Higher education and PhD  
Secondary education  
Pre-school education  
University clinic**

**9,500+ employees  
Including 4,000 educators and researchers**

**350+ undergraduate programs  
250+ graduate programs  
90+ doctoral programs  
Advanced training programs**

**910 thousand m<sup>2</sup> of infrastructure  
120+ laboratories  
670+ buildings and structures**



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**priority2030^**  
leaders are made, not born

## Priority 2030 – Strategic projects

Priority 2030 is a Russian strategic academic leadership program launched in 2021. There are two tracks in the project – the Territorial / Industrial Leadership track and the Research Leadership track. KFU is part the Territorial / Industrial leadership group. Our University listed five strategic projects for the program:

**SP1 Genomic and Post-Genomic Technology**

**SP2 Russian Energy Transition: Balancing Natural Potential and Global Trends**

**SP3 Digital Studies of Materials**

**SP4 Meta-Platform Solutions for IT, AI and Cyber-Physical Systems**

**SP5 Evidence-Based Platform Solutions for Human Potential**



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## Cultural, social and sports infrastructure



Over 14,000 students are hosted at various KFU dorms, including the Universiade Village – one of the largest dorm campuses in Russia



**11**  
sports  
venues

**12** museums (humanities, technology, and natural sciences)

**1 mln** depository items

**10** large-scale exhibition projects per year

**35 thousand** visitors per year



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# Geology and Petroleum Technologies at Kazan Federal University – three pillars

Institute of Geology and Petroleum Technologies  
(education and research)

World-Class Research Center for Liquid Hydrocarbons  
(research)

Center for Advanced Training, Quality Management and Marketing  
(advanced professional training)





# Institute of Geology and Petroleum Technologies

## OUR INSTITUTE

World # 29  
QS World University Rankings by  
Subject 2024: Engineering -  
Petroleum

World-class  
laboratories

Students actively  
partake in our  
research



Over 1,200 students

Cooperation with local  
and overseas  
universities

Employment opportunities in industry-  
leading companies



Vice-Rector for Earth Sciences  
**Danis Nurgaliev**








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# Institute of Geology and Petroleum Technologies

## OUR EDUCATIONAL PROGRAMS










### Bachelor programs (4 years)

-  Geology and development of mineral deposits
-  Geophysics
-  General geology
-  Engineering geology and hydrogeology
-  Petroleum engineering






### PhD programs (4 years)

-  Oil chemistry
-  Paleontology and stratigraphy
-  Mineralogy and crystallography; geochemistry and geochemical methods of mineral exploration
-  Lithology

### Master programs (2 years)

-  Contemporary geophysical technologies of hydrocarbon prospecting and exploration
-  Engineering geology and hydrogeology of urban territories
-  Geology of mineral deposits
-  Geology and geochemistry of oil and gas
-  Digital technology and modeling methods in oil and gas geology
-  Stratigraphy of oil and gas basins
-  Complex data analysis in geosciences (English program)
-  Petroleum engineering (English program)
-  Development of hard-to-recover and unconventional hydrocarbon fields
-  Integrated modeling of deposits
-  Technology of oil, gas and natural bitumen

### PhD programs (4 years)

-  Hydrogeology
-  Geophysics
-  Geology, exploration, prospecting and development of oil and gas deposits
-  Development of oil and gas deposits
-  Petroleum engineering (English program)



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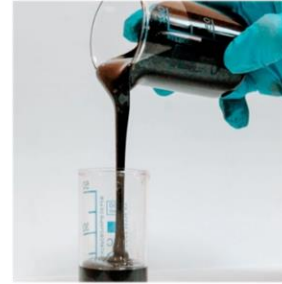
# Institute of Geology and Petroleum Technologies

## SOME OF OUR LABORATORIES

### Laboratory of Geochemistry, Isotope and Element Analysis



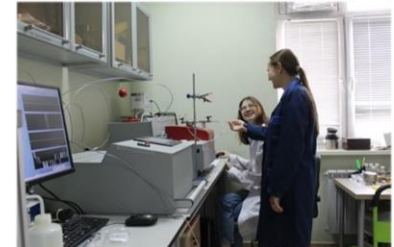
### Laboratory of Enhanced Oil Recovery



### Laboratory of X-ray Tomography



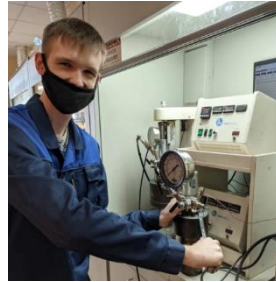
### In-Situ Combustion Laboratory



# Institute of Geology and Petroleum Technologies

## SOME OF OUR LABORATORIES

### Laboratory of Hydrate Technologies for the Utilization and Storage of Greenhouse Gases



### Electron Microscopy Laboratory



### 3D GEO Center

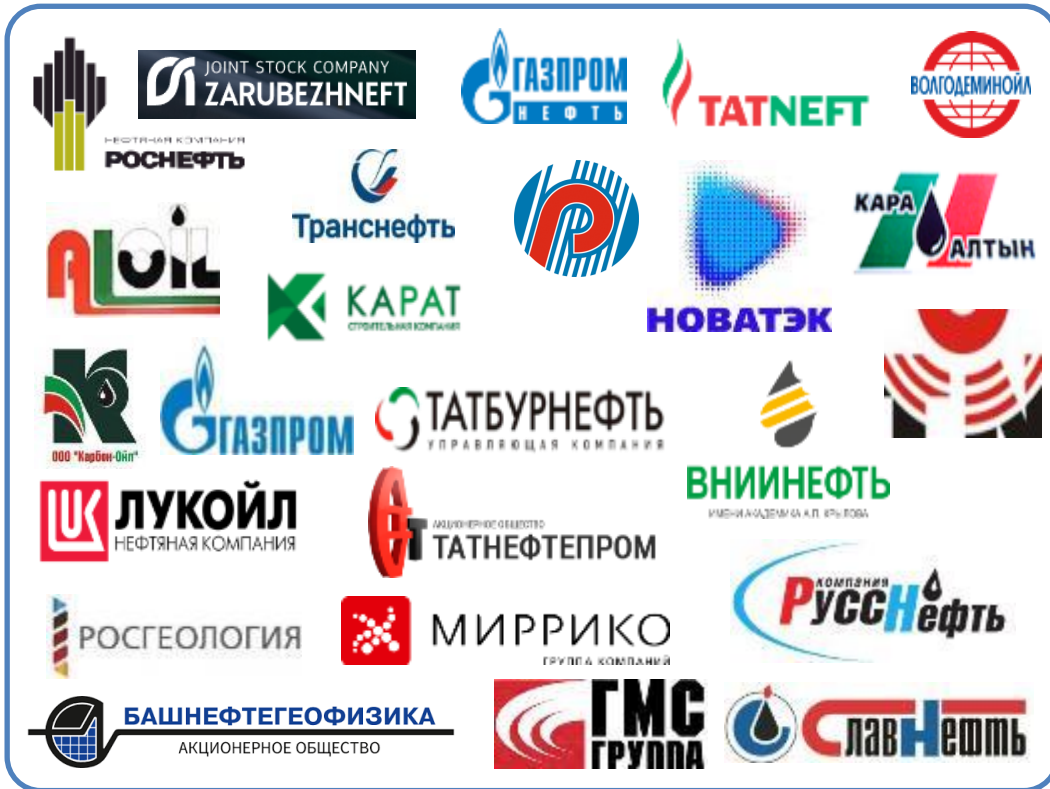


### Laboratory of Petrophysical Methods of Geological Material Research



# International cooperation

## Russian companies



## International companies







# World-Class Research Center for Liquid Hydrocarbons

## WORLD-CLASS RESEARCH CENTER EFFICIENT DEVELOPMENT OF THE GLOBAL LIQUID HYDROCARBON RESERVES (INTER-UNIVERSITY CONSORTIUM)

The Center was established in 2020 to advance research in hydrocarbon deposit exploration, comprehensive deposit monitoring, eco-friendly and efficient methods of production on

heavy and complex reservoirs

Among the Center's priorities are:

Fundamental research

New production paradigms

Exploration of new reserves

Sharing of best practices



**Kazan Federal**  
UNIVERSITY



Ufa State Petroleum Technological  
University

**Skoltech**

Skolkovo Institute of Science and Technology



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# World-Class Research Center for Liquid Hydrocarbons

## RESEARCH PRIORITIES

- |  |   |  |
|--|---|--|
| Satellite imaging                                  | Big data and AI in geological modeling                | Utilization of associated petroleum gas for enhanced oil recovery  |
| Heat flows   | „Pseudo“-core samples                                 | Oil displacement mechanisms  |
| Carbon isotope record                              | Microfluid research                                   | Enhanced oil recovery (ionized water, surfactants, polymers, gels) |
| Sedimentation basins                               | Exploration on depleted reservoirs                    | Catalysts for viscous oils   |
| Evaluation of reserves                             | Eco-friendly and cost-effective drilling technologies | Express analysis of composition of oil and oil products            |
| Geothermochronology                                |   |  |
| Air, water, and ground prospecting and exploration |   |  |
| Drone surveillance                                 |   |  |



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# Center for Advanced Training, Quality Management and Marketing

Professional training in:

- Interpretation and translation in the petroleum industry
- Geology and geophysics (Russian and English courses)
- Oilfield development, metrology and geodesy
- Economics, management and finance in the petroleum industry



Uniting our capabilities for everyone's success!

CdoGEO



## Our partners



CdoGEO implements professional retraining programs, advanced training courses, conducts webinars and individual internships

- **Courses are implemented in any of the requested format:**
  - ✓ Full-time
  - ✓ Part-time
  - ✓ On-site on geological objects, at enterprises, in laboratories



**We integrate everybody's possibilities for each one's success!**

[cdogeo.kpfu.ru/centre](http://cdogeo.kpfu.ru/centre)

- 16+ professional retraining programs
- 110+ professional development programs
- 100+ distance learning courses
- 1,000+ students per year
- 170+ teachers and experts

## Our partners and customers

PJSC NK Rosneft

PAO Tatneft

PJSC Gazprom

PJSC Gazpromneft

PJSC LUKOIL

JSC "Ritek"

OJSC "Surgutneftegas"

LLC "TNG-Group"

JSC "Bashneftegeofizika"

PJSC "Geotech holding"

MH Industry (Kazakhstan)

Burgylau LLP (Kazakhstan)

Unión Cuba-Petróleo (Cuba)

Southern Oil Company (Republic of Iraq)

Roxar Services AS

All-Russian Research Institute of Flow

Measurement

Schlumberger

SPF Paker LLC

Mirrco Group of Companies

CMG (Canada)

Trimble (US)

IFP (France)

HONG KONG UNITE CREATION

INTERNATIONAL CO. LIMITED (China)





# Forums and events

International Scientific and Practical Conference

## Carbonate sediments 2024

14-16 August 2024, Kazan



## Practice GeoChemistry 2024

new opportunity

25-26 июня 2024, г. Казань



Казань, 13 - 16 мая 2024 года

## Горизонтальные скважины 2024

6-я научно-практическая конференция



## TATARSTAN UPEXPRO 2024

VIII МЕЖДУНАРОДНАЯ МОЛОДЕЖНАЯ НАУЧНАЯ КОНФЕРЕНЦИЯ

Казанский федеральный университет  
Институт геологии и нефтегазовых технологий

Казанский федеральный университет  
Институт геологии и нефтегазовых технологий

Казанский федеральный университет  
Институт геологии и нефтегазовых технологий

### 11-14 АПРЕЛЯ

КАЗАНЬ - 2024



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A number of large-scale events are held every year

Казанский Федеральный Университет  
Kazan Federal University  
Институт геологии и нефтегазовых технологий

Всероссийская конференция с международным участием

### ГЕОТЕРМОХРОНОЛОГИЯ: МЕТОДЫ, ФУНДАМЕНТАЛЬНЫЕ И ПРИКЛАДНЫЕ ИССЛЕДОВАНИЯ

#ГТХ2024



15-18 мая 2024, Казань



# Institute of Geology and Petroleum Technologies

## Contacts

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<https://prepschool.kpfu.ru>

Telegram



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