

INDUSTRIAL UNIVERSITY OF TYUMEN (IUT) “PETROLEUM HORIZONS OF SIBERIA”

Topic: Petroleum Engineering

Language of instruction: English



Partner universities

University of Tyumen (Tyumen)

Ural Federal University (Ekaterinburg)

Tyumen Petroleum Research Center (Tyumen)

Brief description

The aim of the IUT Summer Institute (Petroleum Engineering) is to involve researchers and teachers from near and far abroad countries in the scientific and educational environment of the Russian Federation, establish and develop educational, research and project cooperation between Russian researchers and their colleagues from near and far abroad countries.

The name of the program is not accidental: “petroleum horizon” (or “formation”) is the rock from which oil and condensate are extracted is the rock from which oil and condensate are extracted. Thus, there is a reference to the topic of the IUT Summer Institute – “Petroleum Engineering” and it indicates the geographical context – “Siberia”.

As part of the IUT Summer Institute, participants will become familiar with the peculiarities and technologies of oil and gas industry in the Tyumen Region, where up to 70% of oil and more than 90% of Russian gas are concentrated and produced. IUT faculty staff will talk about the development of oil and gas wells in Siberia, methods for oil recovery enhancement and inflow stimulation, hydrodynamic modeling, and the use of computer simulators for the oil and gas industry, maintenance and repair of oil and gas equipment.

Varied cultural program complements the educational program and introduces participants to the history and traditions of Siberia.

Participants

Petroleum Horizons of Siberia Summer Institute will host young and active teachers and researchers involved in oil and gas topics, interested in the culture of Russia and the possibility of cooperation.

Young teachers and researchers who recently defended their Ph.D. theses at IUT are also involved in the implementation of the project. This will facilitate easier contact with the project participants, create strong professional ties, which will give a synergistic effect in the future already after the project is ended.

IUT is open to the whole world, and within the framework of the project we will be glad to welcome young teachers and researchers from 9 CIS countries, East and South-East Asia, Middle East, and Africa.

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The educational program consists of the following:

Additional professional education program at Industrial University of Tyumen – **30 hours**

Internship at Ural Federal University – **6 hours**

Internship at the Tyumen Petroleum Research Center – **6 hours**

Internship at the University of Tyumen – **6 hours**

Educational Program

Educational Modules

Monitoring of Oil and Gas Wells During Repair Work

Lecture will cover the following issues:

causes of gas and oil spills during workover operations of oil and gas wells, the system of barriers when carrying out works with the use of coiled tubing, system of barriers during works with the use of rope and cable equipment

Horizontal Well Completion

Lecture with elements of excursion and workshop, which will include presentation of Sibburmash training stand: horizontal completion layouts, layouts for hydraulic fracturing, completion of multilateral wells

Experience in Using Computer Simulators for the Oil and Gas Complex

The modern world is in a state of constant transformation and dynamic change. Approaches and methods in the higher education system are changing. Various interactive teaching methods are being actively introduced. As part of the program, participants will be shown computer simulators developed at the IUT Department of Machinery and Equipment. The purpose of the educational program is to develop and improve knowledge of machines and equipment used in the oil and gas industry, as well as to develop skills and abilities to perform standard operations and transfer skills to real work conditions

Physical Methods for Enhanced Oil Recovery and Inflow Stimulation

Review lecture on the problems of hard-to-recover reserves, where the methods of impacting the reservoir with physical fields and the results of practical research by young TIU scientists will be discussed

Teamwork Organization and Leadership

Lecture and skills development workshop: leadership and team building. Modern organizational culture, management styles and leadership. Formal and informal leadership. Formation of teamwork skills. Team Roles

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Internship Program

The program of the IUT Summer Institute “Petroleum Horizons of Siberia” includes three educational tracks in the field of Petroleum Engineering at universities and partner organizations. Internship topics complement the main program, taking into account the professional background of each of the participating partners:

Track: Oil and Gas Field Engineering (University of Tyumen)

The partner implements a master’s program in this field of study with the participation of Gazprom Neft as one of the industry leaders

Track: Managing the Energy Transition (Ural Federal University)

The partner implements an international master's program “Global Energy Business”, elements of which dedicated to the global energy transition are included in the educational program

Track: Laboratory Studies of Fluids and Core (Tyumen Petroleum Research Center)

The partner has its scientific and educational benchmarks and high competencies in this area. The organization is a subsidiary of Rosneft

Cultural Program

Excursions

The excursion program of the IUT Summer Institute “Petroleum Horizons of Siberia” introduces the participants to the city of Tyumen and the Tyumen Region, its rich history and culture

Guided city tour

Today Tyumen is the business center of the Tyumen Region, the first European city of Siberia, which for three years in a row has been ranked as the most comfortable for life city in Russia with a high “happiness index”. The rich history, merchant spirit, warm hospitality for which Siberia is famous will leave an unforgettable experience

Tour program: Tobolsk – Pokrovskoye Village – Abalak Village

Extensive tour program along the Tobolsk Highway. This road has a long and very unusual destiny. The program includes a visit to the Memorial House of Rasputin in Pokrovskoye village. This is the birthplace of Grigory Rasputin, a controversial figure in the history of the Russian state. In Abalak the village, participants will visit a unique historical and architectural complex of the 18th century in the Baroque style, the Abalasky Znamensky monastery, from where they will go straight to the city of Tobolsk. It was called the “Gateway of Asia”, “Father of Siberian Cities”. Tobolsk became the birthplace of people for whom all of Russia is famous - writers, composers, scientists

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Archaeological Reserve Museum on Andreevskoye Lake

The archaeological reserve museum is located on the shore of the picturesque Andreevskoye Lake. It is a unique archaeological, ethnographic and natural complex. The territory of the museum is a collection of archaeological monuments: unfortified settlements, sites of ancient town, burial grounds and sanctuaries dating from the Stone Age to the Middle Ages, as well as samples of relict natural objects listed in the Red Book

Tour program to the town of Yalutorovsk

The Yalutorovsky Ostrog (Fortress) is one of the most popular tourist attractions in the Tyumen Region. It was reconstructed in its historical site. The Ostrog (Fortress) was created as close as possible to what existed here three and a half centuries ago. This is a true copy of the original fort, the layout of which is kept in the archives. The excursion includes a visit to a reconstructed wooden fort, a Russian hut, an underground Archaeological Gallery, where the dwelling of ancient people was recreated, an armory, a torture room and archives

Visit to the Cossack Farm in Tyumen

During the visit, participants will get acquainted with the traditions of Cossack culture in Siberia. They will see how highly the traditions of our ancestors are valued, the customs and foundations of the Cossacks are being revived. The program includes demonstration performances, rituals, competitions and games, Cossack songs and round dances and, of course, treats with Russian cuisine cooked over an open fire or in a real Russian stove

Tour to “IvaPark – Japanese garden”

The only and real Japanese garden in Siberia and the Urals, there is nothing like it for thousands of kilometers around. The guide will introduce participants to the three valleys of Iva Park: the Valley of Roses, the Valley of the Prairies, and participants will spend most of the time in the Japanese Garden, where they will learn philosophy, traditions and symbolism of the Garden

Workshops

All planned excursions will be held in an exciting, interactive format and will familiarize participants with the culture, traditions, customs, and creativity of the nationalities living in the region. Numerous workshops (creative workshops, cooking workshops, Cossack art of wielding combat weapons, etc.) will allow participants to become not just passive listeners, but active participants

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Evening Of Hospitalit

As part of the project, participants, their Russian colleagues and the University staff are expected to travel to OLYMPIA IUT Recreation Camp located near the city in a pine forest. For many years, the IUT International Festival “Generation Without Borders”, Festivities for Shrovetide (Maslenitsa) and Farewell to Winter, the Industrial Family Fest, and many other corporate events of the university have been held here. For the Summer Institute participants there will be organized “no-tie” events, cooking duels and an evening around the campfire in the best long-standing traditions of IUT

Other Events

Project participants will get acquainted with the activities of IUT student associations: IUT Interclub, Buddy club, Center for Youth Initiatives, Theater and Creative Studios; communicate with students and learn about life at IUT firsthand

Meeting at IUT Interclub

IUT Interclub is a youth community uniting IUT students from different countries. Representatives from 40 countries around the world study at the University. The Interclub was created to facilitate their adaptation and integration into the University and cultural environment and integration into the University and cultural environment, to tell about the culture and traditions of the peoples of Russia, to familiarize participants with the traditions and cultural features of different countries. Representatives of the Interclub will tell the participants of the Summer Institute about their activities and projects

Ural Tales theatrical performance

The Ural Tales play based on the tales of the Ural folklorist Pavel Bazhov, created with the support of the Governor of the Tyumen Region and a grant from the Rosmolodezh Federal Agency for Youth Affairs. The main goal of the performance is to popularize the literary and folklore heritage of the Ural Federal District and Trans-Urals. The performance reveals the cultural code of the region in a new format and introduces the audience to theatrical art through unique light and laser forms, colorful bright projections

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



July 28, Sunday

Arrival of participants and hotel accommodation

July 29, Monday

9:30–9:45

Transfer to the venue of the IUT Summer Institute
47 Respubliki St., IUT Academic Council Hall

9:45–10:15

Registration of participants

10:15–10:30

Opening ceremony of the IUT Summer Institute
Welcome address by Yury Klochkov, IUT Rector
Welcome address by Alexei Ryder, Deputy Governor of the Tyumen Region

10:30–10:45

Presentation of the Summer Institute program
Brief overview of the goals, objectives, geography, and project's activities

10:45–11:45

Presentation of project participants
Participants introduce themselves, briefly talk about themselves, their expectations from participating in the project

11:45–12:00

Coffee break

12:00–13:00

Sightseeing tour to the Museum of the History of Science and Technology of the Trans-Urals named after D.I. Mendeleev
IUT, 38 Volodarskogo St.

13:00–15:00

Lunch

15:00–16:30

History of the Russian Oil and Gas Industry. History of Subsoil Exploration and Development Trends of the West Siberian Fuel and Energy Complex over the past 50 years
Review lecture

16:30–18:30

Interactive sightseeing tour of Tyumen

18:30–20:00

Siberian themed dinner
Heritage Restaurant located in a classic manor, House of the Western-Siberian Shipping and Trade (Komsomolskaya St.)

20:00

Transfer to the hotel

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



July 30, Tuesday

9:45-10:00	Transfer to 2GIS – Tyumen Company
10:00-14:00	Experience in implementing a professional geographic information system using the example of 2GIS-Tyumen, a branch of the largest Internet company in Russia Sightseeing visit
14:00-15:30	Lunch
15:30-17:00	Control of Oil and Gas Wells During Repair Work Theoretical unit / practical training 70 Melnikaite St.
17:00-17:15	Coffee break
17:15-18:30	Visit to the educational laboratory facilities of IUT Familiarization with laboratory facilities and research opportunities
18:45-20:45	Dinner
20:45	Transfer to the hotel

July 31, Wednesday

9:00-9:40	Transfer to the IUT training ground Uspenka Village
9:40-13:00	Familiarization with the Educational and Production Facilities of IUT Familiarization with a drilling rig, a set of oil and gas production equipment, and auxiliary equipment
13:00-13:40	Transfer to Tyumen
13:40-15:00	Lunch
15:00-15:40	Transfer to the Japanese garden "IvaPark"
15:40-18:00	Guided tour round the Japanese Garden. Tea-party on the veranda
18:00-18:40	Transfer to Tyumen
18:40-20:40	Dinner
21:00	Transfer to the hotel

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



August 1, Thursday

9:45–10:00	Transfer to the venue of the IUT Summer Institute 70 Melnikaite St.
10:00–11:30	Physical Methods for Enhanced Oil Recovery and Inflow Stimulation Subgroup workshop
11:30–11:45	Coffee break
11:45–14:15	Experience in Using Computer Simulation Simulators for the Oil and Gas Complex Subgroup workshop
14:15–15:30	Lunch
15:30–16:30	Transfer to Olympia IUT Recreation Camp
16:30–18:00	Entertainment program
18:00–20:00	Evening of hospitality "Sit-round by the fire" Songs with guitar, tales and stories from life
20:00–21:00	Transfer to the hotel

August 2, Friday

Internship at the Tyumen Petroleum Research Center

9:45–10:00	Transfer to the Laboratory studies of fluids and core sample Tyumen Petroleum Research Center
10:00–10:20	Brief introduction of the Tyumen Petroleum Research Center and the upcoming internship program
10:20–11:40	Properties of Formation Fluids. PVT Modeling Tyumen Petroleum Research Center
11:40–12:00	Coffee break
12:00–13:30	Hydraulic Fracturing Modeling Basics Tyumen Petroleum Research Center
13:30–15:00	Lunch
15:00–16:30	Fundamentals of Hydrodynamic Modeling Tyumen Petroleum Research Center
16:30–16:40	Break time

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



16:40–18:00	Integrated Modeling Fundamentals Tyumen Petroleum Research Center
18:00–20:00	Dinner
20:00	Transfer to the hotel

August 3, Saturday

9:45–10:00	Transfer to the venue of the IUT Summer Institute 70 Melnikaite St.
10:00–13:00	Skills Development workshop at the Process Factory Innovation platform for the practical application of lean manufacturing tools
13:00–14:30	Lunch
14:30–18:30	Skills Development workshop at the Process Factory Innovation platform for the practical application of lean manufacturing tools
12:00–13:30	Hydraulic Fracturing Modeling Basics Tyumen Petroleum Research Center
18:30–20:00	Dinner
20:00	Transfer to the hotel

August 4, Sunday Sightseeing tour in the city of Tobolsk

07:30–09:00	Transfer to the village of Pokrovskoye
09:00–11:00	Visit to the Memorial House of Grigory Rasputin
11:00–13:30	Transfer to the village of Abalak
13:30–14:30	Lunch White Owl Tavern
14:30–15:20	Visit to the Abalasky Znamensky Monastery

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



15:20–16:00	Transfer to Tobolsk
16:00–17:30	Sightseeing tour of the Tobolsk Kremlin Acquaintance with a unique historical and architectural ensemble on the edge of a high cliff on the banks of the Irtysh Rive
17:30–18:00	Free time on the territory of the Tobolsk Kremlin
18:00–22:30	Departure to Tyumen

August 5, Monday Internship at the University of Tyumen

9:45–10:00	Transfer to the University of Tyumen
10:00–10:30	Brief introduction of the University of Tyumen and the upcoming internship program
10:30–12:00	Oil and Gas Reservoir Development University of Tyumen
12:00–12:15	Coffee break
12:15–13:45	Oil and Gas Production Technology University of Tyumen
13:45–15:00	Lunch
15:00–16:30	Oil and Gas Treatment University of Tyumen
16:30–16:40	Break time
16:40–18:00	Oil and Gas Treatment University of Tyumen
18:00–20:00	Dinner
20:00	Transfer to the hotel

August 6, Tuesday

10:00–11:00	Transfer to the Archaeological Reserve Museum on Andreevskoye Lake
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11:00–11:40	Tour around the landscape park of the Tales of the Keeper of St. Andrew's Legends Museum Viewing the open-air exhibition
11:40–12:25	From the Depths of Centuries tour Archaeological exhibition, which presents historical objects from the Stone, Bronze, Iron and the Middle Ages, illustrating the history of the region since ancient times
12:25–13:00	Shooting range of the Siberian medieval period workshop Workshop on archery
13:00–14:00	Transfer to Tyumen
14:00–15:30	Lunch
15:30–17:30	Control of Oil and Gas Wells During Repair Work Theoretical unit / practical session
17:30–18:15	Press conference with project participants
18:30–20:00	Dinner
20:00	Transfer to the hotel

August 7, Wednesday

9:45–10:00	Transfer to the venue of the IUT Summer Institute 70 Melnikaite St.
10:00–10:30	Prospects for Scientific and Technical Cooperation: discussion of areas of cooperation at the end of the project Round table with Alexei Pimnev, IUT Vice-Rector for Scientific and Innovation Activities
11:30–11:45	Coffee break
11:45–13:00	Horizontal Well Completion Lecture, tour
13:00–14:40	Lunch
14:50	Tyumen is a Cossack Region Excursion trip to the Cossack farm yard
15:45–18:15	Entertainment program at Cossack Farm - theatrical meeting of participants; - possession of traditional Cossack weapons performance; - horse riding;

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



- training in the Cossack art of possession of service weapon: chopping with a saber, throwing knives and javelin, shooting with a rifle and archery, working with a whip;
- Cossack feast;
- Cossack Fun animation program, games and round dances

18:15–19:00

Transfer to Tyumen

August 8, Thursday

9:00–9:15

Transfer to the venue of the IUT Summer Institute
70 Melnikaite St.

9:15–10:30

Teamwork and Leadership
Workshop, training session

10:30–10:45

Coffee break

10:45–12:15

Teamwork and Leadership
Workshop, training session

12:15–13:45

Lunch

13:45–18:00

Transfer to the city of Yekaterinburg

18:00–19:00

Hotel accommodation

19:00–19:20

Meeting with the coordinator of the internship program at Ural Federal University
Instructions for the next day

19:20

Dinner

August 9, Friday

Internship at Ural Federal University

9:30–10:00

Transfer to Ural Federal University

10:00–10:30

Brief introduction of Ural Federal University and the upcoming internship program

10:30–12:00

Energy Transition: From Manifesto to Research and Implementation
Review lecture

12:00–12:15

Coffee break

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



12:15–13:45	The Energy Transition: From Manifesto to Research Projects Lecture and discussion
13:45–15:00	Lunch
15:00–16:30	Managing the Energy Transition: Research Agenda and a Realistic Implementation Program Lecture and discussion
16:30–16:40	Coffee break
16:40–18:00	Energy Transition: Economics Determines Realism Lecture and discussion
18:00–20:00	Dinner
20:00	Transfer to the hotel

August 10, Saturday

9:00–14:00	Transfer to Tyumen
14:00–15:00	Lunch
15:30–16:30	Meeting with representatives of IUT youth associations Networking
16:30–17:30	Tales of Siberia theatrical performance Helios IUT theater of authentic genre
18:00–19:30	Dinner
19:30	Free time

August 11, Sunday Tour to the city of Yalutorovsk

9:00–10:30	Meeting with the guide. Transfer to Yalutorovsk
14:00–15:00	Sightseeing tour of Yalutorovsk Tour to the historical part, acquaintance with architectonics
11:30–12:30	Lunch Retro Cafe

SCHEDULE OF IUT SUMMER INSTITUTE "PETROLEUM HORIZONS OF SIBERIA"



12:30–13:30	Tour to the Yalutorovsky Ostrog (Fortress)
13:45–15:45	National Gallery of Yalutorovsk Interactive excursion to get acquainted with the culture, traditions, customs, and creative work of nationalities living in the city ("Cossack Kuren", "Uzbek Trestle Bed", "Siberian Upper Room", "Kazakh Yurt", "Tatar Hut", "German Living Room")
15:45–18:00	Transfer to Tyumen
18:00–20:00	Dinner

August 12, Monday

10:00–12:30	Official closing ceremony Summing up the results of the IUT Summer Institute and parting words to the participants Yury Klochkov, Rector of IUT Awarding of documents on additional professional education Feedback from project participants Group photo of project participants and organizers
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