

International School

ARCTIC ENGINEERING

● You are invited to take part
in our unique International School



Ramil Guliev

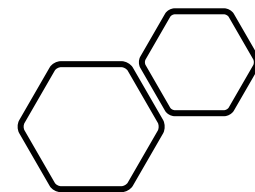
Deputy for International Cooperation

NArFU Higher School of Energy, Oil and Gas

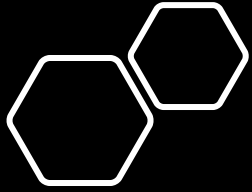
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International School
«Arctic Engineering»



Arkhangelsk, 2021



General Information

- 20-25 September 2021 Online
- BA and MA students majoring in **petroleum engineering, exploration** of offshore fields, construction, and **engineering** of the Arctic

Online school "Arctic Engineering"

will gives you the following benefits



3 ECTS total workload

3 ECTS points are summed up to indicate **the total workload for a school study**, as well as a **certificate participation** that will help you to achieve academic and education **success**

Actual knowledge

At school you **will receive** the most of current **interest knowledge** on study and development Arctic region. And **you will be in the trend of scientific discussion** of the development of the Arctic

Networking

At school you will meet with students and researchers, studying the Arctic. New acquaintances help you **do your scientific work better**, as well as **open new career perspectives**



Energy industry

Energy consumption is increasing annually due to the increase in the world's population and the energy intensity of production. It is **the main consumer of petroleum products** and produces the largest amount of greenhouse gases, in particular carbon dioxide

This has a **detrimental effect on the ecology** of the planet. Therefore, the use of new, unconventional hydrocarbon reserves, such as gas hydrates and gas fields and alternative sources of energy, which are concentrated in the Arctic region, is a **priority task** in the new chapter in the development of world energy industry

New energy projects require unique and innovative approaches in modeling, design and development. The **school will introduce** you to the **latest developments** in the field **of energy industry**

Construction

The Arctic regions are **strategically important territories** for Russia. At present, major projects for the modernization and reconstruction of the social, industrial, housing, transport, and other infrastructure of the Arctic require **new construction regulations** that take into account the extreme permafrost conditions.

The **Arctic regions have a number of specific features** that make it difficult or impossible to develop and build infrastructure solely using technologies that have previously been tested at existing fields. Man made impacts are **radically changing the thermal state** of rocks in the Arctic zone, which contributes to processes that increase the risk of the deformation or destruction of buildings.

The remoteness from industrialized regions, the lack of developed infrastructure and the inability **to build it quickly** as well as unfavourable geo-climatic and challenging engineering and geological conditions all create **significant difficulties** for the development of Arctic regions.

Our aim is to find ways to minimize all kinds of burdens on the environment, both during the construction and operation of facilities. To achieve this goal, **modern technical solutions** that optimize all aspects of interaction with the environment need to be developed and applied, including the use of minimally manned, energy-saving, and eco-friendly technologies.





Environment

The arctic is a **pristine environment** that has been largely untouched by economic development, and as a consequence, any **impact from industrial operation** tends to be very noticeable.

The extreme nature of the climate also means that plants and animals in the area are usually living on the edge of the maximum carrying capacity of their habitat.

A small effect for example from construction processes may have a **large impact on these plants and animals**. In non-arctic regions, a typical mitigation measure during construction is to provide alternative habitats by replacing or reinstating areas that **were damaged in the past**.

In the arctic, this is not possible as there is no previously damaged habitat nearby. An extensive and **long-term baseline survey** of the local habitat is necessary in order to carefully document pre-existing conditions and help establish what must be done during the operational and reclamation phases.



Our speakers



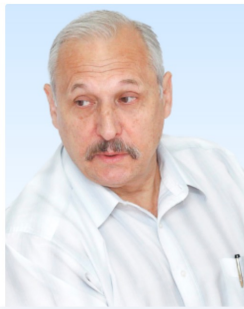
Prof. Dr. Jonjaia Ranogajec

Professor at the Department of Materials Engineering

University
of Novi Sad



Serbia



Prof. Dr. Anatoly Zolotukhin

Doctor of Technical Sciences,
Vice-President of the World
Petroleum Council

University
Northern (Arctic)
Federal University



Russia



Prof. Dr. Yifan Li

Professor of the School
of Environment, Director
of the UArctic-HIT Training Centre

University
Harbin Institute
of Technology



China



Prof. Dr. Jens Hüpemeier

Professor, Chemical Engineering,
Control Systems Engineering,
Membranes

University
University of Applied
Sciences Emden / Leer



Germany



Prof. Dr. Alain Brillard

Applied Mathematics,
Environmental Chemistry,
Pyrolysis and Combustion
modeling

University
Université
de Haute-Alsace



France



Prof. Dr. Muhamma Shakeel Virk

Head of Institute of Industrial
Technology, UiT, Arctic
Technology & Icing Research
Group

University
The Arctic
University of Norway



Norway



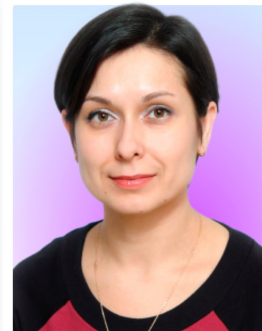
Prof. Dr. Pavel Maryandyshev

Professor, First Vice-Rector
for Strategy and Research,
Industrial and Environmental
Engineering, Bioengineering

University
Northern (Arctic)
Federal University



Russia



Dr./Ass. Prof. Maria Frolova

Associate prof. of the Department
of Composite Materials
and Environmental Engineering

University
Northern (Arctic)
Federal University



Russia



Prof. Dr. Mohamad Mustafa

Department of Building, Energy
and Material Technology, UiT, Arctic
Technology & Icing Research Group

University
The Arctic
University of Norway



Norway



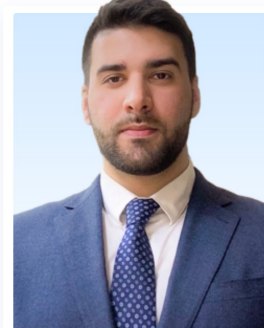
Prof. Dr. Izmail G. Kantarzhi

Coastal dynamics, Physical and
numerical modeling of wave
effects on the structures

University
National Research University
Moscow State University of
Civil Engineering



Russia



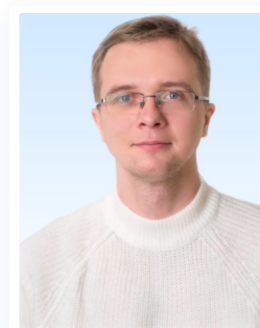
Ramil Guliev

Deputy for International
Cooperation NARFU named after
M.V. Lomonosov Higher School
of Energy, Oil and Gas, lecturer

University
Northern (Arctic)
Federal University



Russia



Ivan Belozarov

Engineer in Innovative
Technological Center of Arctic Oil
and Gas Laboratory Research

University
Northern (Arctic)
Federal University



Russia

School's Program

Day 1 September 20th	Day 2 September 21th	Day 3 September 22th	Day 4 September 23th	Day 5 September 24th	Day 6 September 25th
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10:00 – 10:30

(UTC +3)

Opening ceremony

10:30 – 11:00

(UTC +3)

“NArFU - is a brand new ambitious university of distinctiveness and innovations designed to meet the needs of the Arctic”

Prof. P. Maryandyshev

11:00 – 12:30

(UTC +3)

“Hydrocarbon Resources Development and the Environment in the Arctic”

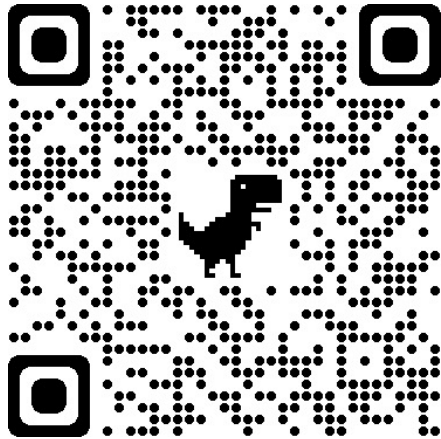
Prof. A. Zolotukhin

Full Registration

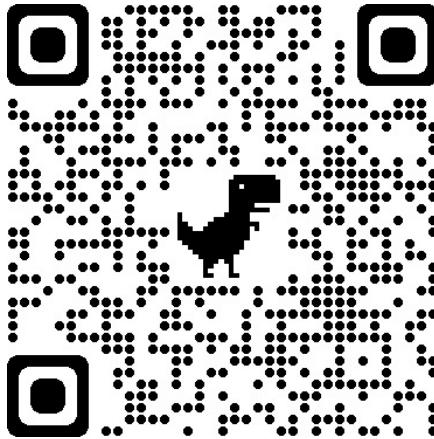
SMM

Early Registration

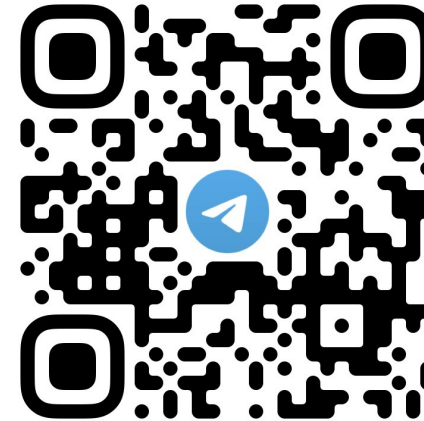
Website



FB



TG



IG



WA



WC



miro

The online collaborative whiteboard platform



Thank you for attention!

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Arkhangelsk, 2021