



NORTH-EASTERN FEDERAL UNIVERSITY
IN YAKUTSK



PROGRAM

**II International Scientific Conference
GIS for digital development.
Application of GIS and Remote Sensing in Science
and Management**

**Yakutsk, Russian Federation
2-3 December 2021**

REGISTRATION OF PARTICIPANTS

December 2, 2021 15:30 - 16:00

University Boiling Point NEFU, Kulakovsky 48, KFEN NEFU

Online access: <https://leader-id.ru/events/249279>

OPENING OF THE CONFERENCE

16:00 - 16:30

Moderator: **Dr. Yuri Danilov**, Deputy Rector for Sustainable Development of the Arctic Territories of NEFU

Greetings

Prof. dr. Sc. Anatoly Nikolaev, Rector of NEFU

Anatoly Semenov, Minister of Innovation, Digital Development and Infocommunication Technologies of the Republic of Sakha (Yakutia)

Dr. Evgeniy Soloviev, Vice-Rector for Science and Innovation of NEFU

Petr Gabyshev, Director of the "Technopark Yakutia"

Dr. Vasily Kolodeznikov, Director of the Institute of Natural Sciences of NEFU

Dr. Zhanna Degteva, Head of educational programs in geography of NEFU

PLENARY SESSION

December 2, 2021 16:30 - 19:30

University Boiling Point NEFU, Kulakovsky 48, KFEN NEFU

Online access: <https://leader-id.ru/events/249279>

Moderator: **Dr. Alexander Koshkarev**, Leading Researcher, Institute of Geography of the Russian Academy of Sciences

Time ¹	Speaker	Title
16:30 - 16:50	Prof. dr.Sc. Roman Samsonov , St. Petersburg Mining and Research University of Oil and Gas Gubkina, Vice President of the Russian Gas Society	GIS of Arctica oil and gas exploration regions as the best instrument to control ecological and technological risks of the Global Energy Transfer
16:50 - 17:10 coffee break		
17:10 - 17:30	Prof. habil. dr. Sebastien Gadal , Professor of Aix Marseille University and NEFU	Spatial modeling of the Arctic metapolis: Yakutsk
17:30 - 17:50	Dr. Sc. Aleksei Galanin leading Researcher, Head of the Laboratory of Radiocarbon Dating, Melnikov Permafrost Institute SB RAS	Aeolian relief of Eastern Siberia: mapping using satellite images and GIS technologies
17:50 - 18:20	Denis Savitsky , Sales Department Director Esri CIS	ArcGIS in work with remote sensing data and support for the use of UAVs
18:20 - 18:40	Dr. Sergey Teslenok , Mordovian State University named after N. P. Ogareva	Optimization of agricultural land use based on geomorphological analysis: the transport aspect
18:40 - 19:00	Dr. Yuri Nesterov , Voronezh State University	Regional System of Rural Population Settlement: Spatial Peculiarities and Environmental Consequences (on the Example of the Central Black Earth Region)
19:00 - 19:20	Dr. Sc. Alexander Fedorov , Deputy Director for Research, Melnikov Permafrost Institute SB RAS	GIS in permafrost landscape research in Yakutia
19:20 - 19:30	Discussion and questions for speakers	

¹ time zone Yakutsk (+9 GMT) (+6 Moscow time)

WORKING SESSIONS

Session-1: GIS and remote sensing for digital development
Session-3: Cartographic and geoinformation support of tourism and recreation development
Session-5: Methodology for teaching GIS and remote sensing

December 3 15:30 - 17:10

Room 734, Kulakovsky 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

Conference ID: 977 2607 6919

Access code: 444153

Moderator: **Dr. Yuri Danilov**, Deputy Rector for Sustainable Development of the Arctic Territories, Ammosov NEFU

Time	Speaker	Title
15:00 - 15:10	Dr. Sc. Nekhin Sergey , Deputy Head of the Department "Center for Geodesy, Cartography and Spatial Data Infrastructure"	Laser scanning and prospects of its application for the purposes of topographic mapping and cadastre
15:10 - 15:20	Alexander Kovrov , research assistant "Center for Geodesy, Cartography and Spatial Data Infrastructure"	Accuracy improving of mobile laser scanning data
15:20 - 15:30	Dr. Vyacheslav Butin , Deputy General Director for Industry Solutions "RT Labs"	Spatial data monetization
15:30 - 15:50	Dr. Natalya Khavanskaya Volgograd State University	Development of cartographic support for tourism in the Volgograd region
15:40 - 15:60	Dr. Alexey Kucheyko , General manager "RISKSAT"	Application of Earth observation data for practical tasks in territory managment during informal schoolkids education
15:50 - 16:00	Dr. Viktoria Filippova , Senior Researcher, Institute for Humanitarian Research and Problems of Indigenous Peoples of the North, SB RAS	Indigenous small peoples of the constituent entities of the Russian Federation adjacent to Yakutia: spatial analysis of settlement using GIS technologies
16:00 - 16:10	Azamat Karypov , head of the sector for the implementation of GIS PES Bishkekvodokanal	Implementation of GIS in drinking water and sewerage system of Bishkek city
16:10 - 16:30	Discussion and questions for speakers	
16:30 - 17:00 coffee break (7th floor of KFEN NEFU)		
17:00 - 17:10	Nataliya Osipenko , Post-Graduate Student, Institute of Earth Sciences SPbSU	Application of integrated statistical data in the land management: a review of foreign practices

17:10 - 17:20	Vladimir Tabunshchik , junior researcher "Institute of Biology of the Southern Seas named after A.O. Kovalevsky RAS"	Anthropogenic transformation of the territory in the river basins of the northwestern slope of the Crimean mountains (river basins of the Western Bulganak, Alma, Kacha, Belbek, Chernaya)
17:20 - 17:30	Alena Nestereva , engineer Melnikov Permafrost Institute SB RAS	Development of a multi-user geodata database for creating an interactive map using the Java programming language
17:30 - 17:40	Nikiforov Mikhail Afanasevich , teacher of additional education "Khanalas", "Children's Technopark" (Verkhnevilyuisk village)	iengolab: practical application of GIS technologies by schoolchildren
17:40 - 17:50	Alan Gryaznukhin , student, Children's Technopark "Quantorium", Yakutsk, "Secondary School No. 33 named after L. A. Kolosova "Yakutsk	The use of open source GIS for the location of the alcohol selling enterprises in close proximity to educational and medical organizations in Yakutsk
17:50 - 18:00	Discussion and preparation of proposals for the final resolution	

Session-2.1: GIS and remote sensing of the environment

December 3 15:30 - 18:00

Room 746, Kulakovsky 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

Conference ID: 977 2607 6919

Access code: 444153

Moderator: **Dr. Sc. Mikhail Cherosov**, Leading Researcher Head of the Geobotany Group of the Botanical Research Department, Institute for Biological Problems of Permafrost, SB RAS,

Time	Speaker	Title
15:00 - 15:10	Dr. Sc. Mikhail Cherosov , Leading Researcher Head of the Geobotany Group of the Botanical Research Department, Institute for Biological Problems of Permafrost, SB RAS, Dr. Elena Troeva , Senior Researcher Institute for Biological Problems of Cryolithozone SB RAS, Yakutsk	Syntaxonomy of vegetation of alases of the Lena-Amga interfluve and issues of geobotanical mapping
15:10 - 15:20	Dr. Yuri Rozhkov , Deputy Director for Research, Federal State Budgetary Institution "State Natural Reserve" Olekminsky "	Comparative characteristics of forest areas using segmentation and cluster analysis of Landsat images
15:20 - 15:30	Dr. Boris Borisov , senior researcher Institute for Biological Problems of Cryolithozone SB RAS	Geomatic model of the possibility of bison (Bison bison athabascae) acclimatization in Yakutia
15:30 - 15:40	Dr. Inga Bysykatova senior researcher Institute for Biological Problems of Cryolithozone SB RAS	Summer habitats, structure and size of home ranges of the Lesser Sandhill Crane (Grus canadensis canadensis) in the Kolyma tundra
15:40 - 15:50	Evgeniya Varlamova , junior researcher Institute of Cosmophysical Research and Aeronomy named after SOUTH. Shafer SB RAS	Investigation of vegetation index and spring phenology changes in Siberia on remote sensing data
16:00 - 16:10	Oleg Tomshin , junior researcher Institute of Cosmophysical Research and Aeronomy named after SOUTH. Shafer SB RAS	Spatio-temporal dynamics of large-scale forest fires in Yakutia in 2021
16:10 - 16:30	Discussion and questions for speakers	
16:30 - 17:00 coffee break (7th floor of KFEN NEFU)		
17:00 - 17:10	Vasily Permyakov , International Arctic School of the Republic of Sakha (Yakutia)	Analysis of the dynamics of forest fires in Gorny Ulus for 2012-2021 using GIS technologies. Investigation of the consequences of forest fires on the example of the environs of the Bes-Kyuel village of the Gorny ulus of the Republic of Sakha (Yakutia) using satellite images.

17:10 - 17:20	Polina Postnikova , International Arctic School of the Republic of Sakha (Yakutia)	Application of remote sensing data for mapping the vegetation of the Yana River delta (North-Eastern Yakutia)
17:20 - 17:30	Sargylana Ivanova , Director of the Center for Technical Creativity, Yakutsk Dr. Alexey Kucheyko , General Director LLC "RISKSAT"	Study of the large-size walrus rookeries in the Laptev Sea with middle-resolution satellite images and GIS technologies
17:30 - 17:40	Victoria Kupriyanova , student of grade 10 Technical creativity center, Yakutsk	Research work on the topic "Study of walrus in the Laptev Sea based on satellite imagery" using available satellite images of high and medium spatial resolution
17:40 - 18:00	Discussion and preparation of proposals for the final resolution	

Session-2.2: GIS and remote sensing of the environment

December 3 15:30 - 18:00

Room 740, Kulakovskogo 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

Conference ID: 977 2607 6919

Access code: 444153

Moderator: **Dr. Yuri Nesterov**, Associate Professor of the Department of Geoecology and Environmental Monitoring, Voronezh State University

Time*	Speaker	Title
15:00 - 15:10	Dr. Yuri Nesterov , Associate Professor of the Department of Geoecology and Environmental Monitoring, Voronezh State University	Regional settlement system of the rural population: spatial characteristics and environmental consequences (on the example of the Central Black Earth Region)
15:10 - 15:20	Dr. Alena Shestakova , senior researcher FGBUN Institute of Permafrost. P.I. Melnikov, Siberian Branch of the Russian Academy of Sciences	Approaches to compiling a Geocryological Map of Yakutia at a Scale of 1: 1,500,000
15:20 - 15:30	Dr. Andrey Ostroukhov , Candidate of Geological Sciences, Leading Researcher Institute of Water and Environmental Problems, Far East Branch, Russian Academy of Sciences	The effect of wildfires on the composition of bottom sediments of rivers and lakes in urbanized areas of the Middle Amur lowland
15:30 - 15:40	Dr. Sergey Teslenok , Mordovian State University named after N. P. Ogareva	Characteristics of specialized services as the main data source remote monitoring of forest fires
15:40 - 15:50	Dr. Larisa Evstratova , Associate Professor, State University of Land Management	The advantage of using structural features of multispectral images to analyze the state of vegetation
16:00 - 16:10	Vyacheslav Sipach , Deputy Head of Department "Development of technologies for the processing and application of remote sensing data", scientific and engineering republican unitary enterprise "Geographic Information Systems", National Academy of Sciences of Belarus, Republic of Belarus	Application of geoinformation technologies and remote sensing in scientific and practical activities of specially protected natural areas of Belarus
16:10 - 16:30	Discussion and questions for speakers	
16:30 - 17:00 coffee break (7th floor of KFEN NEFU)		
17:00 - 17:10	Dr. Oleg Pomortsev , Associate Professor, North-Eastern Federal University named after M.K. Ammosova	Forest fires in Central Yakutia under climatic change
17:10 - 17:20	Mukhabat Sirazhitdinova , Al-Farabi Kazakh National University	Application of remote sensing data for solving agricultural problems in case of Zhanaarka district of Karagandy region

17:20 - 17:30	Anton Antoshkin , student of the State University of Land Management	Using the VEGA-Science service for Yakutia lands remote monitoring
17:30 - 17:40	Albina Kulyandina , Leading Geophysical Engineer Yakutsk Branch of the Federal Research Center "Unified Geophysical Service" RAS	Application of GIS and ERS data to build a digital elevation model of the Aldan Highlands in order to study the Nimnyr earthquake
17:40 - 17:50	Vadim Starodubtsev , junior researcher Institute of Cosmophysical Research and Aeronomy SB RAS	Study of methane content in the atmosphere using satellite data
17:50 - 18:00	Discussion and preparation of proposals for the final resolution	

Session-4: Application of GIS and Earth remote sensing in the mining and geological industry

Session-7: Applications of GIS and Remote Sensing in Meteorology and Hydrology

December 3 15:30 - 17:00

734a room, Kulakovskogo 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

Conference ID: 977 2607 6919

Access code: 444153

Moderator: **Dr. Maxim Tretyakov** Dean of the Faculty of Geology of NEFU

Time	Speaker	Title
15:00 - 15:10	Prof. dr.Sc. Roman Samsonov , St. Petersburg Mining and Research University of Oil and Gas Gubkina, Vice President of the Russian Gas Society	United GIS Arctic "Exploration and production of hydrocarbons"
15:10 - 15:20	Dr. Evgeniy Loskutov Researcher Institute of Geology of Diamond and Precious Metals SB RAS	Predictive modeling of gold potential by means of GIS on the example of the Timpton Ore District (South Yakutia)
15:20 - 15:30	Dr. Nikolay Pulyaev , associate professor of NEFU named after M.K. Ammosova	Application of modern methods remote sesing of the Earth surface on gas oreols and spray
15:30 - 15:40	Dr. Maxim Tretyakov Dean of the Faculty of Geology of NEFU	Construction of a geological wireframe model of the right bank of the r.Kurbelyakh (Tompon polygon of NEFU) in the GIS Micromine
15:40 - 15:50	Dr. Tananaev Nikita , Leading Researcher, Melnikov Permafrost Institute SB RAS	Mapping River Icings With Sentinel-1 SAR Data
15:50 - 16:00	Mikhail Vasiliev , senior lecturer Federal State Autonomous Educational Institution of Higher Education "North-Eastern Federal University named after M.K. Ammosov"	Radiosonding of the atmosphere and characteristics of the troposphere according to the data of the aerological station Yakutsk
16:00 - 16:10	Dr. Yana Legostaeva , Candidate of Biological Sciences, Leading Researcher Institute of Geology of Diamond and Precious Metals SB RAS	Inventory of the lands of western Yakutia disturbed by geological exploration according to remote sensing data
16:10 - 16:20	Nyurgun Baishev , post-graduate student of the Melnikov Permafrost Institute SB RAS	The study of natural-technogenic icings in the winter period of the year according to satellite images on the Highway "Lena"
16:20 - 16:30	Discussion and preparation of proposals for the final resolution	
16:30 - 17:00 coffee break (7th floor of KFEN NEFU)		

Session-6: GIS and Remote Sensing in Landscape Research

December 3 15:30 - 18:00

Room 730, Kulakovsky 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

Conference ID: 977 2607 6919

Access code: 444153

Moderator: **Fedorov Alexander Nikolaevich**, Doctor of Geological Sciences, Deputy. Director for Research, P.I. Melnikov SB RAS

Time	Speaker	Title
15:00 - 15:10	Prof. habil. dr. Sebastien Gadal , Professor of Aix Marseille University and NEFU Tomas Gloaguen , PhD Candidate, Aix-Marseille University and Kaunas Technological University	Post-Soviet Coastal Land Cover Change Modeling of the of the South-Eastern Baltic by Remote Sensing (1984-2020)
15:10 - 15:20	Dr. Svetlana Kalinicheva , researcher Permafrost Institute named after P.I. Melnikov SB RAS	Study of forest advance to the tundra in the Eastern Siberia region in a changing climate using GIS and remote sensing data
15:20 - 15:30	Dr. Alexei Gorokhov , senior researcher IBPK SB RAS	Mapping the anthropogenic transformation of landscapes in Yakutia
15:30 - 15:40	Larisa Egorova , junior researcher Permafrost Institute SB RAS	Possibilities of using the Trimble TX-8 ground laser scanner in geocryological research
15:40 - 15:50	Prof. dr. Kestutis Zaleckis , Professor of Faculty of Civil Engineering and Architecture Kaunas University of Technology	The usage of Generic City concept and its indicators for an expansion of GIS and Remote sensing analysis of urban area
15:50 - 16:00	Nikolai Fedorov , junior researcher Permafrost Institute named after P.I. Melnikov SB RAS	Activation of thermokarst after wildfires in the Yanskoye Uplands on the example near Verkhoyansk
16:00 - 16:10	Moisei Zakharov PhD Candidate at the University of Aix-Marseille, senior lecturer NEFU	Mapping of mountain permafrost landscapes of the Orulgan ridge using Google Earth Engine and GIS terrain analysis
16:10 - 16:30	Discussion and questions for speakers	
16:30 - 17:00 coffee break (7th floor of KFEN NEFU)		
17:00 - 17:10	Ekaterina Nesterova , junior researcher, postgraduate student FRC YSC SB RAS, IMZ SB RAS	Application of GIS for analysis of burial features of bones remains of mammoth fauna animals
17:10 - 17:20	N'urguyana Nikiforova , junior researcher Permafrost Institute named after Academician P.I. Melnikov SB RAS	Evaluation of the soil moisture content using GIS technique
17:20 - 17:30	Borisov Vladislav Borisovich , student MOBU SOSH # 26, Quantorium DDT	Hydrological map of Beringia

	Basharin Nikolay Ilyich , junior researcher Melnikov Permafrost Institute SB RAS	Comparing terrestrial laser scanning and UAV-based photogrammetry for surveying highways
17:30 - 17:50	Discussion and preparation of proposals for the final resolution	

CLOSING PLENARY

December 3 18:20 - 19:00

Room 734, Kulakovsky 48, KFEN NEFU

Online access: <https://zoom.us/j/97726076919?pwd=dHI5MHFWY3E5TUJsYlZXTm9sYkRvUT09>

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Moderator: **Dr. Yuri Danilov**, Deputy Rector for Sustainable Development of the Arctic Territories of
NEFU