

Welcome to the 5th
International Summer School
for Students and Young Scientists

**Natural and human environment
of Arctic and Alpine areas: relief, soils,
permafrost, glaciers, biota, and life style
of native ethnic groups in a rapidly
changing climate**

AKTRU





**AKTRU
RESEARCH
STATION**

LOCATION

Aktru Research Station is located in the south-eastern part of the Altai Republic close to the borders of Mongolia and China in the center of the Eurasian Continent (50°06'03" N, 87°40'14" E). With an altitude of 2150 m a.s.l., the station is situated in the high alpine part of the Altai Mountains. The nearest settlement is Kuray village that is about 30 km southeast of the station. The nearest town is Gorno-Altai, about 250 km northwest of the station.

BIODIVERSITY

The Aktru Research Station is surrounded by a wide range of ecosystems changing with altitude: Kuray basin intermountain steppe, steppe belt on the mountain slopes, forest belt, high mountain belt with alpine landscapes and glaciers, high-mountain tundra ("goltsy") as well as cryophyte steppe landscapes. A typical high-mountain vegetation is the "Pseudo-tundra", formed in the periphery of glacial fields under Pleistocene continental climate conditions. Some rare animal species reside in Aktru valley, e.g. snow leopards, wolverines, lynx, musk deer, mountain goats, cranes, and lama ducks.



HISTORY AND FACILITIES

The Aktru Research Station was founded in 1956 by V.M. Tronov and has been in operation since then. From 1975 to 1995, a meteorological station was operated by the State Hydrometeorological Service. Since 2008 new buildings were constructed comprising a staff house, a dining room for 150 persons, a summer cafeteria for 30 persons, a diesel station as well as showers and toilets. The older buildings, recently renovated includes a 'hospital', classrooms, three apartments (housing c. 60 people), a warehouse, a Banya (Russian sauna), and a tent camp for 200 persons.

GENERAL RESEARCH AND DATABASES

The research at Aktru Research Station focuses on glaciology, hydrology, meteorology, geomorphology, ecology, botany, zoology, and soil science. The main aims are to study climate-driven glaciers dynamics, hydrological regimes, cryogenic processes, landscape patterns, and biota. Different international projects investigate mountain mires in terms of climate-driven changes of landscape patterns, biogeochemistry, and productivity. Kuray Basin, an inter-mountain depression, situated at the foot of the North-Chuya Range (10 km from Aktru Station) is a key site for studying the Altai mega floods. Existing databases contain records on climate, hydrology, and glacier dynamics as well as on plants and vegetation-cover ecology.





INTERNATIONAL RESEARCH SUMMER SCHOOL 2018

TARGET GROUP

International students and young scientists (30 spots; age range: 18-35 years).

SUMMER SCHOOL FEE: USD 800 (for self-funding applicants)

Tuition, studying materials, field trip expenses, social and cultural programme, airport transfer, accommodation at the Aktru Research Station, carriage, camping, food and registration.

All participants arriving in Tomsk are guaranteed accommodation in the newly built TSU dormitory.

Each participant of the Summer School enjoys guidance for easier adaptation in the new environment.

Transportation to Tomsk and back: covered by the participants.

CERTIFICATE

Every Summer School graduate will receive a Certificate from the National Research Tomsk State University.

IMPORTANT! PERSONAL OUTFIT

Taking into account the high-mountainous natural landscapes and glaciers in the Aktru valley, personal sleeping-bags and tents, as well as proper field clothing and shoes, are necessary. For further information, please contact the School managers.

DEADLINES:

- **May 31, 2018:** submission of application forms, TSU Visa application forms, copies of passports
- **June 30, 2018:** submission of proposals for project presentations (topic, summary)



PRELIMINARY PROGRAMME

Based on the number of accepted applications, 2 groups of participants of the summer school 2018 will be formed

THE FIRST GROUP WILL ARRIVE TO TOMSK



07 July 2018 (Saturday)

05.30 am – 10 am Arrival and accommodation of the Summer

School participants (TSU residential hall "Parus", 3a, Buyanovsiky Lane, Tomsk)

10 am – 1 pm Registration (TSU residential hall "Parus", 3a, Buyanovsiky Lane, Tomsk)

1 pm – 2 pm Lunch at a cafe «Bell Pepper» (TSU Campus "Parus", 3a, Buyanovsiky Lane, Tomsk)

2 pm – 5 pm Free time

5 pm – 7 pm Excursion around Tomsk-city by bus accompanied by the guide

08 July 2018 (Sunday)

9 am – 1 pm Plenary session of the School (TSU Scientific Library, Small Conference-hall, 34a, Lenina Pr. Tomsk)

1 pm – 2 pm Lunch at a cafe «Minutka» (TSU main building, 36 Lenina Pr.)

2 pm – 4 pm Excursion to TSU (Botanical Garden, Museum of Mineralogy, Museum of Paleontology, Herbarium, Zoo museum)

4 pm – 6 pm Free time

6 pm – 7 pm Dinner at a cafe «Bell Pepper» (TSU residential hall "Parus", 3a, Buyanovsiky Lane, Tomsk)

09 July 2018 (Monday)

5 am – all day Departure from Tomsk to Manzherok (730 km from Tomsk). Stay, excursion and overnight stop at the «Manzherok» Hostel on the bank of Katun-river.

Meeting with the second group of participants

7 pm – 8 pm Dinner

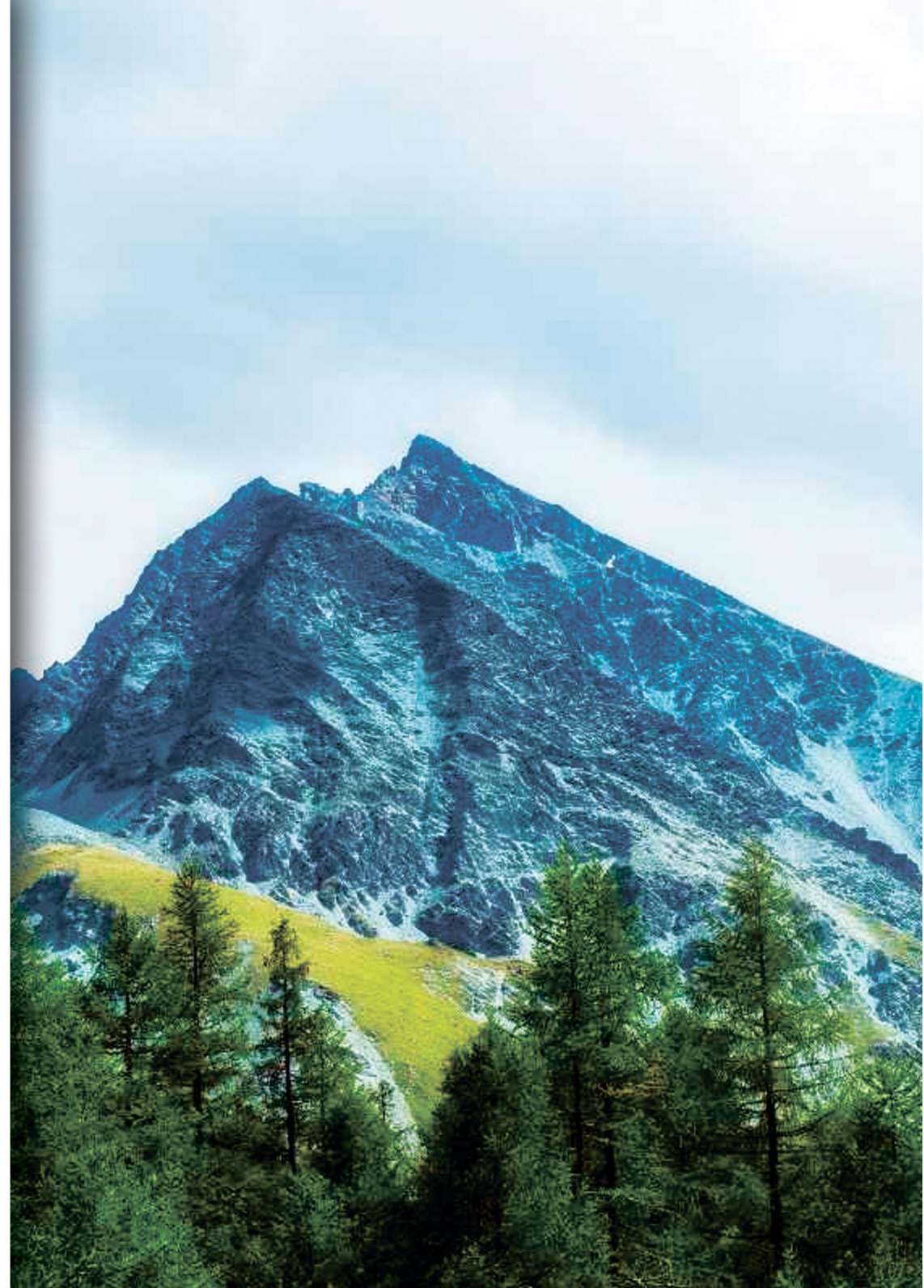
8 pm – 10 pm Banya time

THE SECOND GROUP OF PARTICIPANTS WILL ARRIVE TO GORNO-ALTAYSK

10 July 2018 (Tuesday)

8.25 am Arrival of the second group of participants to Gorno-Altaysk. Meeting with the first group of participants at the «Manzherok» Hostel.

10 am – 11 am Breakfast at the «Manzherok» Hostel



COMMON PROGRAMME

10 July 2018 (Tuesday)

11 am Departure from «Manzherok» Hostel to «Kochevnik» Hostel (near Chibit settlement, 312 km from Manzherok) with excursions along the way. Chuysky tract - the most scientifically prominent road on the planet («National Geographic»)

5 pm – Arrival and accommodation in the «Kochevnik» Hostel

6 pm – 7 pm Dinner

7 pm – 8 pm Banya time

11 July 2018 (Wednesday)

8 am – 9 am Breakfast

9 am – 10 am Departure from “Kochevnik” Hostel Arrival to Kurai Township

10 am – 12 am Transshipment on the special cross-country vehicles. Rising to Aktru Research Station

**ALL EVENTS AT THE STATION
DEPEND ON WEATHER CONDITIONS**

11 July (Wednesday) – 23 July (Monday)

Lectures of TSU and invited professors, students' presentations, field excursions, research work at Aktru Research Station Campus.

Excursion to Small Aktru glacier and field data collection on the ecological succession on the retreatment of the glacier.

Excursion to Big Aktru glacier and field data collection on the ecological succession on the retreatment of the glacier.

Excursion to taiga forest (and the tree line) near the station open-air discussion about geomorphology and ecology.

Excursion to the Blue Lake and field data collection.

23 July 2018 (Monday)

8 am – 9 am Breakfast

9 am – 6 pm Departure from Aktru Research Station to «Manzherok» Hostel

6 pm – 7 pm Dinner

8 pm – 10 pm Banya time and free time

DEPARTURE

24 July 2018 (Tuesday) First group

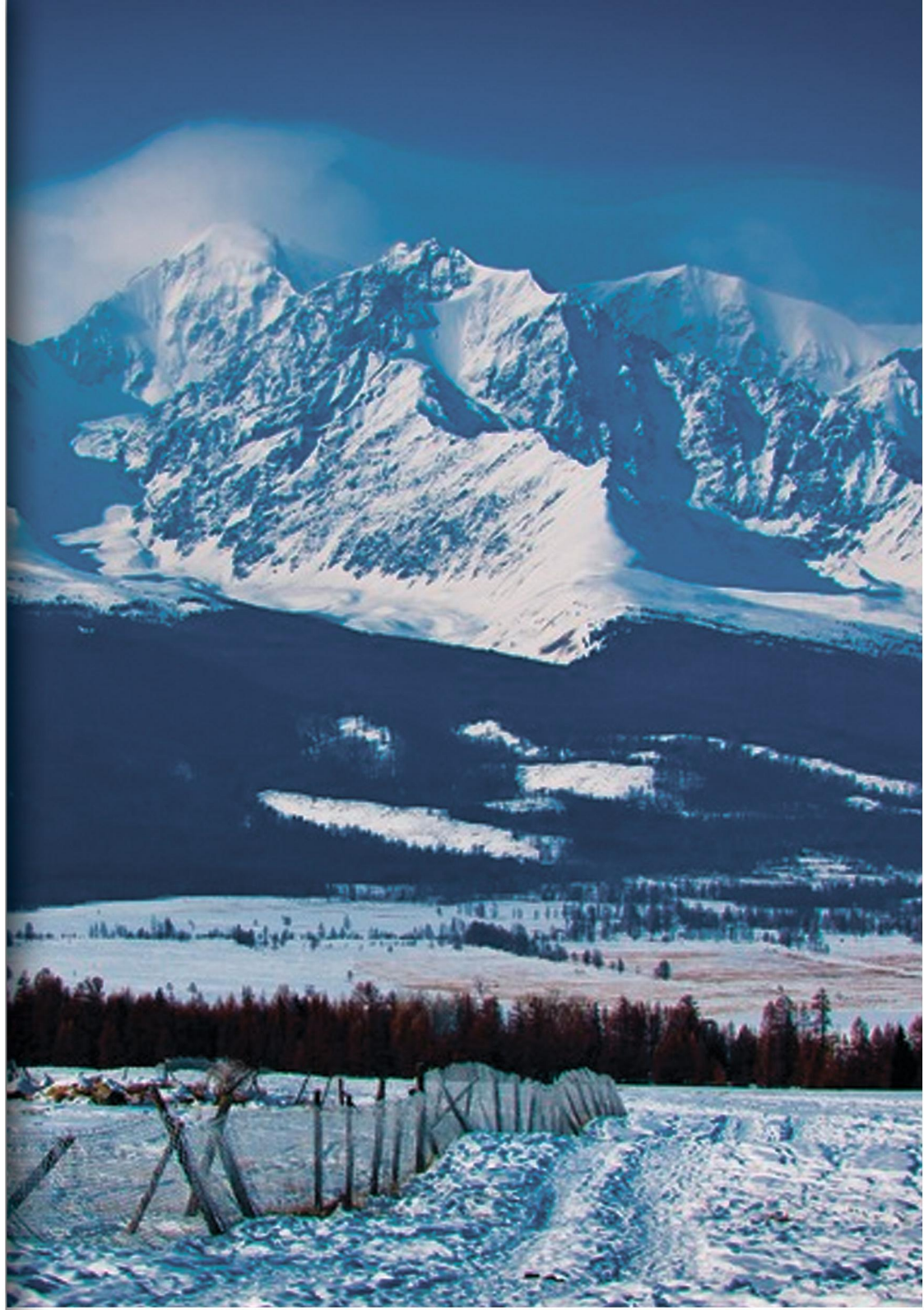
7 am Departure from the «Mangherok» Hostel to the Gorno-Altaysk airport of the participants whom prefer not to get back to Tomsk with all the group

24 July 2018 (Tuesday) Second group

7 am- All day: Departure from the «Mangherok» Hostel to Tomsk. Arrival to Tomsk and accommodation of Summer School participants (TSU residential hall "Parus", 3a, Buyanovsiky Lane, Tomsk)

25 July 2018 (Wednesday)

Departure from Tomsk



DISTINGUISHED VISITORS



Terry V. Callaghan

Royal Swedish Academy of Sciences Distinguished Professor; Professor of Arctic Ecology, University of Sheffield, UK; Honorary Doctor of Tomsk State University, RF, Lund University, SE and Oulu University, FI; Scientific coordinator of the SCANNET/INTERACT Network.

- Member, United Nations Environment Programme on Stratospheric Ozone Depletion Effects
- Director, Royal Swedish Academy of Sciences' Abisko Scientific Research Station, Sweden
- Co-ordinator SCANNET (Scandinavian - North European network of terrestrial field bases)
- Co-chair of CEON – a US initiative 'Circumarctic environmental observatories network'
- Member of the Integration Team, Steering Committee and lead author of the Arctic Climate Impacts Assessment: an ACIA representative at meetings of the Senior Arctic Officials
- Lead author of the Millennium Assessment of polar ecosystems
- Lead author of the IPCC assessment of polar regions
- Leader of several international Arctic research strategy initiatives
- Member of the US National Academy of Sciences committee on designing a circumarctic observatories network
- Leader of the Arctic Council of Ministers' initiative on coordination of observation and monitoring in the Arctic



Roberto Cazzolla Gatti

Ph.D, Associate Professor, Department of Ichthyology and Hydrobiology, Biological Institute, Tomsk State University. Researcher at "Bio-Clim-Land" Center of Excellence

- Head and scientific coordinator of the Master's Degree (MSc) in Biodiversity
- Ph.D. in Forest Ecology
- II Level MSc in Global Environmental Protection
- MSc in Environmental and Evolutionary Biology
- Freelance documentary photographer and wildlife filmmaker
- Ecoguide and video-photographic consultant with the Fondation Italo-Gabonese pour l'Ecotourism" (FIGET)
- Member of the CEM (Commission on Ecosystem Management), SSC (Species Survival Commission) and the WCPA (World Commission on Protected Areas) of the IUCN (The International Union for Conservation of Nature)
- Member of the Global Forest Biodiversity Initiative (GFBI)
- Scientific director of 3 WWF protected areas in the south of Italy
- Scientific director of the quarterly magazine "Villaggio Globale"
- Editorialist of the magazine "In Natura"

School Coordinator

Sergey Kirpotin - Professor,
Doctor of Sciences
Director of "Bio-Clim-Land"
Centre of Excellence
National Research
Tomsk State University
E-mail: kirp@mail.tsu.ru

School managers

Elmira Sadykova - International
Student Center Specialist
International Division
National Research Tomsk State University
E-mail: elkasadykova@gmail.com
Tel.: +7 (3822) 785-606

Tatyana Kolesnikova
E-mail: kirpota@inbox.ru
biogeoclim.tsu.ru
Mob.: +7 913 104 25 22
Tel.: +7 (3822) 52 99 02
Fax: +7 (3822) 52 99 02

JOIN US

APPLICATION FORM

LAST NAME _____

FIRST NAME _____

MIDDLE NAME _____

DATE OF BIRTH _____

UNIVERSITY / ORGANIZATION _____

EDUCATION LEVEL

BA STUDENT / MA STUDENT (Underline as applicable)

FOR FULL-TIME STUDENTS

Year of study _____

FOR PHD STUDENTS

Year of study _____

SCIENTIST YES / NO

SPECIALIST YES / NO

LECTURER YES / NO

FOR ADVANCED RESEARCHERS

Scientific degree, position _____

MAJOR _____

RESEARCH INTERESTS _____

CONTACTS

TELEPHONE _____

E-MAIL _____

ADDRESS (with postal index number / zip code)

TOPIC OF PROJECT PRESENTATION

FORM OF PROJECT PRESENTATION (Underline as applicable)

Oral presentation / Stand

CITY OF ARRIVAL (Underline as applicable)

Tomsk / Gorno-Altaysk

CITY OF DEPARTURE (Underline as applicable)

Tomsk / Gorno-Altaysk