



PYRN Newsletter

November-December 2013

Dear PYRN-members,

Welcome to the last newsletter of the year! This has been a whirlwind of a year for PYRN and for permafrost research in general.

One reminder up front: abstract submission for EUCOP4 is open until December 15th. Applications for the Permafrost Young Researchers Workshop stipends are due the same day.

Sincerely,

The PYRN Executive Committee

Announcements

Permafrost Engineering Short Course

A course on Permafrost Engineering Short will be held at the **University of Alberta, Edmonton, BC, Canada from December 5 to 10, 2013**. This course is tailored towards engineers who have never attended a permafrost engineering course, or want to learn more about the latest information in permafrost engineering. It will teach working knowledge of logistic challenges of building in Northern Regions, including:

- Understand the origin and different types of ground ice.
- Know how to determine the existing thermal regime and impact of changing environmental conditions on this regime.
- Understand the unique behaviour of freezing, frozen and thawing soils and understand how to design for these conditions.
- Know how to evaluate and design foundations and slopes in permafrost.
- Be exposed to case histories related to hydrocarbon pipelines in permafrost, mine design, tailings impoundments under Arctic conditions and pile foundation support systems in regions of saline permafrost.

For more information please contact Sally Petaske (sally.petaske@ualberta.ca) or the Cold Regions Geotechnology Division of the Canadian Geotechnical Society (ColdRegions@cgs.ca).

Upcoming Meetings

PYRN Russia meeting #23

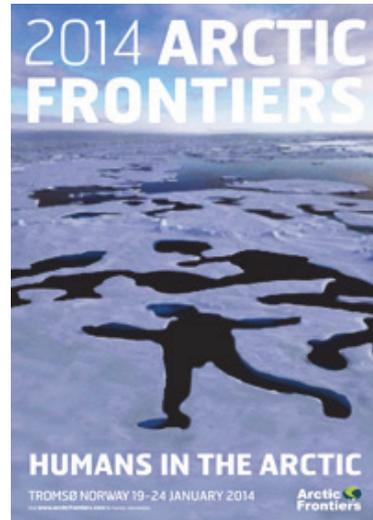
The meeting at 6.30 p.m. on 19th December in Moscow will deal with the use of thermal cameras in permafrost research.

Join us and learn more about this fascinating technique! http://vk.com/pyrn_23

Arctic Frontiers - Humans in the Arctic

Arctic Frontiers is an international meeting addressing development in the Arctic. The conference discusses how upcoming opportunities and challenges may be handled to ensure viable economic growth and societal and environmental sustainability. Annually the conference attracts more than 1000 participants from 25 Arctic and non-arctic countries, representing science, business, politics, and civil society. The conference takes place in the Norwegian city of Tromsø from January 19th to 24th, 2014.

There is **funding support available** for the participation and accommodation for young researchers wishing to attend Arctic Frontiers 2014. To apply for funding you need to have an abstract (oral or poster presentation) accepted at the conference. Applications should include your name, affiliation and a short CV and sent to ysf@arcticfrontiers.com.



More info: <http://www.arcticfrontiers.com/>

International practical Permafrost conference at World Snow Forum, Novosibirsk, Russia

On **January, 15 to 17, 2014**, the World Snow Forum will take place in Novosibirsk, Russia. The meeting is hosted by the Earth Cryosphere Institute of Russian Academy of Science (RAS) (Siberian Branch), Science Council on Earth Cryology of RAS and International Permafrost Association (IPA). The International practical Permafrost conference “Resources and risks in the regions under permafrost” will take place as a part of the Forum.

Requests for participation in the conference, with or without of reports, have to be sent up to 1 December, 2013. Subject area includes all directions in permafrost study and its application in economics. Abstracts (with notes – oral presentation or poster) should be sent to Dr. Vladimir Sheinkman, the moderator of the conference, by e-mail: vlad.sheinkman@mail.ru

The extent of the abstracts has to be up to 2 pages. The type – 12 in the Times New Roman print. The time limit for oral presentations has to be up to 15 min., by the PowerPoint presentation.

Organizing fee:

The organizing fee for the participants of the International practical conference on Permafrost “Resources and risks of the regions under permafrost” has been paid to the account of the Forum’s organizing committee.

Place of conferencing, accommodation and bonuses:

All arrangements will be carried out in the “Novosibirsk-Expo-Center” of Novosibirsk.

Information concerning hotel accommodations will be stated in the second circular.

The Forum’s organizing committee has possibility to pay hotel accommodation, and to present other preferences for some participants, first of all – for young scientists. Taking decision in respect to that will be made by the organizing committee on receiving the requests and abstracts.

Contact information:

For additional information, it should be addressed to the conference moderator – Dr. Vladimir Sheinkman:

E-mail: vlad.sheinkman@mail.ru

Tel.: (+7 -3452) 68-87-85

Fax: (+7 3452) 68-87-87

Tyumen, 625000, 86 Maligin str.



THAW 2014 - Thermokarst Aquatic ecosystems Workshop

Freshwater ecosystems in changing permafrost landscapes

Permafrost systems are attracting considerable interest at present given the accelerated warming of the Arctic and its associated effects on thermokarst processes, peat erosion and water balance. These phenomena may affect biogeochemical pathways, including those controlling greenhouse gas fluxes and the export of dissolved and particulate materials to downstream river and coastal waters. Although many scientific events have been organized to share information on permafrost degradation and its associated carbon dynamics, few have focused specifically on aquatic ecosystems, and there has been little attention to date given to the strikingly diverse and changing limnology of these systems, including their geomorphological dynamics, hydrological properties, hydrogeochemistry, microbiology, food web structure and regional differences. More knowledge about each of these aspects is needed for a full understanding of their importance as ecological oases in the tundra, biogeochemical reaction sites and gas conduits to the atmosphere, and to predict their responses to the rapidly changing northern climate.

THAW 2014 will bring together researchers from these different disciplines to share their knowledge about freshwater systems in permafrost landscapes, and to plan for future collaborative research, data exchange and synthesis. The workshop is held in **Quebec city, Canada, from 12 - 15 march, 2014.**

The workshop has been organized around three connected themes:

- Physical aspects and dynamics of permafrost aquatic ecosystems (geomorphology, hydrology, optics, remote sensing, paleolimnology, landscape and downstream linkages)
- Biogeochemical properties of permafrost aquatic ecosystems (carbon, nitrogen and other elemental cycles, greenhouse gases)
- Biodiversity and food webs in permafrost aquatic ecosystems (molecular and taxonomic analyses, community structure, classic and microbial food webs, controls on biological production)

The **registration fee** for students is \$CDN 90, for PhD students and research staff etc. \$CDN 180.

<http://www.cen.ulaval.ca/thaw2014/>

Conference of the International Association for Impact Assessment

The 34th Annual Conference of the International Association for Impact Assessment will take place in Viña del Mar, Chile, between the 8th and the 11th of April 2014. We cordially invite you to submit abstracts to the session entitled "Impacts evaluation in high mountain terrain". The objective of this session is to show the importance of a locally adequate environmental impact evaluation in mountainous terrain, especially in the case where the glacial and periglacial environments are present. The glacial and periglacial environments in South America face a series of myths and improper use of concepts which adds to the challenges that regulators, project proponents, NGOs and the general public face when evaluating projects located in the high Andes.

Please submit your abstract using the following link:
<http://www.iaia.org/conferences/iaia14/guidelines.aspx>



EUCOP4 - 3rd CIRCULAR

Dear colleagues,

EUCOP4 website is now fully implemented and registration for the conference and field trips, as well as abstract submissions are now open.

The deadline for abstract submission is **15 December 2013**. All the procedure should be done through the online registration and abstract submission forms. At the website you will find details about the planned sessions, key-note lectures and planned workshops.

Please be aware that the field trips are limited to a small number of participants and the registration will be on a first come, first served basis. Some of the field trips may be therefore fully booked soon.

For the registration, students which are PYRN members will benefit of a special reduced fee which will be available for the first 150 registrants.

We recommend that you book the hotels directly via the online registration form. June is nearly peak tourist season in Évora and it is convenient to book well in advance. The process will be managed by EUCOP4 Executive Secretariat at Abreu (maria.j.bacalhau@abreu.pt, phone: +351-214156383), which is available to help with travel and accommodation requests, including bookings for the social program for accompanying persons.

We invite you to visit our website at <http://www.eucop4.org> for further details.

Looking forward for your contribution to the conference and for meeting you in Évora next year,

with the best wishes from the Local Organizing Committee,

Gonçalo Vieira

EUCOP4 - SESSIONS

PERMAFROST RESEARCH AND SOCIETY: FROM HISTORY TO THE FUTURE

1. History of permafrost research
2. Education and outreach
3. Open session on permafrost

PERMAFROST ENVIRONMENTS - INTERDISCIPLINARY CROSSROADS

4. Periglacial geomorphology
5. Permafrost and mountain microbiology: from microbial function, adaptation and activity to environmental impacts
6. Biogeochemistry of permafrost in transition
7. Topography and microclimate effects on permafrost and seasonally frozen ground
8. From kinematics to dynamics: geomorphic and physical controls of permafrost creep
9. Limnological processes in permafrost environments
10. Dynamics of ice-wedge polygons in tundra landscapes – inventory, functioning and development

11. Planetary permafrost, geomorphology and Earth analogues
23. From Coastal to Subsea Permafrost

PERIGLACIAL PALEOENVIRONMENTS

12. Techniques of paleoenvironmental reconstruction from periglacial deposits
13. Reconstruction and modelling of paleo-permafrost

REGIONAL FOCUS – GLOBAL SIGNIFICANCE

14. Yedoma origin, records and future projections in a changing Arctic
15. Tropics to middle latitudes, volcanic high mountain permafrost

METHODS AND TECHNIQUES

16. The role of geophysics in permafrost studies
17. Remote Sensing, DEMs and GIS applications in periglacial research
18. Permafrost engineering

MONITORING AND MODELLING

19. Bridging the gap between models and observations in permafrost landscapes
20. CALM at twenty: multi-decadal perspectives on an international permafrost monitoring program
21. Permafrost modeling across different scales
22. Permafrost international monitoring, Observing and Coordinating Activities

Regional Conference of the International Geographical Union

The 2014 Regional Conference of the International Geographical Union will be held in Krakow, Poland, 18-22.08.2014. More information at: <http://www.igu2014.org/> where the list of IGU Commissions sessions is available, too. Please notice that until the end of November 2013, proposals for thematic sessions can be submitted and the deadline for sending abstracts is 15.01.2014. Please distribute the information among your colleagues, thank you in advance!

We look forward to welcoming you to Kraków in August 2014!

With best regards,

Anita Bokwa

Organizing Committee of 2014 RC IGU

Jagiellonian University

Krakow, Poland

Dear PYRN members,

the conference in Poland is a good opportunity, for who is interested, to organize a PYRN activity! If you are interested, the PYRN ExCom is ready to help you, in any way we can.

Best Regards

Alexandre

President of the PYRN ExCom

Reports

PERMOS Report Permafrost in Switzerland 2008/2009 and 2009/2010

PERMOS is the **Swiss Permafrost Monitoring Network**. PERMOS aims on a long-term documentation of state and changes of mountain permafrost in the Swiss Alps. The network was initiated in the 1990's and is operational since the year 2000. It is carried by six partner institutions (ETH Zurich, SLF Davos, Universities of Fribourg (UniFR), Lausanne (UniL), Southern Switzerland (SUPSI) and Zurich (UZH)).

PERMOS includes three types of observations which are taken at sites on different landforms in varying topographic settings: (1) ground temperatures measured in boreholes and at the surface near to the drill site, (2) changes in subsurface ice and unfrozen water content at the drill sites by

geo-electrical surveys, and (3) velocities of permafrost creep determined by geodetic surveys and photogrammetry. In addition, fast mass movements from permafrost areas (e.g., rock fall) are documented in an inventory.

The **5th report** of the Swiss Permafrost Monitoring Network (PERMOS) 2008/2009 and 2009/2010 is available from the PERMOS website:

PERMOS 2013. Permafrost in Switzerland 2008/2009 and 2009/2010. Noetzli, J. (ed.), Glaciological Report (Permafrost) No. 10/11 of the Cryospheric Commission of the Swiss Academy of Sciences, 80 pp.

www.permos.ch/publications.html

This report on permafrost in the Swiss Alps covers the two hydrological years 2008/2009 and 2009/2010. It complements the first 10 years of official PERMOS operation, which started with a first pilot phase in the year 2000. Special thanks go to the **PERMOS Partners** (www.permos.ch/partner.html) and **funding institutions** (www.permos.ch/supporter.html) as well as to all people involved for their work and support.

THIRD FORUM FOR YOUNG PERMAFROST SCIENTISTS

24 June – 13 July 2013

Yakutsk, Russia

The third forum for young permafrost scientists were hosted by the Melnikov Permafrost Institute (Yakutsk, Russia). Forum commemorated the 140th birthday of M.I. Sumgin, the founder of geocryology, and the 150th birthday of V.A. Obruchev, the first director of the Permafrost Institute in Moscow. The Forum for Young Permafrost Scientists included the Geocryological Conference held from 24–27 June 2013 and the Geocryological Field Workshop from 29 June to 13 July 2013. From year to year the main aim of the Forum is to strengthen international and inter-regional cooperation between young scientists in geocryology. Forum assembled pupils, students and Phdstudents from Moscow, Novosibirsk, Tyumen, Tomsk, Chita, St.-Petersburg, Lensk, Chernishevskiy, and also Mongolia and Japan. 76 participants took part in the conference. There were presented 35 oral presentations and 5 posters. Main themes of the conference were combined in 3 sections: 1. Regional and historical geocryology; 2. Climate, hydrogeology, geochemistry, geothermic and thermal physics of the permafrost zone; 3. Engineering cryolithology.

The second part of the Forum took place from June 29 until July 15. The main theme of the field workshop was “Geocryological research of mountain fields, Southern Verhoyansk mountain”. 34 participants took part in the field workshop.

Field workshop had five main scientific themes:

1. Paleogeography and glaiation;
2. Cryogenic processes and phenomena (solifluction, hillslopes processes, ice wedging, thermokarst, frost heaving processes);
3. Hydrology and geohydrology;
4. Heat exchange features and heat regime formation of soil;
5. Stability of roads in permafrost zone.

During the workshop, lectures and field excursions were conducted by senior scientists from the Melnikov Permafrost Institute and Institute of Earth cryosphere in Tyumen. Possibilities of monitoring network organization were discussed with participants.

Forum is not a just platform for scientific results and achievements exchange; it promotes strengthening of interregional and international cooperation of young scientists and creating of young creative collectives.

Having heard and discussed plenary and section presentations following solutions were accepted:

1. Promote realization join young scientific projects;
2. Present results of the Forum to the popular scientific journal “Science and technician in Yakutia” before October 1, 2013;

3. Create mechanism supporting of young scientists in view of remoteness of Yakutia and high price for flight tickets;
4. Appoint community of young scientists by the organizer of IV Forum for young permafrost scientists (Yakutsk, 2015).



Participants of the third Forum for young permafrost scientists (Yakutsk).



Field workshop. Trekking in the Baranya mountain (Verhoyanskiy mountain, Yakutia).

News from the French Periglacial Association (AFdP)

The French Periglacial Association (AFdP) changed recently (F. Costard is the main director) and launched a new website (<http://afdpblog.wordpress.com/>). This year, the annual meeting in Paris focused on the “periglacial landforms and permafrost” with interesting discussion of new observations and techniques.

The IAG conference was held in Paris/France on 27-31 August 2013 and it was a great place to see recent research in Geomorphology and particularly the cold regions. Professor Vic Baker did a very interesting talk about geomorphology with particular focus on the morphoclimatic legacy. Among the sessions, the glacial, results of periglacial or mountains geomorphology in relation to climate change and risk assessment attracted much attention. Many young geomorphologists participated

to the conference presenting their results.

The French Arctic Initiative's inaugural symposium entitled «Arctic: the major scientific issues» was held June 3-5, 2013 in Paris. It was followed, on June 6, 2013, by a day of reflection on future prospects for the Arctic and in the evening, a public event. The Arctic was addressed in a broad context in terms of discipline and temporal (past, present future) or spatial (polar, global) dimension. The objectives of the symposium were:

- 1) to address the major scientific issues and recent developments with regard to the Arctic.
- 2) To mobilize the scientific community, from multiple disciplines, around these issues.
- 3) To highlight the most promising avenues for improving our understanding of this complex system.

The symposium attracted the attention of the best researchers in the country, including those who have never worked on scientific problems in the Arctic to contribute to the development of innovative research in the Arctic. This will lead to the production of a white paper on future research priorities confronting the French scientific community.

Alexandre Nieuwendam appointed as a member of the APECS Council

Alexandre Nieuwendam, president of current PYRN Executive Committee, has been recently appointed a member of the APECS 2013-14 Council. Alexandre who is one of the co-founders of APECS, hopes to build a stronger relation between PYRN and APECS.

The main tasks are:

- a) Letting APECS know what is happening within PYRN and IPA;
- b) Advertising APECS within PYRN;
- c) Think about joint activities and events of PYRN and APECS.



Michael Fritz appointed to the Executive Committee of the IASC Network "Arctic in Rapid Transition"

Michael Fritz, a member of the current PYRN Executive Committee, has been recently appointed to act as a member of the Executive Committee of the official IASC Network "Arctic in Rapid Transition" (ART). With its strong permafrost background in the Arctic, Michael will introduce and strengthen the perspectives of terrestrial permafrost studies within ART in general and arctic land-ocean interactions in particular. His future work within ART will strengthen the collaboration between the permafrost community and the great variety of disciplines dealing with arctic research.

ART is a network of early-career scientists. The unique characteristics of the ART Initiative are arrayed along four axes:

Early Career Involvement: ART was conceived, developed and remains steered by early-career scientists, with ongoing intellectual support from dedicated senior scientists who serve an advisory role. The program aims to continue and support the active involvement of early-career scientists in ongoing Arctic research

Interdisciplinary: ART fosters communication and data exchange among disciplines and will improve our understanding of the response of the Arctic marine realm as a whole (i.e. ecosystems and biogeochemistry) to changes in climate and Arctic sea ice.



International: ART is an international effort both in terms of geographic scope (Panarctic) and of the nationalities of the founding and participating scientists.

Temporal Linkages: ART has an important focus of bridging temporal aspects, including paleorecords, current observational studies and modelling efforts.

The renewed ART ExCom will be chaired by Alexandre Forest (University of Laval, Canada).

<http://www.iarc.uaf.edu/en/ART>

PYRN-DACH Meeting

at the meeting of the German branch of the IPA, October 2013, Salzburg

By Boris Radosavljevic, Ingo Hartmeyer and Jens Strauss

Within the framework of the annual German branch of the IPA (AK Permafrost) in Salzburg, October 24-26 2013, the fourth PYRN-Germany meeting took place on October 25. Twenty-two young researchers from Germany, Austria and Switzerland were present and discussed the possibilities of closer cooperation of young permafrost researchers across the German-speaking realm. Under the leadership of Michael Fritz, Jens Strauss, and Ingo Hartmeyer, it was decided that PYRN-Germany should be re-named PYRN-DACH (Deutschland, Austria, Confoederatio Helvetica). With this decision, members sought to achieve greater international recognition and young-researcher-group identity across national boundaries. In addition, Ingo Hartmeyer (Austria), Cecile Pellet (Switzerland), and Jens Strauss (Germany) were chosen as national contact persons and coordinators. Boris Radosavljevic was chosen to represent the PYRN-DACH members to the PYRN council.



PYRN-members present at the October 25, 2013 meeting in Salzburg. (photo: Robert Delleske)

German branch of the IPA, October 2013, Salzburg meeting

The three-day meeting of AK Permafrost began with a welcoming banquet, while scientific presentations were planned for the following day. The program covered a broad spectrum of topics: alpine and polar permafrost dynamics, the application of biomarkers for paleo-environmental reconstruction, microbial degradation in respect to nutrient-limitation in arctic tundra landscapes, the application of geophysical methods in mass-movement studies and applications of remote sensing to long-term monitoring of periglacial landscape dynamics.



Markus Keuschnig's welcoming address at the German branch IPA meeting in Salzburg, October 24-26, 2013. (photo: Robert Delleske)



The poster session at the German branch IPA meeting in Salzburg presented an opportunity for young researchers to showcase their research. (photo: Robert Delleske)

On the third day of the conference, participants went to the summit region of the Kitzsteinhorn (3 204 m). In the impressive alpine landscape and excellent weather, field trip participants had the opportunity to learn about glacial landscape dynamics first hand, and some dramatic changes that have been observed recently. The Kitzsteinhorn is also a permanent monitoring station for permafrost researchers in Salzburg, who shared their insight and experience working in this environment. Markus Keuschnig, Jan-Christoph Otto and Ingo Hartmeyer (alpS – Centre for Climate Change Adaptation, Universität Salzburg) led the excursion, and presented the MOREXPART („Developing a Monitoring Expert System for Hazardous Rock Walls“) project. Boreholes, resistivity profile locations, data, and the infrastructure for monitoring of permafrost and rock stability in alpine settings were also showcased by the excursion leaders. Before concluding the field trip, researchers across national and academic boundaries supported their rock mechanic colleagues with logistical support of sample material recovery from the Kitzsteinhorn.



Participants of the excursion of the German branch IPA meeting at the cable car summit station of the Kitzsteinhorn (3 029 m), Salzburg, October 24-26, 2013. (photo: Robert Delleske)

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