

Call for new ExCom

By Adam Kirkwood

Are you enthusiastic about permafrost research, and want to be more involved? The Permafrost Young Researchers is preparing to launch the next 'Call for new 2022-2024 executive committee'.

Joining the PYRN ExCom or Council is a great way to meet other early career permafrost researchers from around the globe, and develop relationships and collaborations with amazing new people. In addition, you'll be able to help with planning activities for young researchers, creating new opportunities for people to be involved in, and support planning initiatives of both national and international permafrost conferences.

If you are interested, you can fill in our application form: <https://forms.gle/mTJWkSx5a4rRjXSW8>

We look forward to seeing what the future of PYRN holds in your hands!

PYRN Seminars Series

By Charlotte Haugk

The PYRN Seminar is back!

After a couple of months break, we are back with some new discussions on a wide range of permafrost topics!

PYRN Seminar March 8th, 2022 <https://youtu.be/5jVIJRcMRcg>

Torben Windirsch (Alfred Wegener Institute, Germany): PeCHEc - Arctic bioengineering

Robin Zweigel (University of Oslo, Norway): Modelling permafrost-ecosystem interactions in Mongolia

Adam Kirkwood (Laurentian University, Canada & Vice President of PYRN): From landscape to microbes: how permafrost thaw influences mercury biogeochemistry

Thank you everyone for the nice discussion and taking part in the seminar!

Mongolian permafrost-ecosystems

Background

- Large permafrost extent
 - 63 % of the country
- High altitude and northern regions
- Strong connection to vegetation cover

CHANGING PERMAFROST DISTRIBUTION IN MONGOLIA 1971

Permafrost types:
Continuous
Discontinuous
Isolated
Seasonal
Ice-free
Ice-rich
Ice-poor
Ice-free
Ice-rich
Ice-poor



UNIVERSITY OF OSLO



Study site #2



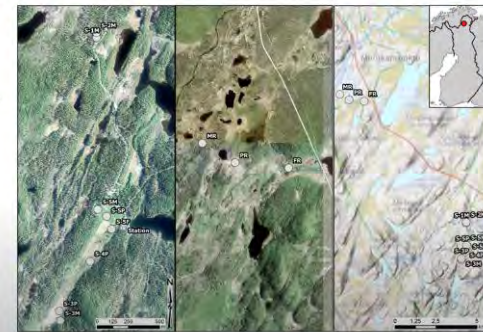
Inari area, Finnish Lapland

- 2 study areas:
 - Lapland wilderness
 - Kutuharju Field Station
- 11 sites, mainly summer pastures
- 5 grazing intensities

<https://paliskunnat.fi>

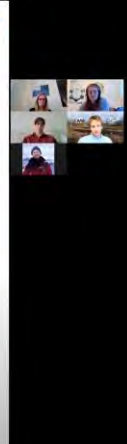


08.03.2022



PeCHEc - Arctic Bioengineering

Windirsch et al., in prep.



PYRN Seminar Series March 2022 presents



Adam Kirkwood
(Laurentian University, Canada &
Vice President of PYRN)

From landscape to microbes:
how permafrost thaw influences
mercury biogeochemistry



Robin Zweigel
(University of Oslo)

Modelling permafrost-ecosystem
interactions in Mongolia



Torben Windirsch
(Alfred Wegener Institute, Germany)

PeCHEc - Arctic bioengineering

Registration form: <https://forms.gle/Q3DVU8g1JDnCP1MD6>

Give a presentation at the next PYRN Seminar Series

By Adam Kirkwood

The PYRN Seminar Series is a place for young permafrost researchers to share their research with other like minded early careers researchers in a diverse and inclusive environment. If you're interested in presenting your preliminary or final results and want to discuss it with others, then PYRN would be happy to have you present!

To present your permafrost research are one of our upcoming seminars, [click this link](#) and provide your information, and we'll be happy to hear about your research!

Resources for planning your fieldwork

By Adam Kirkwood

It's the time of the year again where we start planning our fieldwork! Whether its planning your first field season, or you've planned many, getting ready for field work can be quite stressful! To lessen the burden, the PYRN ExCom has compiled some resources that can be used to help plan for fieldwork. If you know of any good resources that have helped you and could help others too, send the information along to contact@pyrn.org and we'll be happy to share these great resources with others!

- [INTERACT Fieldwork Planning Handbook](#) (created together with APECS and UNIS Svalbard)
- NOAA Climate Program Office: [Tips for inclusive Arctic fieldwork planning](#)
- [Preparing for research in Svalbard](#)
- Woodwell Climate Research Center: [Best Practices for working in Arctic Communities](#)
- National Science Foundation: [Principles for conducting research in the Arctic](#)

Support for national representatives of PYRN

By Filip Hrbacek

PYRN excom will continue with the funding support of your activities. We should be able to offer you up to 300 EUR/year for activities like workshops or meetings organized in your country or in the frame of multiple countries. The funding application form and process remains the same as in the previous years, and you can find it here: <https://pyrn.arcticportal.org/national-representatives/funding-application-form>.

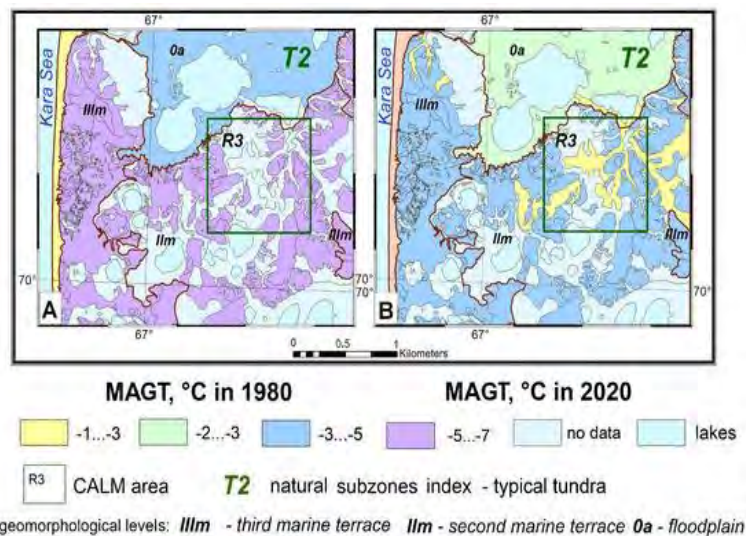
Feel free to contact us by mail: pyrn.nr@gmail.com for any questions.

Hot and cool permafrost papers

By Vasily Tolmanov

Malkova, G.; Drozdov, D.; Vasiliev, A.; Gravis, A.; Kraev, G.; Korostelev, Y.; Nikitin, K.; Orekhov, P.; Ponomareva, O.; Romanovsky, V.; et al. **Spatial and Temporal Variability of Permafrost in the Western Part of the Russian Arctic**. *Energies* 2022, 15, 2311. <https://doi.org/10.3390/en15072311>

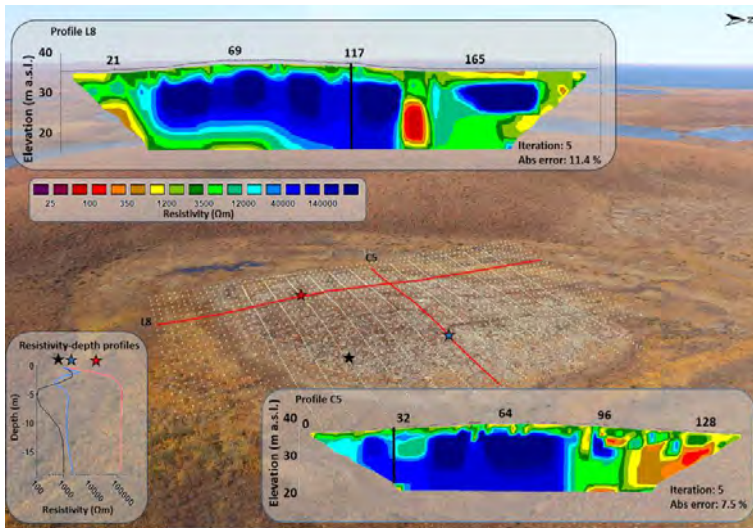
Permafrost characteristics such as Mean Annual Ground Temperature and active layer thicknesses in the Western Part of the Russian Arctic were analyzed throughout the paper. The locations of the greatest rates of climate warming moved to the Arctic zone of Russia from the SubArctic in the last 20 years. That resulted in a sharp increase in permafrost temperatures and in an increase in the depth of seasonal thaw. These changes led to the formation of closed taliks. Differences in permafrost temperatures in the area of continuous and discontinuous permafrost distribution have decreased between different cryogenic landscapes and disappeared from the areas of sporadic distribution. The thermal regime of the ground shows dramatic changes everywhere with a pronounced reduction in the depth of zero annual amplitude.



Changes in the mean annual ground temperature for two time intervals, Western Yamal, Marre-Sale station, typical tundra: (A) in the 1980s and (B) the modern period, 2020

Kunz J., Kneisel C. **Three-dimensional investigation of an open- and a closed- system Pingo in northwestern Canada**, Permafrost and Periglacial Processes 2021;32:541– 557.

This paper presents three-dimensional investigations of a hydrostatic pingo in the Mackenzie Delta region and a hydraulic pingo in the Ogilvie Mountains. The goal of the paper is to expand knowledge and contribute to a better understanding about the internal structures of the two pingo types. The complex approach combines quasi-three-dimensional electrical resistivity tomography, ground-penetrating radar and frost probing. The use of the aggregate methods allowed to divide frozen and unfrozen areas in the subsurface. Attributes of the hydrostatic pingo, such as massive ice core and a surrounding talik were found inside, but the location of the ice core and the talik differs from previous published assumptions. In contrast to acknowledged theory, the massive ice core is not located in the center of the pingo but at the western edge, whereas the eastern flank is underlain by a talik, which surrounds the massive ice core. The expected internal structure could be confirmed and the pathway of upwelling water could also be detected at the hydraulic pingo. The complex approach provides new insights about the internal structure of the two different pingo types. The chosen approach allows to add new details on the mechanism of formation of such landforms.



2D resistivity profiles of the pingo in longitudinal (L) and cross (C) direction

PYRN members in #APermafrostPaperAMonth

By Juditha Aga

If you want your paper to be promoted at our social media channels under #APermafrostPaperAMonth, you can contact our social media coordinator Vasily Tolmanov and we would be happy to support your work (vasiliytolmanov@gmail.com). Watch out for the next featured paper!

Vacancies



PhD positions

PhD position in ecology/physical geography with focus on Arctic terrestrial ecosystems

The Department of Ecology and Environmental Science (EMG) at Umeå University, Sweden, invites applicants for PhD position in ecology or physical geography, with a focus on Arctic terrestrial ecosystems.

Deadline: **25th April 2022**

Contact: **Matthias Siewert** (matthias.siewert@umu.se)

Link: https://www.umu.se/en/work-with-us/open-positions/phd-position-in-ecologyphysical-geography-with-focus-on-arctic-terrestrial-ecosystems_494961/

PhD position in climate modelling

Antarctic surface mass balance over the Last Millennium. Antarctic climate is rapidly changing in response to increasing greenhouse gas emissions, affecting the balance of snow melt and accumulation on the Antarctic ice sheet. This has implications for global sea level and broader Southern

Hemisphere climate. This fully funded PhD scholarship is available at the Antarctic Research Centre (ARC), Victoria University of Wellington, in collaboration with GNS Science and the National Institute of Water and Atmospheric Research (NIWA). Focusing on the Last Millennium (850-1849), the successful candidate will perform climate and ice sheet model simulations constrained by Antarctic ice core records to assess model skill, determine regional patterns of change, and identify modes of decadal-scale climate variability and teleconnections that impact Antarctic surface mass balance. The candidate will be based at the National Modelling Hub hosted at the ARC and will have access to excellent technical support for high-performance computing, statistical modelling, climate models, and mentorship from senior researchers.

Deadline: **May 27, 2022**

Contact: d.lowry@gns.cri.nz, liz.keller@vuw.ac.nz, and abha.sood@niwa.co.nz.

Three PhD positions in glaciology and glacierised catchment hydrology

The HIMAL (High Mountain Glaciers and Hydrology) group at the Swiss Federal Institute for Forest, Snow, and Landscape Research (WSL), led by Francesca Pellicciotti, is looking to fill three PhD positions in glaciology and hydrology of high mountain catchments, within two SNSF funded projects

- 1) PASTURE (Glacier retreat and its impact on mountain ecosystems and agriculture in Peru) – [1 PhD position](#)
- 2) RENOIR (*REsolving the thickNess Of debris on earth's glaCIers and its Rate of change*) - 2 PhD positions

PhD1 will work on reconstructing the supraglacial debris thickness of all glaciers on Earth, and evaluate its changes at the catchment and global scales, through a combination of field measurements, energy-balance modelling, and large-scale remote sensing.

<https://apply.refline.ch/273855/1280/pub/1/index.html>

PhD2 will leverage the new debris thickness estimates generated by companion PhD1 to assess the impact of debris on projections of glacier and catchment hydrology change.

<https://apply.refline.ch/273855/1281/pub/en/index.html>

Deadline: **May, 2022** (until the position is filled, and will start interviewing in May.)

Contact: Francesca Pellicciotti (francesca.pellicciotti@wsl.ch)

Postdoc positions and others

Postdoctor Research Fellow in Quaternary geology, geomorphology, and/or remote sensing of cold regions

The candidate should pursue her or his own line of research relating to Quaternary geology, geomorphology and/or remote sensing of cold regions. The successful candidate should be specialized on interpreting, quantifying and understanding Quaternary landscapes and landforms in cold regions. A focus on glacial and periglacial geomorphology including permafrost science is relevant. The candidate should also be able to use and develop remote sensing and GIS tools in this work.

Deadline: **30th of May 2022**

Contact: **Bernd Etzelmüller** (bernd.etzelmuller@geo.uio.no), **Karianne S. Lilleøren** (k.s.lilleoren@geo.uio.no) and **Andreas Kääh** (kaeaeb@geo.uio.no)

Link: [Postdoctor Research Fellow in Quaternary geology, geomorphology, and/or remote sensing of cold regions \(224840\) | University of Oslo \(jobbnorge.no\)](#)

Postdoctoral Fellow in Arctic plant-soil interactions

The postdoctoral fellow will be responsible for developing and executing experiments targeting plant-soil carbon allocation and plant impacts on soil organic matter stabilization and destabilization. The work will include sampling and experimental campaigns at Arctic field sites, and laboratory experiments with living plants in Stockholm, and apply a range of isotopic tools.

Deadline: **15th of May 2022**

Contact: **Birgit Wild** (birgit.wild@aces.su.se)

Link: <https://www.su.se/english/about-the-university/work-at-su/available-jobs?rmpage=job&rmjob=17590&rmlang=UK>

ESA Living Planet Fellowship for post-doctoral scientists call 2022

The Living Planet Fellowship 2022 Call is addressed to young post-doctoral scientists that completed their PhD after 01 January 2015 or will complete before 15 June 2022. Candidates to the Living Planet Fellowship 2022 Call must have a nationality from an ESA Member State.

Deadline: **15th of June 2022** (submit proposal)

Link: <https://eo4society.esa.int/2022/04/06/living-planet-fellowship-call-for-proposals-2022/>

Deadline: **15th of May 2022**

Candidates to the Living Planet Fellowship 2022 Call must have a nationality from an ESA Member State.

Research Engineer in Arctic carbon cycling

The Research Engineer will support a range of research activities planned for 2022 and 2023, including for the new ERC Starting Grant project PRIMETIME on the impact of plant-soil interactions on Arctic CO₂ fluxes.

Main responsibilities:

- Contribution to conceptual development, establishment and testing of experimental setups with soils and living plants in the field and laboratory
- Maintenance, troubleshooting, calibration and quality assurance of analytical equipment (e.g. cavity-ringdown laser)
- Contribution to planning of and possibly participation in Arctic field campaigns
- Ordering supplies and technical equipment
- Close interaction with postdoctoral researchers, PhD and master students as well as collaboration partners
- Support with lab management and other tasks as needed

Deadline: **15th of May 2022**

Contact: **Birgit Wild** (birgit.wild@aces.su.se)

Link: <https://www.su.se/english/about-the-university/work-at-su/available-jobs?rmpage=job&rmjob=17600&rmlang=UK>

Upcoming Dates



By Juditha Aga

EGU General Assembly 2022

May 23-27, 2022. Vienna, Austria. <https://www.egu22.eu/>

16th International young geomorphologists' meeting

June 24-26, 2022. Bad Kreuznach, Germany. <http://www.geomorph.org/2022/02/16th-international-young-geomorphologists-meeting-of-the-german-young-geomorphologists-24-26th-june-2022/>

Annual General Meeting of the Canadian Permafrost Association

August 21-26, 2022. Dawson City, Yukon, Canada. [AGM 2022 Dawson - Canadian Permafrost Association](#)

AGU Fall Meeting 2022

December 12-16, 2022. Chicago, IL, USA. [AGU Fall Meeting 2022](#)

Stay up to date with PYRN social media

By Vasily Tolmanov

We started the Permafrost alphabet - an educational-entertaining project in social media. You can see the examples of the posts in the subsequent text. You can take part in the creation of the "letter". If you have ideas or desire to help - please, contact me using one of our social networks.



Just a reminder that **PYRN** is active in a variety of social media channels! Follow us now!

We use platforms like Twitter, Facebook, Instagram and LinkedIn to communicate news about PYRN, articles, information on events and photos.



*Be part of the PYRN social media community and reach out to hundreds of permafrost enthusiasts! Use the tag **@pyrn_official** and hashtag **#pyrn** on Twitter, Facebook and Instagram to share your updates or pictures via the '**PYRN**' account.*

This Newsletter was prepared by PYRN ExCom 2020-2021 team

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