



ASSW 2021 Science Conference moves to virtual

Given the ongoing COVID-19 situation in Europe, North America and elsewhere, the ASSW2021 Local Organizing Committee (LOC) in coordination with IASC has made the decision to move the conference to an online event, with the possible exception of the business meetings that involve fewer participants. The ASSW2021 organizers are now planning for ASSW2021 to be an exciting online Science Conference, with wide participation throughout the world. We expect it will be an excellent opportunity to discuss Arctic science, engineering, education and outreach, as well as Indigenous and local community issues. The LOC is very much looking forward to meeting you all online in March next year.



SPECIAL ISSUES

Special T-MOSAiC Issue of Arctic Science

The T-MOSAiC special issue of “Arctic Science” is open for submissions until March 2022. Please visit the T-MOSAiC website for updated information or contact the secretariat: <https://www.t-mosaic.com/>



Special T-MOSAiC Issue on Arctic Terrestrial Pollution

The Environmental Pollution Journal (IF: 6.792) formally accepted the publication of the special issue on Arctic Terrestrial Pollution (including Coastal Areas).

This special issue will be edit by João Canário (University of Lisbon, Portugal), Katrin Vorkamp (Aarhus University, Denmark), Mark Mallory (University of Acadia, Canada) and Scott Zolkos (Woods Hole Research Center, USA).

Manuscript Submission will start on December 1st, 2020 and will be open until June, 2021.



PARTNERS

Sentinel North

Sentinel North announced the opening of the Sentinel North excellence scholarships and postdoctoral fellowships competition, from September 1 to October 10, 2020. These scholarships and fellowships aim to encourage the best candidates to undertake or pursue research activities within the Sentinel North research program in a transdisciplinary environment. More information at:

<https://sentinellenord.ulaval.ca/en/scholarships>



NSERC PermafrostNet and Canadian Permafrost Association AGMs

NSERC PermafrostNet is partnering with the Canadian Permafrost Association (CPA) for their 2020 Annual General Meetings (AGMs). The joint AGM will take place online on November 16, 17 and 18, 2020. On Monday November 16 CPA members will have a keynote on permafrost engineering and science, technical sessions, and the CPA business meeting to be held in the last session of the day. On Tuesday 17 and Wednesday 18 November, CPA and NSERC PermafrostNet will partner to provide a program of keynote presentations, interactive discussions, and breakout sessions to promote networking and smaller group discussions. You can register for the AGMs on the CPA [website](#).



CALLS

The T-MOSAiC/INTERACT call is still open until September 2020. Please consult the T-MOSAiC website if you would like to submit a proposal. The May evaluation for previously submitted proposals is continuing.



ACTION GROUP ACTIVITIES

Arctic Infrastructure AG

The Arctic Infrastructure Action Group is continuing its work on several activities that invite interdisciplinary collaboration on topics related to its focus:

* Planning RATIC/T-MOSAIC workshop for ASSW 2021 Lisbon: In preparation for our ASSW 2021 workshop, several Arctic infrastructure Action Group members are collaborating on a classification framework to help with monitoring infrastructure impacts due to climate change across the Arctic. Another focus of our planning will be strategies to involve indigenous communities and industry in Arctic infrastructure research planning. Our IASC cross-cutting grant provides funds to assist early career scientists, indigenous and industry representatives to attend the ASSW 2021 workshop.

* "Northern Roads and Railways" sessions at ArcticChange 2020 and ASSW 2021: Topical sessions on "Northern Roads and Railways: Social and Environmental Effects of Transport Infrastructure" will take place at both ArcticChange 2020 (7-10 December, online) and Arctic Science Summit Week 2021 (20-26 March, online). The sessions will focus on the complex entanglements between humans, environment and transportation infrastructure (roads, railways, pipelines and coastal facilities), including perspectives from the social and natural sciences, engineering and transportation studies. Session organizers are Olga Povoroznyuk (University of Vienna), Warwick Vincent (Laval University), and Fabrice Calmels (Yukon University). ASSW 2021 abstracts are due by October 31, 2020.

The US partners of this AG just submitted the first annual report for the NSF Navigating the New Arctic project called "Landscape evolution and adapting to change in ice-rich permafrost systems"

Items planning for 2020-2021 include:

* Final publication of two papers in preparation for Arctic Science Special Issue:

(1) M. Kanevskiy, Y. Shur, D.A. Walker, T. Jorgenson, M.K. Raynolds, J.L. Peirce, B.M. Jones, M. Buchhorn, G. Matyshak, A. Liljedahl, R. Daanen. In prep. Cryostratigraphy of the Upper Permafrost and Risk of Ice-Wedge



Thermokarst in Relation to Road Infrastructure, Prudhoe Bay Oilfield, Alaska.

(2) D.A. Walker, D.A. Walker, M.K. Reynolds, M.Z. Kanevskiy, Y. Shur, V.E. Romanovsky, T. Jorgenson, M. Buchhorn, J. Šibík, J.L. Peirce. Long-term vegetation and environmental effects of a road in an ice-wedge polygon landscape.

Also: (3) D.A. Walker, M.K. Reynolds, M.Z. Kanevskiy, Y. Shur, T. Jorgenson, B. Connor, B.M. Jones, A. Liljedahl, V.E. Romanovsky, G. Kofinas, J.L. Peirce, K.J. Ambrosius, M. Buchhorn, T. Kumpula, B.C. Forbes, M.O. Leibman, A. Khomutov, W. F. Vincent, M. Allard, P. P. Schweitzer, A. Bartsch, N. I. Shiklomanov, D. A. Streletskiy, G. Grosse, J. Brown, P.J. Webber. Cumulative landscape impacts of infrastructure and climate change in ice-rich-permafrost regions. Ecology and Society. Draft of Cumulative effects paper for Ecology and Society.

(4) D.A. Walker, M.K. Reynolds, M.Z. Kanevskiy, Y. Shur, T. Jorgenson, B. Connor, B.M. Jones, A. Liljedahl, V.E. Romanovsky, G. Kofinas, J.L. Peirce, K.J. Ambrosius, M. Buchhorn, T. Kumpula, B.C. Forbes, M.O. Leibman, A. Khomutov, W. F. Vincent, M. Allard, P. P. Schweitzer, A. Bartsch, N. I. Shiklomanov, D. A. Streletskiy, G. Grosse, J. Brown, P.J. Webber. In prep. Cumulative landscape impacts of infrastructure and climate change in ice-rich-permafrost regions. For Ecology and Society.

* Feasibility analysis for adaptation strategies for Point Lay infrastructure.

- Visit the village of Point Lay if COVID restrictions are lifted and formalize plan for collaborative research

*Participation in the "Northern Roads and Railways: Social and Environmental Effects of Transport Infrastructure" Special Session for Arctic Science Summit Week 2021 (Lisbon)

- Development of "road dust impacts" section of the Landscape Evolution component

*Completion of the Arctic Alaska Geocological Atlas including the ArcGIS Online user interface

* AGC Data Report of the data collected at Road Ice-Rich Permafrost Observatory (NIRPO) during the 2020 field season

* 2020 Field Season: Establish NIRPO research sites.

* Complete vegetation studies of Emily Watson-Cook who is working on an M.S. Thesis addressing vegetation change related to roads.



Remote Sensing AG

T-MOSAIc Remote Sensing AG chairs Annett Bartsch and Gonçalo Vieira will chair a session at the European Polar Science Week. The session entitled "Arctic Land-Surface Characterisation - Needs, Challenges and Gaps/T-MOSAIc" will have Isla Myers-Smith, Guido Grosse, Matthias Siewert and Thomas Ingeman-Nielsen as keynote speakers. More information is available in the meeting website at: <http://eo4polar.esa.int/>



Arctic Microbiomes AG

The AG Arctic Microbiomes will host a session titled "Microbiomes and biogeochemical processes along geographic and environmental gradients in the circumpolar North" at the online Arctic Science Summit Week, 20-26 March _2021 (see above).

Session chairs: Jérôme Comte (IRNS, CA), Klemens Weisleitner (University of Innsbruck, Austria) and Anne D. Jungblut (Natural History Museum, UK). More information at <http://www.assw2021.pt>



Northern Community Issues AG

The Northern Community Issues AG Arctic Microbiomes will host a session titled "Arctic Ecosystem Changes, Pollution Issues and their Impact on Wildlife and Northern Communities" at the online Arctic Science Summit Week, 20-26 March _2021 (see above).

Session chairs: Martin Pilote (Environment and Climate Change Canada) and Martin Jusek and João Canário (University of Lisbon). More information at <http://www.assw2021.pt>



Land-Water Processes AG

An international consortium of T-MOSAIc researchers are currently working on a synthesis paper concerning northern lakes. The first article in the T-MOSAIc special issue of Arctic Science (see above) is now online:

Bégin, P. N., Rautio, M., Tanabe, Y., Uchida, M., Culley, A. I., and Vincent, W.F. 2020. The littoral zone of polar lakes: Inshore-offshore



contrasts in an ice-covered High Arctic lake. *Arctic Science* 6,
doi:10.1139/AS-2020-0026.

OTHER ARTICLES RELEVANT TO T-MOSAIC THEMES

- 🌐 Reynolds, M. K., J. C. Jorgenson, M. T. Jorgenson, M. Kanevskiy, A. K. Liljedahl, M. Nolan, M. Sturm, and D. A. Walker. 2020. Landscape impacts of 3D-seismic surveys in the Arctic National Wildlife Refuge, Alaska. *Ecological Applications* 00(00):e02143. 10.1002/eap.2143
- 🌐 Fowler, R.A., Osburn, C.L. and Saros, J.E., 2020. Climate-driven changes in dissolved organic carbon and water clarity in Arctic lakes of west Greenland. *Journal of Geophysical Research: Biogeosciences*, 125: p.e2019JG005170.
- 🌐 Grünberg, I., Wilcox, E.J., Zwieback, S., Marsh, P. and Boike, J., 2020. Linking tundra vegetation, snow, soil temperature, and permafrost. *Biogeosciences*, 17: 4261-4279.
- 🌐 Nitzbon, J., Westermann, S., Langer, M., Martin, L.C., Strauss, J., Laboor, S. and Boike, J., 2020. Fast response of cold ice-rich permafrost in northeast Siberia to a warming climate. *Nature Communications*, 11, doi: 10.1038/s41467-020-15725-8.
- 🌐 Stuenzi, S.M. and Schaepman-Strub, G., 2020. Vegetation trajectories and shortwave radiative forcing following boreal forest disturbance in eastern Siberia. *Journal of Geophysical Research: Biogeosciences*, 125(6), p.e2019JG005395.
- 🌐 Pascual, D., Åkerman, J., Becher, M., Callaghan, T.V., Christensen, T.R., Dorrepaal, E., Emanuelsson, U., Giesler, R., Hammarlund, D., Hanna, E. and Hofgaard, A., 2020. The missing pieces for better future predictions in subarctic ecosystems: A Torneträsk case study. *Ambio*, doi: 10.1007/s13280-020-01381-1.
- 🌐 Michelutti, N., Douglas, M.S., Antoniadou, D., Lehnher, I., St. Louis, V.L., St. Pierre, K., Muir, D.C., Brunskill, G. and Smol, J.P., 2020. Contrasting the ecological effects of decreasing ice cover versus accelerated glacial melt on the High Arctic's largest lake. *Proceedings of the Royal Society B*, 287: p.20201185.