

US Permafrost Association 2021 Annual Report

IPA RCOP21/19th ICCRE PEEP Awardees



Lawrence Vulis



Yue Zhao



Kaytan Kelkar



Kristina Levine



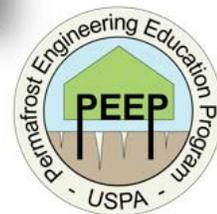
Elias Manos



Jaimy Schwarber



Min Liew



April 2022



March 17, 2022

Re: US Permafrost Association 2021 Annual Report

Dear Permafrost Colleagues,

While this was a challenging year for permafrost science and engineering due to COVID, the US community with its international colleagues continued to undertake the important work of understanding and adapting to climate related impacts in permafrost regions of the world. This report highlights the 2021 activities of the USPA and other US permafrost research institutions during the past year.

The USPA's biggest highlight was hosting the successful joint 2021 Regional Conference on Permafrost & ASCE 19th International Conference on Cold Regions Engineering. We all missed seeing our colleagues in person, yet the virtual venue attracted over 400 participants and sponsors from around the world. The USPA is deeply grateful to the Conference Organizing Committee led by Tom Douglas and Anna Liljedahl. I would like to also thank our conference sponsors and the USPA members and other participants who all contributed to the success of the conference. A special thanks goes to Kevin Schaefer and Peppi Croft for managing and executing the essential logistics, contracts, and USPA website upgrade & content for the conference.

The viability of the USPA depends on growing a diverse and vibrant community of members. I want to thank our institutional and corporate members and sponsors for their critical continuing financial support (organizational logos are illustrated in the report). I also thank our 350 members who through their participation in USPA activities and membership, help to create and sustain the vision and mission of the USPA to meet the evolving needs of permafrost scientists and engineers, especially those in the early stages of their careers. The USPA can only provide services to the Permafrost community through your membership contributions. If you have not taken the opportunity to renew your membership for 2022, it is easy to do so on the USPA website at uspermafrost.org.

Finally, I am very grateful for the extraordinary efforts of 2021 USPA Board members and the chairs of the USPA committees. I thank the USPA Board for the work they did to modernize USPA critical business and public outreach processes; and for their input to, and support of, the RCOP21 & 19th ICCRE conference planning and execution.

Cathy Wilson, Past President USPA

The Year in Review

The Annual Meeting of the U. S. Permafrost Association (USPA) was held virtually on December 9, 2021, due to COVID-19 safety concerns. Participating in the meeting were approximately 25 members including Board members and Committee chairs. Results of the Board of Directors elections were announced. Anna Wagner was elected to President-Elect and John Thornley assumed the Presidency. New Board members are Eva Stephani, Treasurer and Michael Lilly, Member-at-Large. Molly McGraw, replaced Susan Wilson, as Secretary in 2021. Continuing on the Board are Cathy Wilson, as Past-President; Peppi Croft, newly elected as Member-at-Large, and Jessica Ernakovich and Michelle Walvoord as Members-at-Large. Kevin Schaefer and Edward Yarmak, continue as U.S. Representatives to the Council of the International Permafrost Association (IPA) and Fritz Nelson as representative of the IPA Executive Committee. These latter three attended the earlier virtual IPA Council meeting in June 2021. Helena Bergstedt, stepped down as PYRN Board Member, and Emma Lathrop was nominated by PYRN and then accepted by the BOD to be her replacement on the Board. Torsten Mayrberger completed his term on the Board and his dedicated services, as well as those of Helena Bergstedt and Susan Wilson, are gratefully acknowledged.

The USPA and the American Society of Civil Engineers (ASCE) jointly convened the IPA 2021 Regional Conference on Permafrost (RCOP) and 19th International Conference on Cold Regions Engineering (ICCRE) on October 24-29, 2021. Due to the ongoing COVID-19 pandemic, the organizers chose an all-virtual meeting platform. Of the

416 registered participants from 20 countries, 237 were from the United States and 98 from Canada. A total of 280 plenary, oral, and poster presentations took place over the four days. The Permafrost Young Researchers Network (PYRN) held its annual meeting the day prior to the opening ceremonies. It included presentations and breakout meetings on proposal writing, science communication, and work-life balance; four awards were made for best oral and poster presentations. The ASCE's Cold Regions Engineering Division under the leadership of Jon Zufelt, published a special conference volume of 34 papers. USPA thanks the conference sponsors for their added support.

Alaska Senator Lisa Murkowski opened the conference with a video presentation followed by Larry Hinzman of the White House Office of Science and Technology Policy. Other plenary presentations included the Eb Rice Lecture "Tears of a Rapper: The Science and History behind the Art of Frozen Debris Lobe Rap Videos" by Margaret Darrow and "Perspectives on Climate Change: On-the-Ground Impacts of Climate Change in Arctic Communities" by Darcy Peter of the Woodwell Climate Research Center. Jerry Brown received the IPA Lifetime achievement award presented by IPA President Chris Burn with Fritz Nelsen providing a tribute on Jerry's career accomplishments. The ceremonies included a tribute to Art Lachenbruch (1925- 2021) and acknowledgement of other deceased members of our permafrost community.

The following are brief reports from the Association's standing committees.

The USPA Diversity, Equity and Inclusion (DEI) Committee is currently composed of

nine USPA members, with newly appointed co-chairs Jessica Ernakovich and Bob Bolton. In 2021, the DEI group met 10 times and discussed and worked on a number of potential DEI initiatives, including finalizing the USPA DEI statement. The DEI Committee initiated background education through the Unlearning Racism in the Geosciences (URGE) curriculum - including setting "ground rules" on how we interact with each other during our committee meetings. We ended the year by preparing a survey of the USPA membership (to be distributed in early 2022) to learn more about USPA membership needs and to prioritize our DEI-focused activities in 2022. If you would like to join or participate in the DEI Committee, contact Bob (wrbolton@alaska.edu).

The Membership Committee (MCOM), chaired by Jerry Brown, reported that in 2021, USPA gained three Corporate members, two Institutional members, two Lifetime members and one Sustaining member. USPA membership increased from a mid-summer level of approximately 200 paid members to the end-of-year total of 350 members. This increase was mainly due to registration for the 2021 Regional Conference on Permafrost (RCOP) that offered, by becoming a member, a reduced Conference registration fee. Of this total, 257 members are from the US representing over 50 universities, 10 federal and state agencies, and 20 private organizations from 36 States. International membership is represented by 17 countries, with Canadian membership numbering 55 and Germany 13 (the attached membership map was prepared by Anna Klene). Approximately 100 USPA members belong to PYRN. MCOM will meet early in 2022 to review much needed updates to the Committee charter, update Committee membership, and plans for its role in the 20th USPA anniversary activities.

The new MemberClicks membership management service was initiated in August and used for RCOP registration and for on-going membership updates and maintenance, including these end-of-year statistics. The Membership Committee, on behalf of the Association, extends its appreciation to Peppi Croft, former Treasurer, for her services related to the initial MemberClicks developments and the new USPA web site, and to former Secretary Susan Wilson whose prior support provided the Committee and the USPA membership with many much-needed services.

The Communications Committee (CCOM), chaired by Michael Lilly, coordinates with the American Geosciences Institute (AGI) to provide the monthly catalog of world-wide, permafrost literature. In 2021 the twelve-monthly issues of Permafrost Monthly Alert (PMA) added 561 accessions. With the transfer of PMA to the new website, PMA content inquiries (views by individual readers) are no longer available. The number of annual PMA content viewers were approximately 13,000 in 2020. Other Committee activities included postings of relevant information on Facebook, Twitter and Instagram and assisted by Julian Dann, Oliver Frauenfeld and Michael Lilly. For the fourth (consecutive year, committee member Kristina Levine, student at Texas A&M University and supported by GW Scientific, took the leadership in preparing the compilation of permafrost-related presentations for the 2021 AGU Fall Meeting. The 344 abstract compilation was made available to the USPA membership prior to Fall Meeting. Among those presenting were 67 USPA members including 24 PYRN members. After many years of service to the Committee Oliver Frauenfeld is retiring from the Committee. Many thanks for his past contributions.

Yirleny Arias, Elizabeth Kubacki and Kristina Levine helped create the cover graphic for this year's report, in coordination with Anna Wagner (PEEP Chair) and are gratefully acknowledged.

The Committee for the Permafrost Engineering Education Program (PEEP), chaired by Anna Wagner, awarded six student and young engineer grants for presentations at RCOP: Kaytan Kelkar and Jaimy Schwarber (University of Alaska Fairbanks), Min Liew (Pennsylvania State University), Kristina Levine (Texas A&M University), Elias Manos (University of Connecticut) and Lawrence Vulis (University of California Irvine). Two RCOP paper awards were also awarded to Jaimy Schwarber (University of Alaska Fairbanks) and Yue Zhao (University of Alaska Anchorage). This year's front cover highlights this amazing group of young permafrost engineering and science students. The Committee met multiple times to develop plans for PEEP to promote permafrost engineering that would encourage more interest for students to enter into this important field of engineering.

The PYRN Educational Fund (UPEF) Committee was taking a break from its prior active years. The Chair, Kelsey Nyland stepped down due to other commitments, and her past services to USPA and the UPEF are gratefully acknowledged, including her assistance in preparing the attached 2021 membership map. The USPA is happy to announce that our new PYRN representative, Emma Lathrop, has accepted the additional role of UPEF Chair.

The Public Relations Committee, chaired by Peppi Croft, was established in mid-2021. The committee's primary goal was the promotion of the 2021 RCOP, the development of RCOP sponsors, and the launch and operation of the new USPA

website and web-based services. It is also tasked with the promotion of the US Permafrost Association mission, goals, and activities. The committee works in coordination with other committees to provide USPA promotion and awareness for consistent image and messaging to membership, sponsors, partners, and other organizations and associations. Current committee members include Peppi Croft, Cathy Wilson, Kevin Schaefer and Julian Dann.

The Association thanks its past and new Corporate and Institutional members, sponsors and donors for their continued involvement and generous support.

In addition to individual members, 2021 USPA membership included the following Institutional and Corporate Members.

Institutional Members:

American Geosciences Institute
Geophysical Institute Permafrost
Laboratory, UAF
International Arctic Research Center, UAF
Institute of Northern Engineering-WERC,
UAF
University of Colorado, National Snow
and Ice Data Center
University of Maine, School of Earth &
Climate Sciences
University of Virginia, Depart.
Environmental Sciences
U.S. Arctic Research Commission
Woodwell Climate Research Center

Corporate Members

Alaska Ecoscience
ABR Inc.
Arctic Foundations (Life member)
Syngen
Golder Associates
GW Scientific, Inc
Onset Computer Corporation

Northern Geotechnical Engineering
PND Engineers Inc.
R&M Consultants Inc.
Ukpeagvik Inupiat Corporation Services

University of Alaska Fairbanks, Alaska
Geobotany Center
University of New Hampshire - UNH
Arctic
Permafrost Carbon Network
Permafrost Young Researchers Network
(PYRN)
Permafrost Collaboration Team

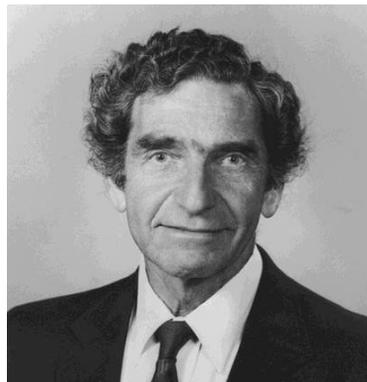
Non-member organizations and networks
that report annually include:

AK Department of Natural Resources,
Div. of Geological & Geophysical Surveys
American Society of Civil Engineers
Oak Ridge National Laboratory
U.S. Army Cold Regions Research and
Engineering Laboratory
U.S. Geological Survey
George Washington University
Michigan State University
Penn State University
Stockton University
University of Alaska Anchorage,
Department of Civil Engineering

Sponsors of RCOP included: AFI, Geo-
Watershed Scientific, PND Engineers,
Golder, BGC, Campbell Scientific,
Woodwell Climate Research Center, CRW
Engineering Group, Beadedstream,
Cryogeeks, NSIDC, Stantec.

Recent *In Memoriam* for U. S. Permafrost Colleagues

We recognize those engineering and science permafrost leaders that helped form
our community foundation. Knowing our past, will help guide our future.



Arthur Lachenbruch (1925 - 2021)

<https://ipa.arcticportal.org/news/958-dr-arthur-h-lachenbruch-1925-2021>



Tingjun Zhang (1956 - 2022)

<https://climate-cryosphere.org/in-memori-am-professor-tingjun-zhang/>

USPA 2021 Membership

