

# ALPINE CRYOSPHERE NEWSLETTER

*A Monthly Newsletter from the APECS Working Group*



## PHOTO OF THE MONTH

*By Wai Yin Cheung*

*International Mountain Day 2020*

## ABOUT APECS ALPINE CRYOSPHERE GROUP

The Alpine Cryosphere Group is one of the multiple internal groups within APECS, supporting early career scientists working on alpine and cryospheric environments, to connect with each other, and providing resources about graduate programs, job opportunities, summer schools, and short courses.

Thus, Alpine Cryosphere Group members stimulate the defense, preservation, and conservation of the environment, and promote the sustainable development of polar, oceanic, and cryospheric regions.

The Alpine Cryosphere Group at the Association of Polar Early Career Scientists (APECS) was created in 2016, since then, it has provided resources to early-career scientists who are interested in research and education on mountainous environments.

# SHARE YOUR RESEARCH



## IMPACT OF THE COVID-19 PANDEMIC ON POLAR SCIENCE

### APECS Alpine Cryosphere Group experiences



**Rodrigo Paidano Alves.** Institute of Biology, University of Graz, Graz, Austria  
**Carla Tapia Baldis.** Conicet-IANIGLA, Mendoza, Argentina  
**Mathieu Casado.** Alfred Wegener Institute, Potsdam, Germany  
**Joaquin Bastias.** Swiss Polar Institute, Switzerland

**Kelly Huh.** California State Polytechnic University Pomona, Pomona, California, USA  
**Rodrigo L. Soteris.** Pontificia Universidad Católica de Chile, Chile  
**Kabir Rasouli.** University of British Columbia, Vancouver, Canada

#### Alpine Cryosphere Group Background

The term 'Alpine' has a pre-Roman origin, with 'alp' meaning for "mountain" referring to the entire mountains system or used as a general substitute for mountains. These landscapes provide natural and patrimonial goods coming from their distinctive climatic, ecological, geological and hydrological settings.

Mountains also have an integral part of the terrestrial cryosphere, for example, encompassing snow, glaciers, and even permafrost. With this, the mountains play a regulating function toward the lowlands.

In these regions, alpine ecosystems can be defined as high-altitude habitats above the tree line and are subject to extreme abiotic conditions, playing a key role in terrestrial carbon storage. Understanding the structure and how alpine ecosystems are naturally regulated is a significant challenge, especially their global biogeochemical cycles.

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#### How the COVID-19 affected the early career researchers?

Regardless of research projects involve geology, ecology, chemistry, botany, hydrology, or zoology, the emergence of the covid-19 pandemic put a strain on research activities, forcing scientists to adapt and react to this new reality. Sharing these experiences with other research groups working on mountain ecosystems can be used as a valuable lesson, and a reminder to adapt and develop the capacity to amend unexpected scenarios, which will be essential to the future of research related to alpine sciences and perhaps also elsewhere.

Rodrigo Alves is a University Assistant at the University of Graz (Austria). He is a biologist investing in the climate change effects on the terrestrial environment, focusing on cryoplasms in high alpine regions. "All our fieldwork is paused due to the Covid-19 situation."

Carla Tapia is a posdoc researcher at the IANIGLA-Conicet (Argentina). She is a geocryologist investigating the Andean permafrost. During the pandemic, it was impossible for her team to check the instrumental and recover in-situ data.

Sakshi Mankitla is a Ph.D. student in the Department of Geography, Jamia Millia Islamia. She is working in the Ladakh region on Glaciers and their response to Climate change.

Stories from our members



#### What did we learn?

##### Develop New Skills

"During this period, it was possible to acquire new skills (e.g., satellite image analysis) and enhance the existing ones (e.g., bioinformatics and statistical analysis). Returning to the field is essential for those who must produce data from in-situ samples". Then, without data, it will not be possible to do science.

"The Pandemic has restricted us to our labs, utilizing this time in developing and gaining skills using multiple online resources." for research attitude by attending and learning via Online Workshops, webinars, and conferences. This has become helpful in pre-assessing the resources required and information awareness before going back to Himalayan Glaciers.

##### Expect the unexpected

"A pandemic was never into our plans, but now we know everything is possible". Plan ahead: Make sure that your instrumental is well sheltered and protected from the elements. In inaccessible environments, try to always set extra recording memory and power supply.

##### Keep your networks

In times of restricted face-to-face communication, the personal and professional networks might be disrupted. Take some time to care for your personal connections and explore new ways for sharing information like the social media. Scientific partnerships can be made everywhere!

#### What are we working on? Present and future projects

The Alpine Cryosphere Group is one of the multiple internal groups within APECS, supporting early career scientists working on alpine and cryospheric environments, to network with each other, and to provide resources about graduate programs, job opportunities, summer schools, and short courses.

Over the past years, the Alpine Cryosphere Group has organized numerous webinars and awareness activities about mountains such as "International Mountain Day" photo contests. Most recently, we worked on and finished reviewing the "Mountain Field Guide and International Mountain Resources."

Thus, Alpine Cryosphere Group members can stimulate the defense, preservation, and conservation of the environment, and promote the sustainable development of polar, oceanic, and cryospheric environments.

#### How can you join us?

An increasing number of researchers are working in the mid-latitude cryosphere, including high-altitude alpine environments. Please, contact us to join!

Get involved with APECS: <https://www.apecs.is/get-involved/join-apecs.html>  
Twitter: @APECSAlpine

## 7TH APECS ONLINE CONFERENCE

During the 7th APECS International Online Conference, held on 12th May 2021, APECS Alpine board members shared the work on the "Impacts of the COVID-19 pandemic on Polar Science: APECS Alpine Cryosphere Group experiences". The event theme "Polar Science: Success Stories from the Field and from Home" was created to engage polar and alpine researchers from around the world.

The Conference was again a great success with 41 oral presentations and 11 poster presentations. Among those presentations, Felipe Ugalde from the University of Chile was the prize winner for the Alpine category with the work on "Fieldwork through COVID-19? Getting results during pandemic in the Chilean Andes in the 2020-2021 summer season".

APECS Alpine Cryosphere Group congratulates all the prize winners.

For further information, please access: <https://www.apecs.is/events-archive/events-2021/international-online-conference-2021.html>



## MEET THE COMMUNITY

Hey everyone, my name is Rodrigo Alves. I am a biologist and graduated from the Federal University of Pampa (Rio Grande do Sul, Brazil). I am also a board member of the International APECS. Besides, I am co-leader of the Alpine Cryosphere Group of APECS.

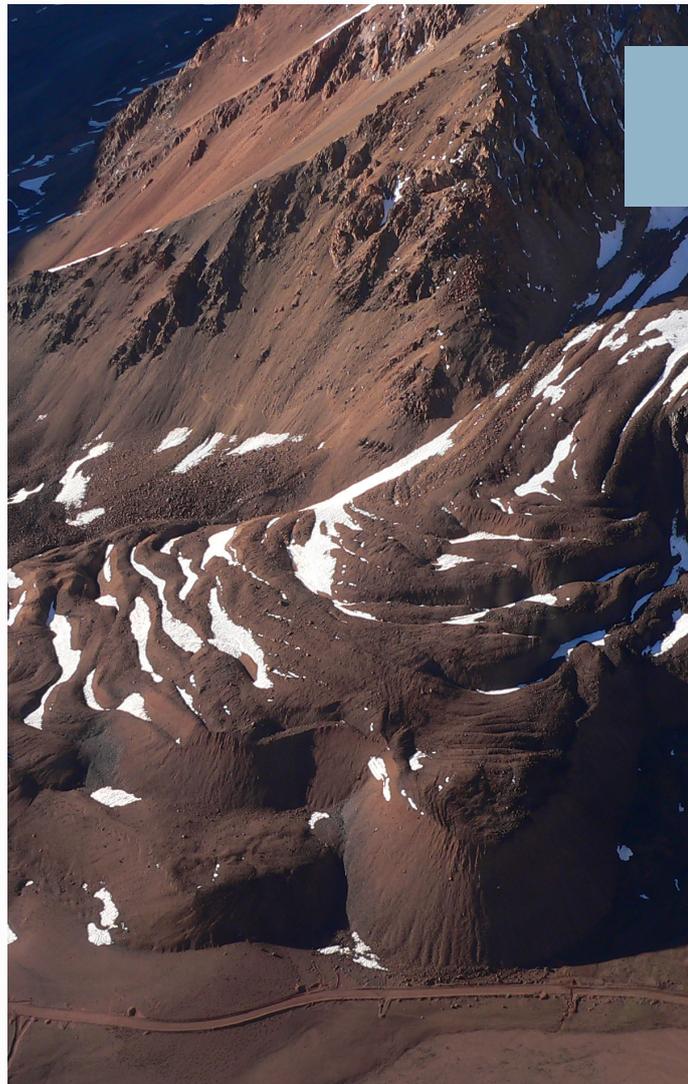
My research focuses on answering questions about the climate change effects on terrestrial environments. Along the years, I have worked with cryptogamic communities in Antarctica and tropical forests. Now, I have the chance to learn more about those effects in the high Alpine mountains.

Currently, I am a university assistant at the University of Graz – Austria. Here, I work on the topic of “Climate change effects on the composition and functioning of alpine plant communities”.

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Cryptogamic communities by Rodrigo Alves



## SAVE THE DATE



### UPCOMING EVENTS!

[2021 Regional Conference on Permafrost & the 19th International Conference on Cold Regions Engineering.](#)

Virtual conference: October 24-29, 2021.

Abstracts deadline: August 9, 2021.

[AGU 2021 Fall Meeting: Science is Society.](#)

Hybrid meeting: December 13-17, 2021.

Abstracts deadline: August 4, 2021.

[Cryospheric Sciences Session at the XXI Argentine Geological Congress.](#)

Virtual conference: March 14-18, 2022.

Abstracts deadline: August 30, 2021.

[APECS International Polar Week.](#)

Virtual event: September 19-25, 2021.

[IGS \(International Glaciological Society\) nordic branch meeting 2021](#)

Hybrid Meeting: November 4-6, 2021.

Registration deadline: October 4, 2021.



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## SEARCH APECS WEBSITE



<https://www.apecs.is/>

## WORKING IN THE MOUNTAINS

Mountains are incredible and unique landscapes that offer a wealth of natural and cultural resources on every continent. Mountain ranges have distinct climatic, ecological, and geological characteristics. They are a crucial component of the cryosphere and hydrosphere, providing water storage and distribution that extends to lower elevations. Mountains also occupy a central cultural and social role, with many cultures considering them as sacred places and sources of inspiration for histories and sagas. Alpine regions represent the opposition between refuge and hazard, solitude and danger, and environmental sensitivity and harsh conditions.

Mountains also have an integral part of the terrestrial cryosphere, for example, encompassing snow, glaciers, and even permafrost. With this, the mountains play a regulating function for water collection, storage, and distribution toward the lowlands.

These landscapes also provide natural and patrimonial goods coming from their distinctive climatic, ecological, geological and hydrological settings. In these regions, alpine ecosystems, defined as high-altitude habitats above the tree line and are subject to extreme abiotic conditions, play a key role in terrestrial carbon storage. Understanding the structure and how alpine ecosystems are naturally regulated is a significant challenge, especially their global biogeochemical cycles.

**ARE YOU PASSIONATE TOO ABOUT THEM?**

**DO YOU WANT TO SHARE YOUR RESEARCH?**

**PLANNING A WEBINAR OR LECTURE?**

**CONTACT US!**

The APECS Alpine Cryosphere Newsletter (August 2021 Edition) was created by Carla Tapia Baldis and Rodrigo Paidano Alves.

Please contact APECS Executive Committee ([info@apecs.is](mailto:info@apecs.is)) with comments or questions about the newsletter.

We are always looking for contributions, so if you have a story on alpine polar research to share, please send us an email.

The next edition of the APECS Alpine Cryosphere Newsletter is expected to be out in September 2021.