

Excursion of the Swiss Young Geomorphologists (SGmS)

Rock stability and the preservation of technical and tourist facilities at the Jungfraujoch

Challenges around infrastructures in a rapidly changing glacial and periglacial environment

16 May 2024



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In May, the Young Geomorphologists' excursion will take place at the Jungfraujoch, known for its mountain rack railway arriving at 3454 m a.s.l., giving an entry point to a spectacular UNESCO World Heritage alpine landscape. Today, as a result of a warming climate, glaciers are retreating, and the thawing permafrost is leaving fractures within the mountains. This has an impact on rock stability and the preservation of technical and tourist facilities. The consequences of this rapidly changing glacial and periglacial environment on the surrounding infrastructures have been assessed through permafrost monitoring and modelling by GEOTEST over the last decades. During this one-day excursion at the Jungfraujoch, we will discuss some of the main issues related to the monitoring and maintenance of infrastructure built in high mountain environments with Dr. Pierre Dalban, geological engineer from GEOTEST. We will also discuss the dynamics of mountain permafrost from a scientific perspective, including the challenges of data acquisition and monitoring in steep permafrost rock slope with Dr. Samuel Weber, scientific collaborator from SLF.

Programme

Thursday 16 May 2024

Meeting point at the Grindelwald Terminal station at **09:05** (train from Interlaken Ost dep. 08:34)

Departure of the gondola at **09:15**

10:15 to 15:30 Visit and presentation of various sites

- Retreating glaciers and rock instabilities, consequences on the infrastructure (P. Dalban)
- Monitoring permafrost in steep mountain environments (S. Weber)

Departure from Jungfrauoch at **15:47** or **16:17** (tbd)

End of the excursion **between 16:40 and 17:10** in Grindelwald

Practical information

Cost The excursion is free of charge for members of the SSGm

The participation cost is 20 CHF for non-members

Included Two-way ticket from Grindelwald Terminal to Jungfrauoch

Not included Drinks, lunch and public transport to and from the meeting point

Registration is open until the 30 April via the attached registration form that needs to be returned to young@geomorphology.ch (or julie.wee@unifr.ch)

Non-members of the SSGmS are very welcome!

Organisers

Julie Wee, Jonathan Bussard and Chantal Del Siro

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