

From glacier to classroom: Peer-to-peer communication to foster curiosity in science

Lena Hellmann^{1,2,3}, **Lea Geissmann¹**, Kathrin Naegeli^{1,2,3} and the Girls* on Ice
Switzerland Team⁷

¹ Girls on Ice Switzerland, Mühleweg 14, CH-8136 Gattikon, (swiss@inspiringgirls.org)

² Department of Geography, University of Bern, Hallerstrasse 12, CH-3012 Bern

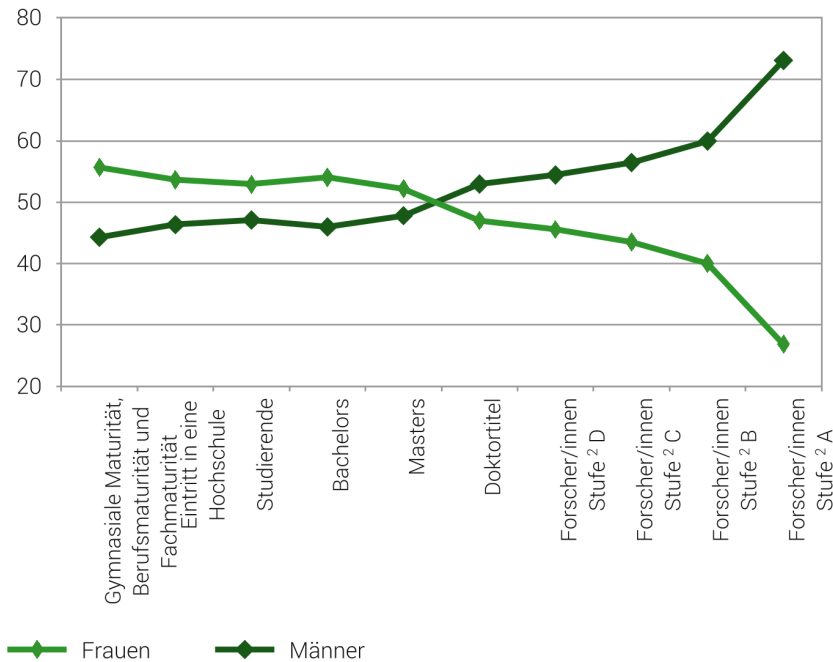
³ Oeschger Centre for Climate Change Research, University of Bern, Hochschulstrasse 4, CH-3012 Bern

⁷ www.inspiringgirls.org/switzerland

Introduction

Frauen und Männer in der akademischen Laufbahn (UH, FH, PH)¹, in der Schweiz nach Geschlecht, 2021

In % (Personen)



¹ Der Sektor Hochschulen wird nicht vollständig abgebildet: Die Forschungsanstalten im Bereich der Eidgenössischen Technischen Hochschulen (FA-ETH) werden in diesen Statistiken nicht berücksichtigt.

² Stufe: «Seniorität» oder Schritt in der Hierarchie unter den Forschern in den Hochschulen.

Mountain guides in Switzerland



<http://100frauen.ch/die-bergfuehrerin/>

Inspiring Girls* Expeditions

empowering young women through science, art and wilderness exploration

UNITED STATES



CANADA



AOTEAROA / NEW ZEALAND



EUROPE & CENTRAL ASIA



*cisgender girls and transgender, agender, nonbinary, intersex, and genderqueer youth

Our goals



Increase young women's self-efficacy and **interest in pursuing science** (specifically MINT)

Create **lifelong advocates** for the scientific process and its role in public policy



Enhance **leadership self-confidence**

Teach **critical thinking** skills

and philosophy

Teaching the **whole process of science** gives students **ownership of the science**

Teaching to the **whole student** puts science into context

Diversity of ideas inspires new approaches and better, more robust science



Girls* on Ice Switzerland

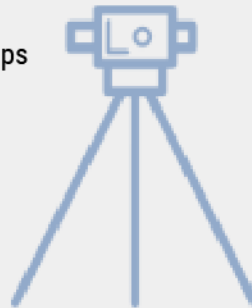


- field glaciology
- geomorphology, ecology, meteorology, etc.
- scientific experiments in groups of 3 girls over several days



- 2016 Girls on Ice Switzerland founded
- 8 expeditions between 2017 and 2022
- Findelengletscher above Zermatt
- 11 day program, 8 days camping near the glacier
- 1 weekend in a hut 2020 (Glacier de la Plaine Morte)

- 9 participants per expedition (15-17 years old)
- diverse team: socio-economically, intellectually
- german- or french-speaking
- 3-4 female instructors incl. certified mountain guide



- mountaineering training
- knots and rope up
- using crampons and ice axes
- ice climbing in a crevasse
- peak day

- mini-workshops 'Glaciers & Climate Change' and 'Art & Science' at schools
- alumni-scientist tandem lead the workshops
- unique peer-to-peer science communication



Expedition

Day 1



Day 2



Days 3-8



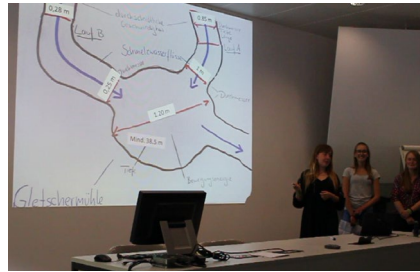
Day 9



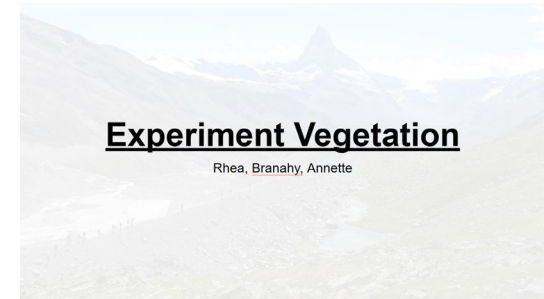
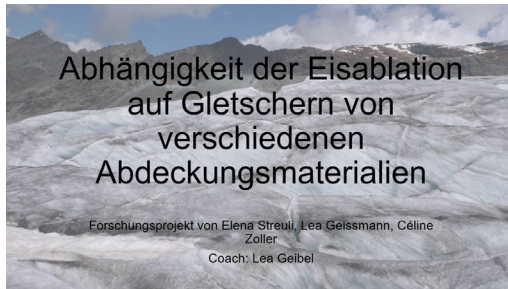
Day 10



Day 11



Expedition – Scientific experiments



From glacier to classroom – School workshops and day excursions



Tandem-instructing: school activities led by a “Girls on Ice” participant and a scientist

-> advantage of **peer-to-peer communication**



Workshops

Why are glaciers so important for us in Switzerland? How do they react to the ever-increasing climate change? What can WE do?



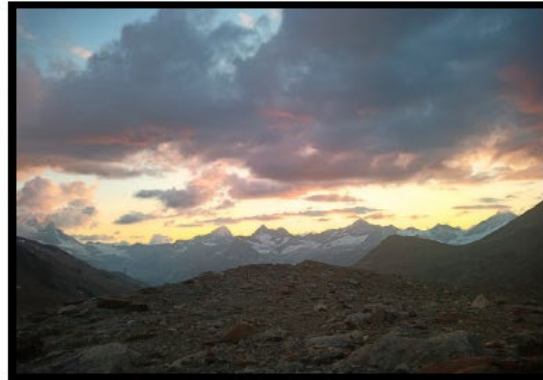
Day excursion

What is a glacier? Why is there a valley here and why are these rocks red?



My experience

«Wenn ich wirklich möchte und mir die benötigte Zeit nehme, kann ich sehr viel erreichen, oft mehr als ich mir selbst zutraue.»



Summary

- **empowering young women** through science, art, and wilderness exploration
- explore **beyond the common** social environment & role models
- **immerse into science**
- **get out of the comfort zone**
- **peer-to-peer** science communication



We're looking for applications for our....



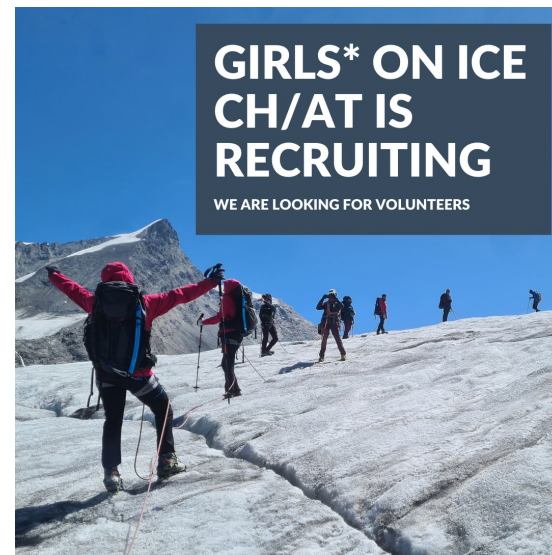
Expeditions



Jobs



Volunteerpositions



www.inspiringgirls.org/switzerland

Thanks for listening!



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement des Innern EDI
Département fédéral de l'intérieur DFI
Dipartimento federale dell'interno DFI
Eidgenössisches Büro für die Gleichstellung von Frau und Mann EBG
Bureau fédéral de l'égalité entre femmes et hommes BFEH
Ufficio federale per l'uguaglianza fra donna e uomo UFU
Finanziellen nach dem Gleichstellungsgesetz
Aides financières prévues par la loi sur l'égalité
Aiuti finanziari in base alla legge sulla parità dei sessi

**WISSENSCHAFT.
BEWEGEN**
GEBERT RUF STIFTUNG

sc | nat

Swiss Academy of Sciences
Akademie der Naturwissenschaften
Accademia di scienze naturali
Académie des sciences naturelles

PAUL SCHERRER INSTITUT



UNI
FR

UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG



**Universität
Zürich** UZH

Schweizerische Gesellschaft für Schnee, Eis und Permafrost

Société Suisse de Neige, Glace et Pergélisol

Swiss Snow, Ice and Permafrost Society



Unil

UNIL | Université de Lausanne

Centre interdisciplinaire de
recherche sur la montagne

