

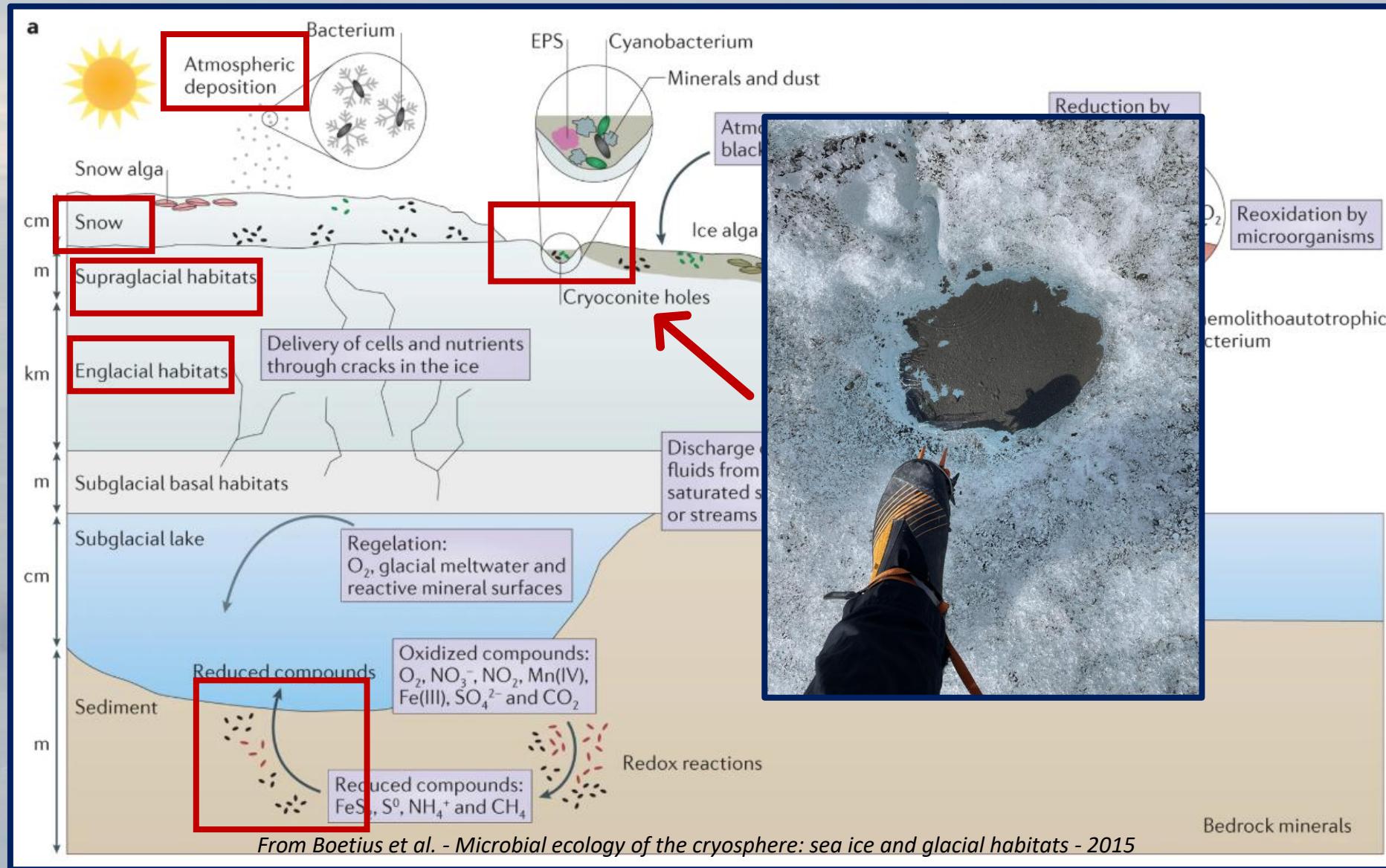
*Austrian Polar Research Institute Annual Meeting – Innsbruck | 27 & 28 November 2025*

# Bi-Polar Microbial Life: Communities and Interactions at the Micro-Scale.

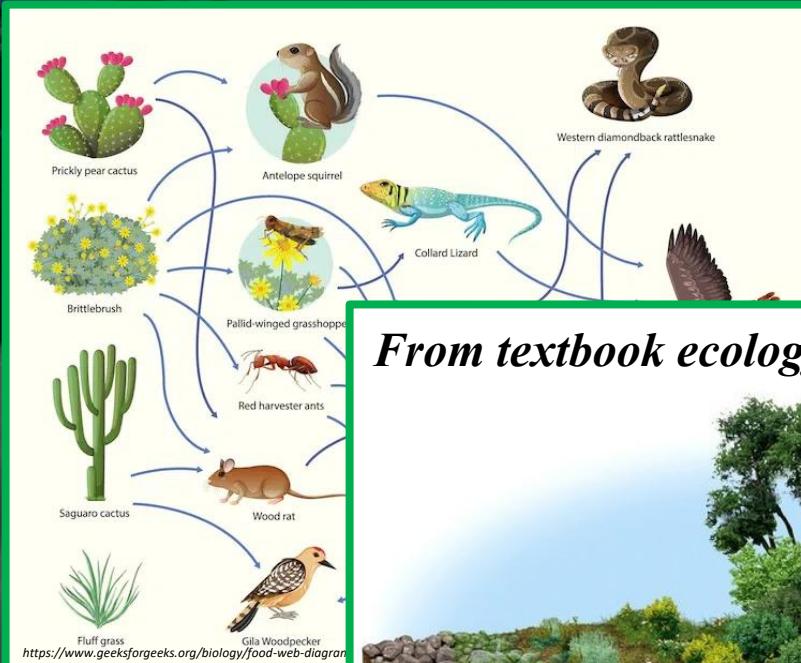
**SATTLER WG** – *Baier Yannika, Crosta Arianna, Cuzzi Alessandro\*, Gattinger Daniel, Mütsel Sophia, Summerer Monika, Weisheitner Klemens.*

# Life in glacial habitats

*Not so desolate, after all...*



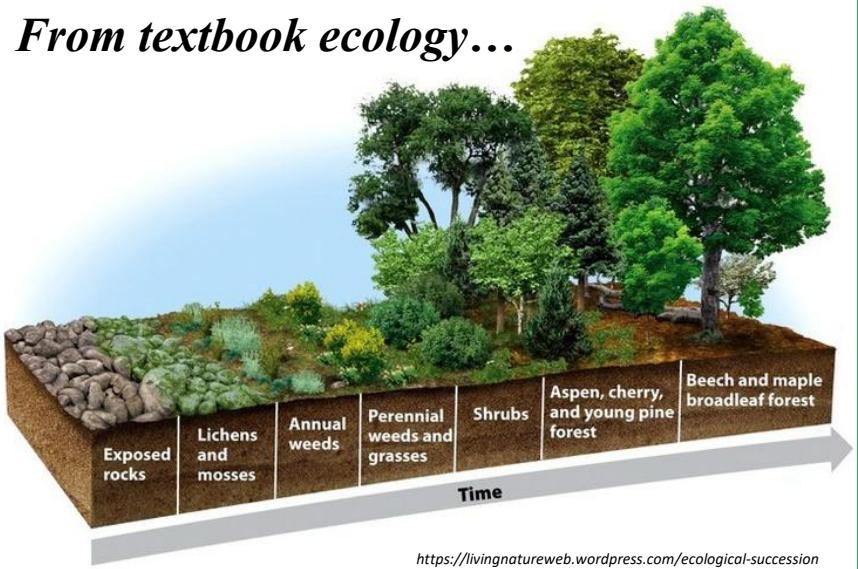
# Ecology, despite the cold



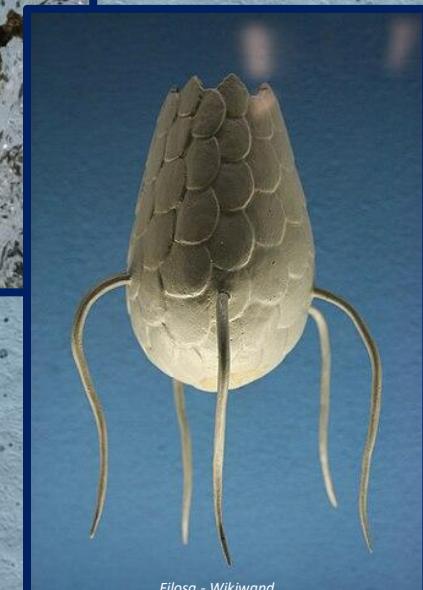
With the help of:

- A LOT of imagination
- Cutting-edge techniques
- Unwavering resolve

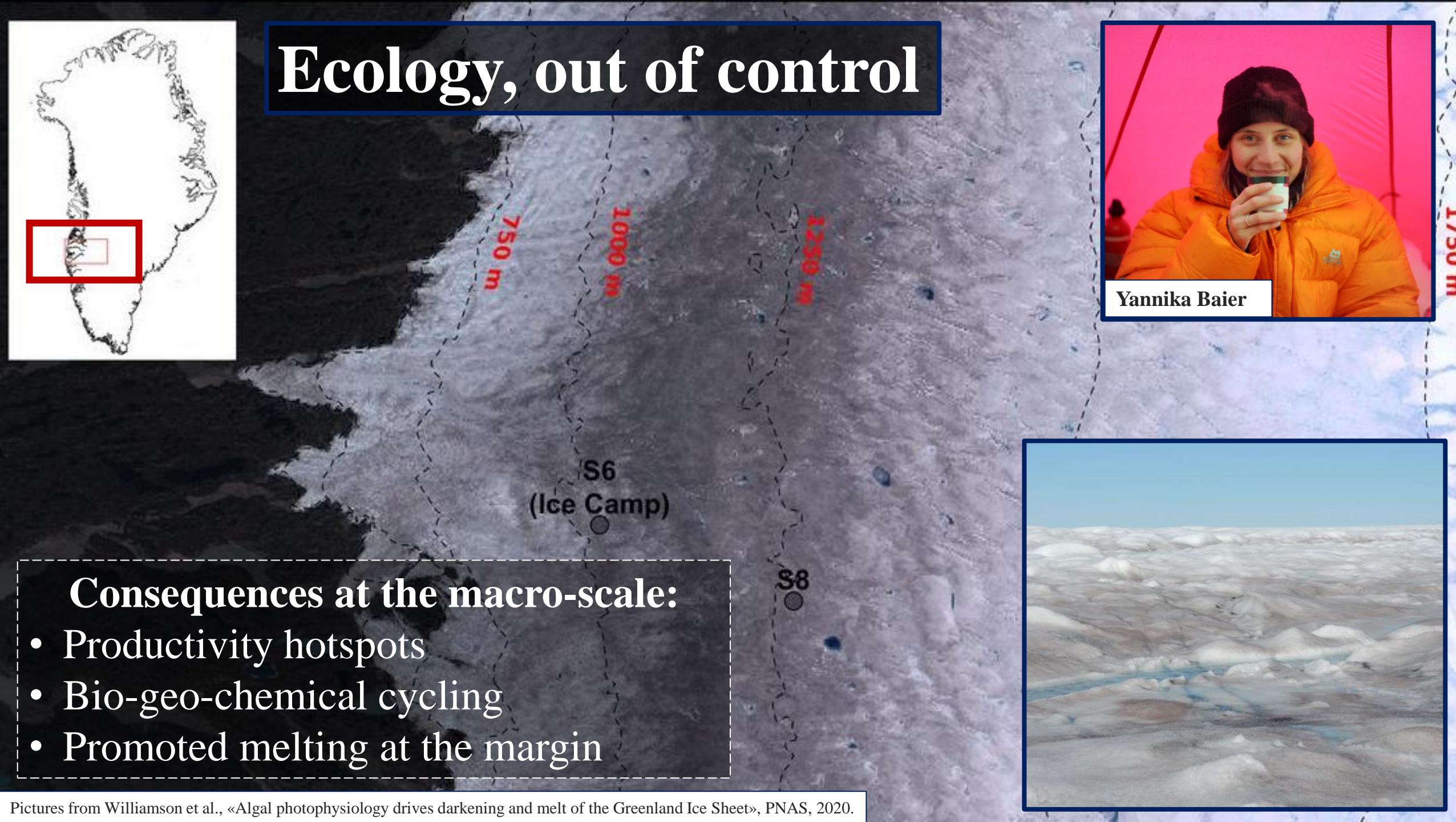
*From textbook ecology...*



*... to applied polar science*



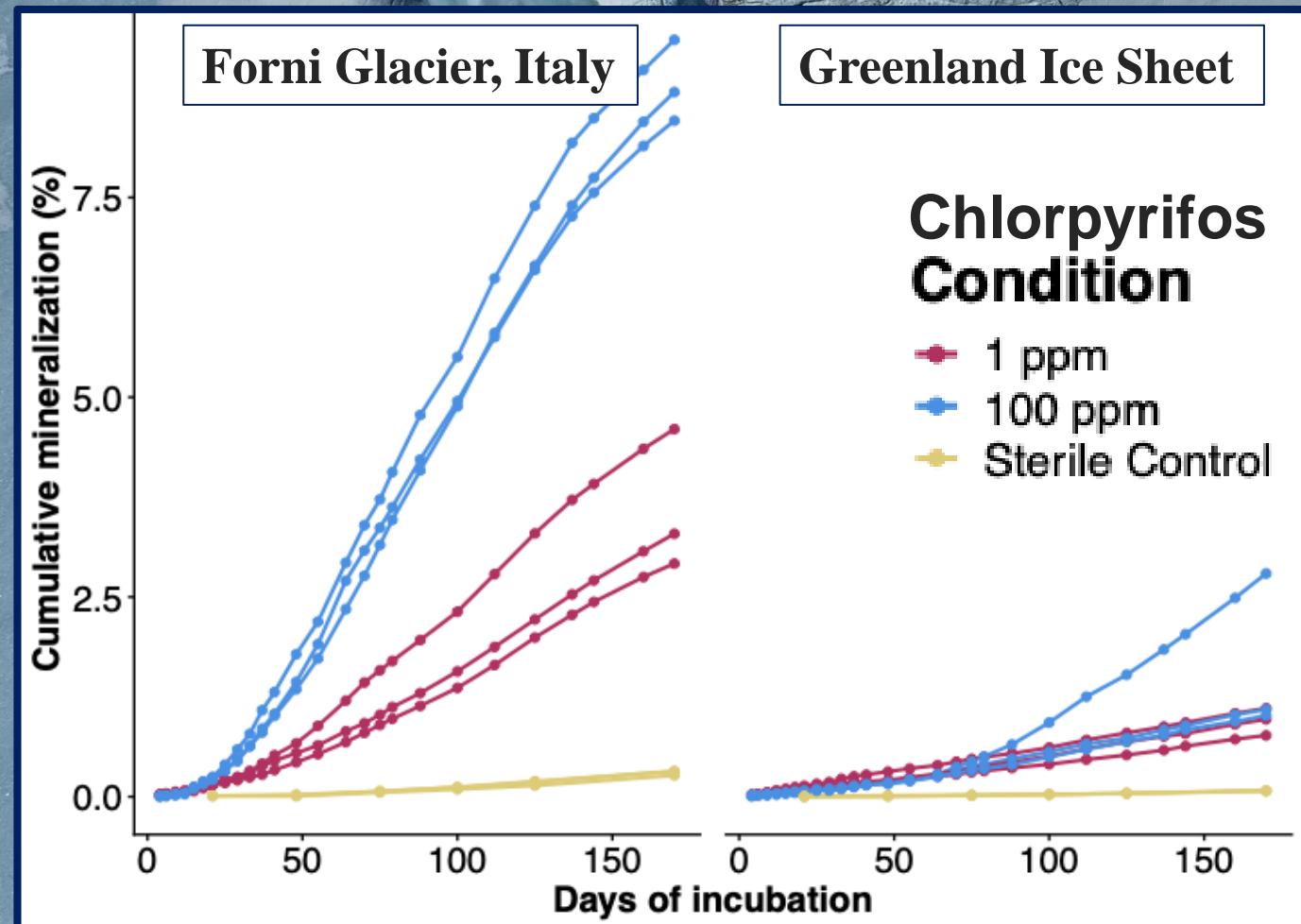
# Ecology, out of control



## Consequences at the macro-scale:

- Productivity hotspots
- Bio-geo-chemical cycling
- Promoted melting at the margin

# Transferable “skills”: 1 - Pesticide Degradation

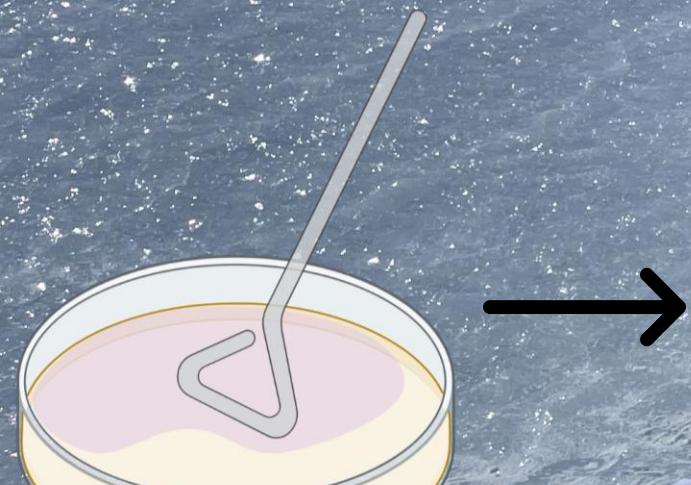


# Transferable “skills”: 2 - Antibiotic Resistance

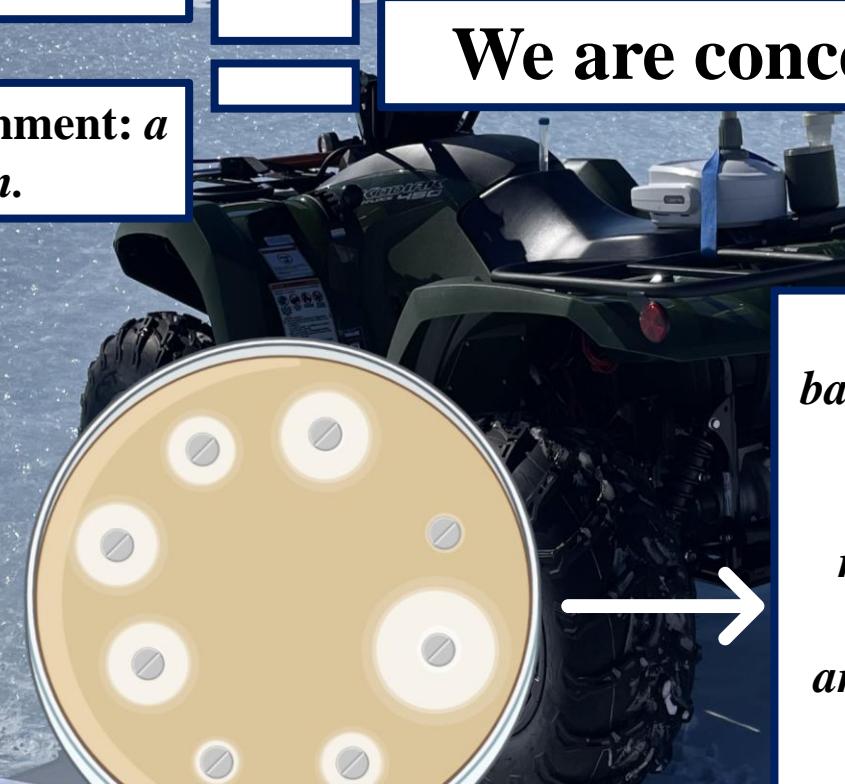
Antibiotic resistances in the environment: *a rapidly growing concern.*



Plastic pollution in the environment: *a rapidly growing concern.*



1: Cultivation



2: Testing

We are concerned<sup>2</sup>

*> 90% of bacterial samples from Arctic plastics are resistant to at least one antibiotic, while multi-drug resistance is widespread.*



Daniel Gattinger



Yannika Baier

# Outlook: what are we looking forward to?

*Lake Untersee 2026 Antarctic Expedition*

*Jan 6<sup>th</sup> – Feb 24<sup>th</sup>, 2026*

AEROBIOLOGY



MICROPLASTICS

- *Sources*
- *Activity*
- *Colonization of remote environments*
- *Mineralogy*



Arianna Crosta



Sophia Mütsel



