

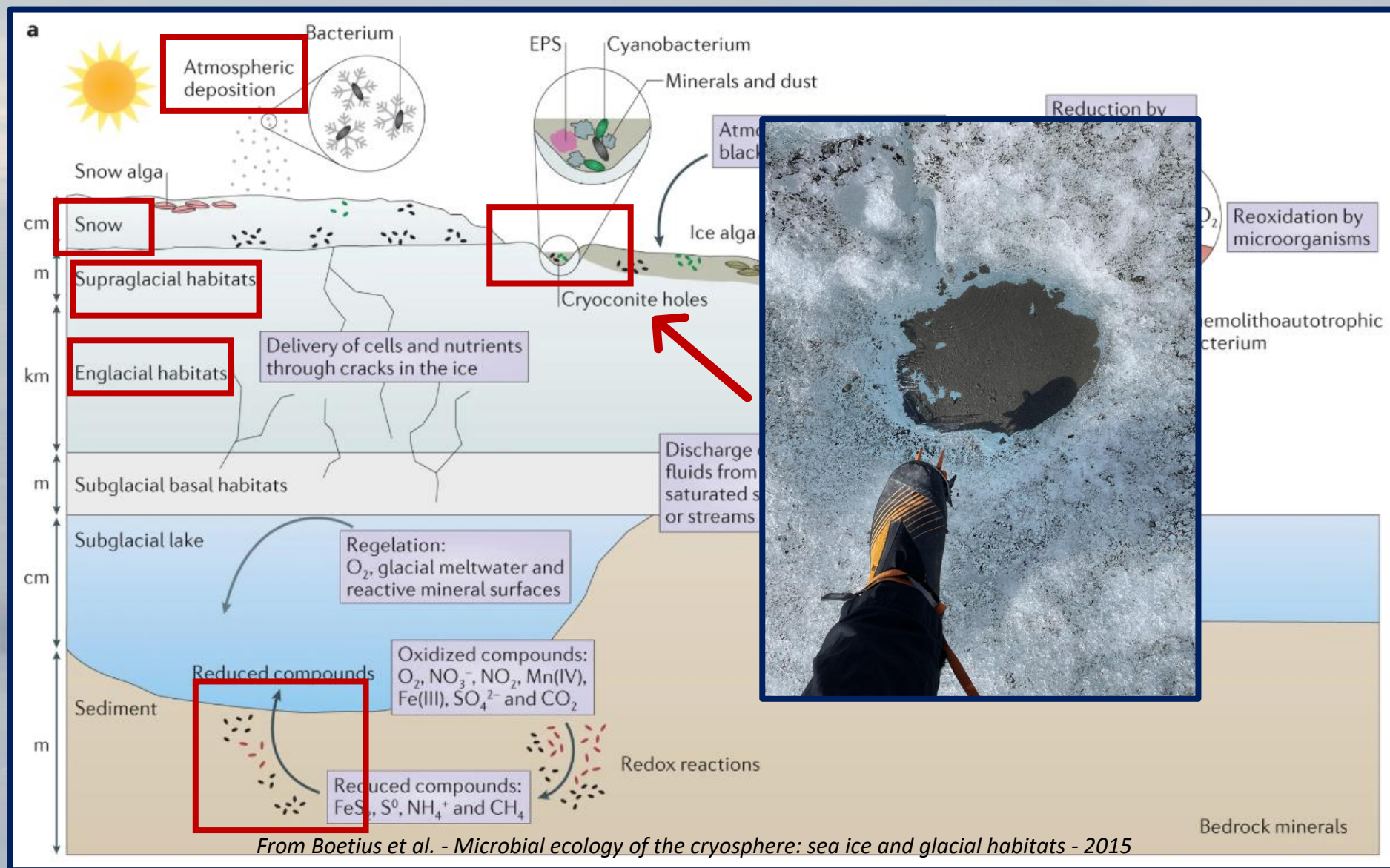
Austrian Polar Research Institute Annual Meeting – Innsbruck | 27 & 28 November 2025

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

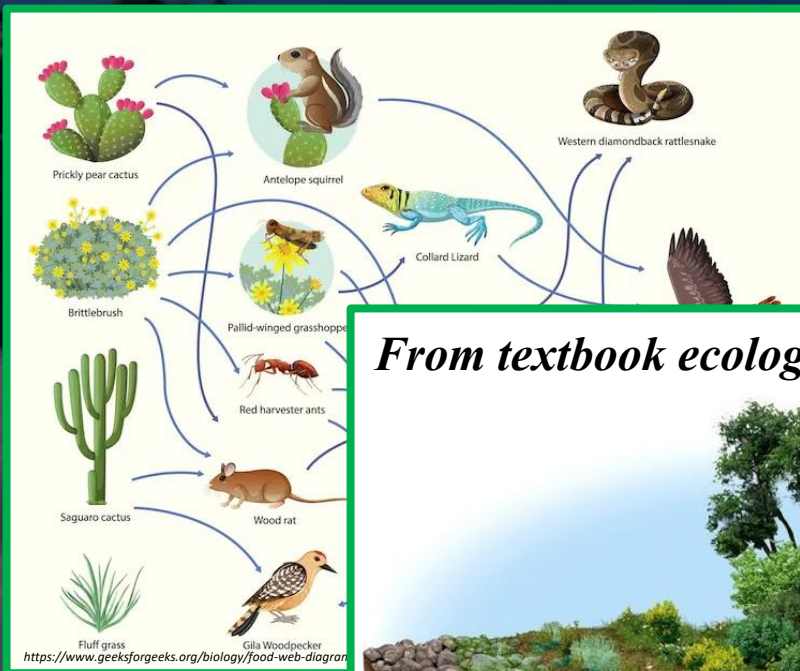
SATTLER WG – *Baier Yannika, Crosta Arianna, Cuzzi Alessandros*, Gattinger Daniel, Mützel Sophia, Summerer Monika, Weisleitner Klemens.*

Life in glacial habitats

Not so desolate, after all...

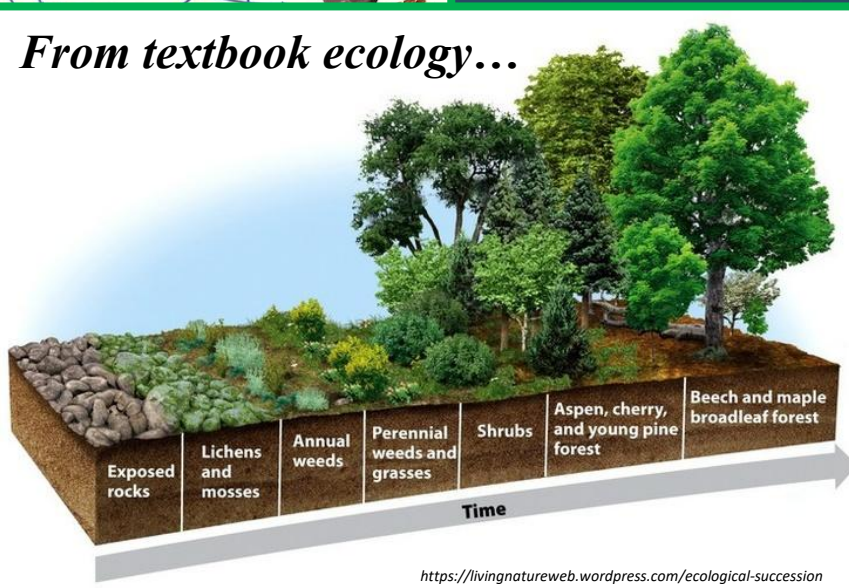


Ecology, despite the cold

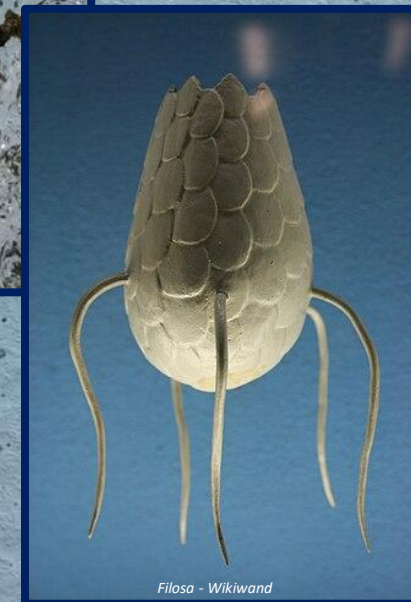


- With the help of:
- A LOT of imagination
 - Cutting-edge techniques
 - Unwavering resolve

From textbook ecology...



... to applied polar science



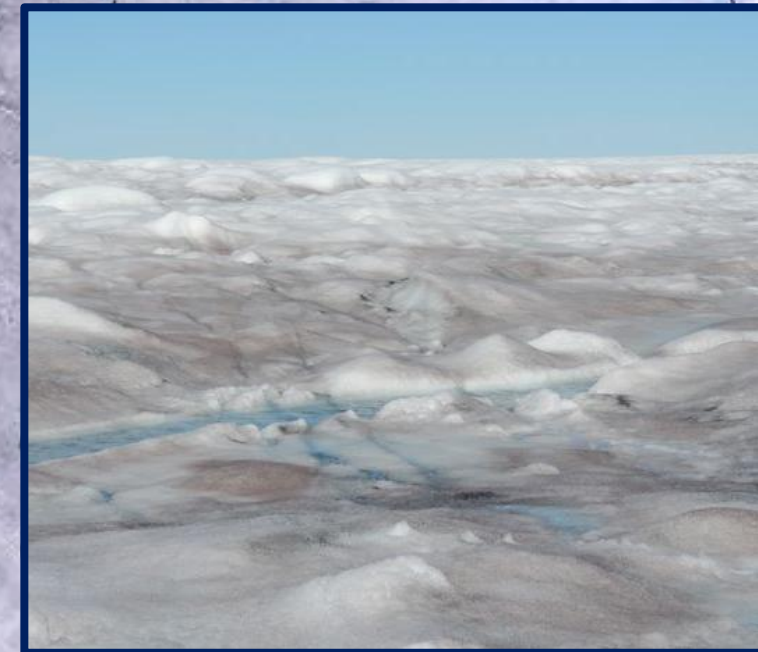
Ecology, out of control



- Consequences at the macro-scale:**
- Productivity hotspots
 - Bio-geo-chemical cycling
 - Promoted melting at the margin



Yannika Baier



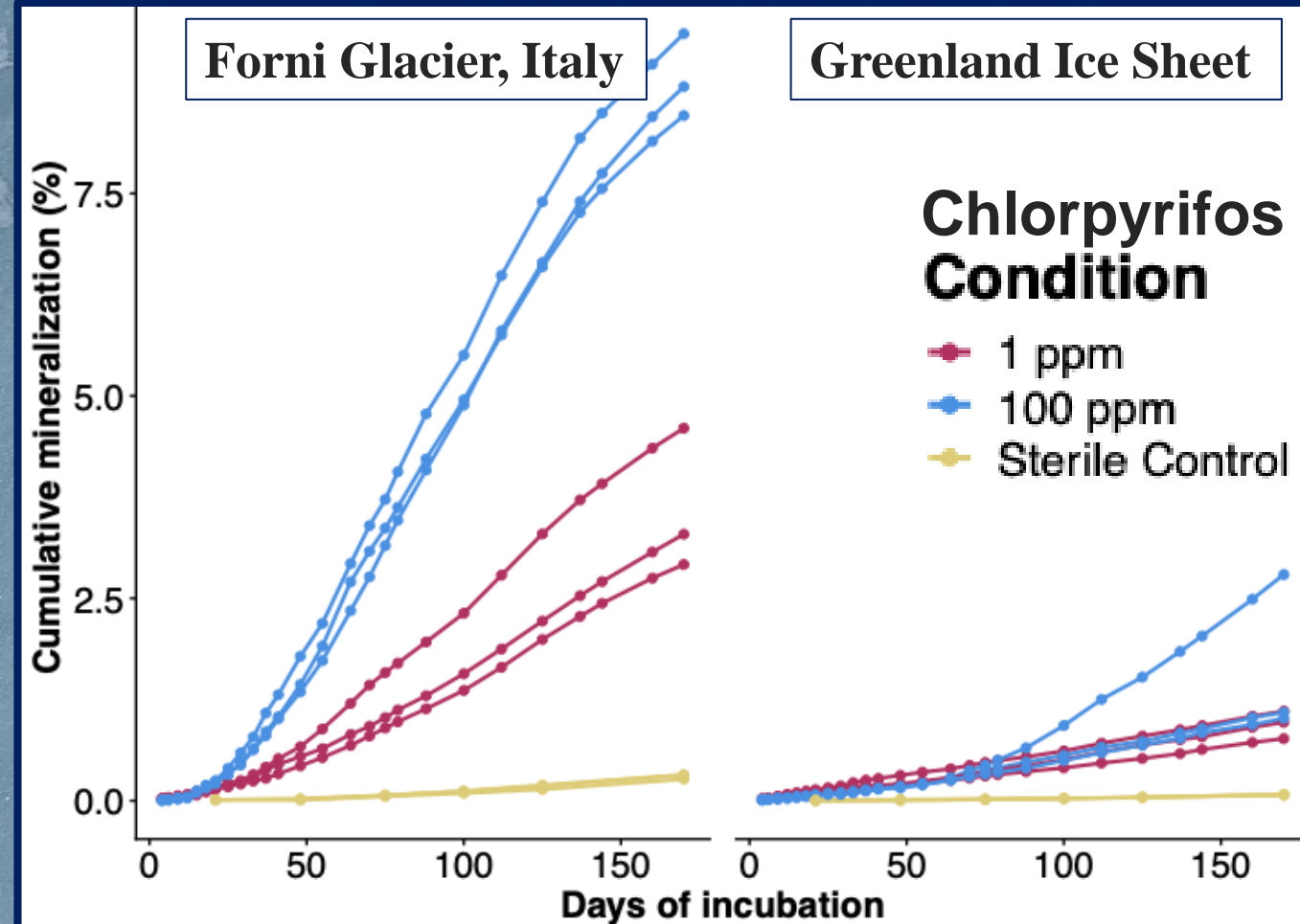
Transferable “skills”: 1 - Pesticide Degradation

Forni Glacier, Italy

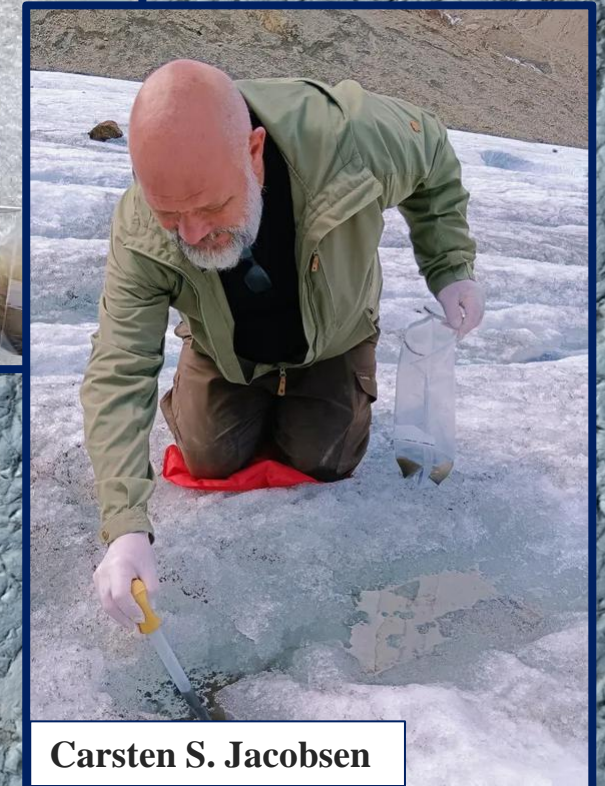
Greenland Ice Sheet

Chlorpyrifos Condition

- 1 ppm
- 100 ppm
- Sterile Control



Lars Van Dijk



Carsten S. Jacobsen

Transferable “skills”:

2 - Antibiotic Resistance

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



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



We are concerned²



Daniel Gattinger



Yannika Baier

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

1: Cultivation

2: Testing

Outlook: what are we looking forward to?

Lake Untersee 2026 Antarctic Expedition
Jan 6th – Feb 24th, 2026

AEROBIOLOGY



MICROPLASTICS

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



Arianna Crosta



Sophia Mützel

