

# SCIENCE POPULARIZATION IN A POLARIZED SOCIETY:

## HOW SCIENTISTS IN THE FIELD OF CLIMATE CHANGE COMMUNICATE SCIENCE AND DEAL WITH NEGATIVE FEEDBACK

### BACKGROUND

Online hostility against scientists and science popularizers **increases**, particularly among those who belong to **marginalized groups** (Houlden et al., 2022; Veletsianos et al., 2018) or **work on controversial topics like climate change** (Branford et al., 2019; Nogrady, 2021).



Online hostility may result in feelings of anger, fear, and decreased well-being (Wachs et al., 2022) but also has wider implications for the scientific community. Online hostility against scientists is **potentially undermining the scientific endeavor for truth** (Branford et al., 2019) and **has the potential to silence certain scholars or topics** (Celuch et al., 2022; Nölleke et al., 2023).



13 interviews (6 female, 7 male, 29-65 years, 6 x Prof, 3 x Dr.), interviewees were recruited via professional and activist networks, qualitative content analysis



### WHAT MOTIVATES SCIENTISTS?

Personal climate activism serves as the **starting point** for science communication, as it is never an official part of their scientific work. They aim at providing a **scientific, fact-based counterbalance to distortions in public discourse** (caused by politics, economy, media, populists) and to **build expertise to generate trust** in science communication.

"Active science communication (...) [happens] outside my paid employment. It's all volunteer fun." (I1, f)

"[I want to] correct things that have been shortened and thus distorted by the media" (I3, m)

### WHAT REACTIONS DO THEY GET?

In **direct contact, feedback is predominantly positive**, sometimes researchers encounter intolerance. Researchers communicating through **social media (mass media also to a lesser extent)** get more hate speech and harassment. Particularly **women report facing sexist attacks and having their scientific expertise questioned**.

"You are a woman. You have no idea. (...) where then a reference is made between my knowledge and my sex." (I2, f)

"Insulting, defamatory, personal attacks (...) that happens on a daily basis" (I11, m)

### HOW DO NEGATIVE REACTIONS AFFECT WELLBEING AND WORK?

Negative reactions consume a **significant amount of cognitive and emotional resources**, as well as time. Researchers have to personally manage these reactions (e.g., block, comment). **Institutional support is very rare and this adds to the strain from hate speech and harassment**.

"In case of personal attacks, the university does not feel responsible, I have to deal with it myself." (I4, m)

"You are mentally out of everyday life [...] then you doubt yourself [...] That has an influence on your self-confidence and on how you work and research." (I2, f)

### HOW DO SCIENTISTS HANDLE NEGATIVE FEEDBACK?

Coping mechanisms often aim at **saving resources**. Gathering **external support** from colleagues or funding for research assistants helps many researchers. Without external support, **ignoring and temporary pausing** of activities are reported. Allowing **less dialogue and avoiding specific social networks** were also common strategies. Many scientists report avoiding social media as a whole.



"You don't look at all that anymore, in the end, there's no point in dealing with it." (I4, m)

"If I have a student assistant, I ask them to read the comments and forward me interesting questions. I try to protect myself." (I1, f)