

School of Earth and Environmental Sciences

Colloquium Series

Dr. Joerg Schaefer

Lamont Research Professor (Lamont-Doherty Earth Observatory)
Adjunct Professor of Earth and Environmental Sciences

Wednesday, February 15th, 2023
12:15 – 1:30 PM
Science Building
Room C-207

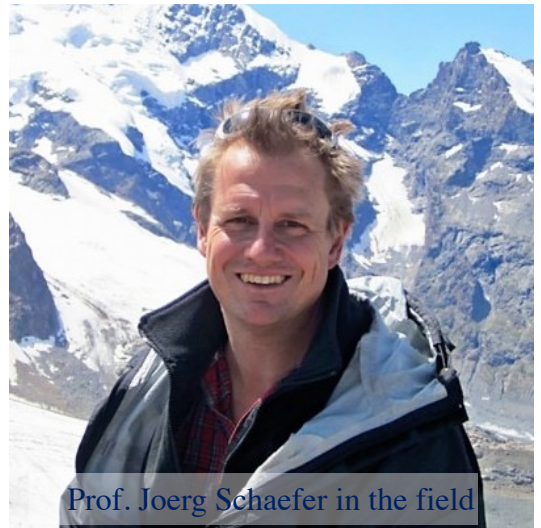
Cosmogenic Nuclides and Greenland Ice Sheet (In)stability – new approaches with cosmogenic nuclides

The Greenland Ice Sheet is arguably the most vulnerable patient within our heat-stressed environmental system. Its deterioration creates one of the biggest challenges to societies, as Arctic melt has become a main agent of global sea-level rise. However, we still await a firm diagnosis of the ailings of the Greenland Ice Sheet. We do not yet understand how it physically responds to accelerating heat, where and at what rate the ice is going to melt and how this is going to impact the sea-level and thus the coastline communities locally, in the US, and globally.

In this talk, I am going to review recent progress that promises to open a new frontier of ice-sheet and sea level science: High-sensitivity cosmogenic isotope measurements from subglacial bedrock now afford direct observations of past ice sheet stability, and thus a novel perspective on modern and future fate of the polar ice sheets.

While cosmogenic nuclide techniques have been of importance in tracking ice-sheet and glacier extensions during cold periods for decades, the new approaches investigate the complementary aspect of ice-response to past warm-periods, which might hold the keys for more accurate and robust predictions of ice-melt and sea level rise in our warming world.

Brief Bio: Joerg Schaefer is a Lamont Research Professor, Director of Lamont-Doherty Earth Observatory's Cosmogenic Nuclide Group, a faculty member of the Department of Earth and Environmental Sciences (adjunct professor at DEES), and a senior fellow of the Center of Climate and Life at Columbia University. His key interests include how glaciers and ice-sheets respond to past and modern climate change, how changing ice and related hazards, such as tsunamis and glacial lake outburst floods, impact environment and society and how science can assist in developing solution strategies for these climate-related challenges



Prof. Joerg Schaefer in the field

****HYBRID SESSION****

Zoom link for remote attendance:

<https://us02web.zoom.us/j/82229858276?pwd=UkNzM2FNY2p6cG42YjBmeHg0dGxNdz09>

Meeting ID: 822 2985 8276

Passcode: 515589