Universität Bern
Institut für Angewandte Physik
Sidlerstrasse 5
3012 Bern, Schweiz

Telefon: +41 (0)31 631 89 11
E-Mail: iapemail@iap.unibe.ch
www.iap.unibe.ch

UNIVERSITÄT BERN

## Seminar über Microwave Physics and Atmospheric Physics

**Referent/in:** Prof. Dr. Christian von Savign, University of Greifswald

**Titel:** Volcanic effects on the atmosphere - results from the DFG research unit VolImpact

Volcanic eruptions represent one of the most important natural drivers of climate change on time scales from a few years up to a decade. Studying the effects of volcanic eruptions allows improving the understanding of the climate system's response to perturbations. Within the DFG funded Research Unit (Forschungsgruppe) VolImpact (FOR 2820), we investigate in five projects different aspects of volcanic eruptions on atmosphere and climate, i.e. (1) the initial development of volcanic plumes on time scales from hours to a few days, (2) the evolution of volcanic aerosol layers in the stratosphere, (3) the interactions of volcanic aerosols and tropospheric clouds, (4) dynamic and thermal effects of volcanic eruptions on the middle atmosphere as well as (5) volcanic effects on the hydrological cycle.

This talk will first provide a brief review of volcanic effects on the earth system, followed by selected science results from the first phase of Volimpact. The talk will particularly address potential thermal and dynamical effects of volcanic eruptions on the mesosphere and mesopause region, which are so far only poorly understood. Initial simulations with the Upper Atmosphere version of ICON with idealized volcanic forcing will be presented, showing a significant warming of the mesopause region mediated via gravity-wave driven vertical coupling. At the end unusual optical phenomena sometimes occurring after volcanic eruptions - such as the rare occurrence of blue or green suns or green sunsets - will be discussed.

**Zeit:** Freitag, 28. Oktober 2022, 10:15 Uhr

**Ort:** Room A97, Sidlerstrasse 5, 3012 Bern
https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09
Meeting ID: 970 8132 5603
Passcode: iapmw