

## Climate variability across scales – from the butterfly’s wings to the age of the Earth – an online seminar series from Nov 2020 to March 2021 –

### Glacial/Interglacial climate variability

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#### Abstract:

Climate variability on glacial/interglacial time scales is intrinsically connected to the amount of ice stored in the high latitudes. During the Cenozoic, Earth underwent a long-term evolution from a planet without significant ice sheets in the Paleogene greenhouse climate to a quasi-permanently glaciated Antarctic continent after the Eocene/Oligocene boundary (34 Ma) and finally the modern bipolar glaciation that established across the so-called intensification of northern hemisphere glaciation 2.5 Ma ago. While this long-term evolution of the cryosphere occurs across significantly different climate states, the underlying drivers of waning and waxing of ice sheets in the high latitudes are rather similar; insolation forcing and atmospheric CO<sub>2</sub> levels. To introduce climate changes on glacial/interglacial time scales this talk focuses on the dynamics of high-latitude ice sheets exemplified for two time slices: (i) the intensification of northern hemisphere glaciation across the Plio-/Pleistocene boundary and (ii) the late Oligocene (25 Ma ago), a time interval that is marked by a uni-polar glaciation with ice masses developing on Antarctica alone.

**The speaker:** Oliver Friedrich studied Geology and Palaeontology in Heidelberg and Tübingen, and held postdoc positions at the Federal Institute for Geosciences and Natural Resources of Germany, in San Diego and Southampton then lead a DFG Emmy Noether group at Frankfurt University. Since 2013 he holds a professorship for Geology at the Institute of Earth Sciences at Heidelberg University [https://www.geow.uni-heidelberg.de/forschungsgruppen/friedrich/ofriedrich\\_en.html](https://www.geow.uni-heidelberg.de/forschungsgruppen/friedrich/ofriedrich_en.html)

#### Dates and speakers

1. **Jürg Schmidli** – IAU Frankfurt, Germany “**Variability at sub-daily time scales – from seconds to hours**”. Tuesday **10.11.2020 16:00-17:00** (*video on youtube, link below*)
2. **Christian Grams** – IMK-TRO/KIT, Germany “**Synoptic to sub-seasonal surface climate variability in the Atlantic-European region: the role of weather regimes.**”. Thursday **26.11.2020 16:00-17:00** (*video on youtube*)
3. **Tine Nilssen** – UIT, Norway “**Decadal variability and the scaling paradigm**”. **3.12.2020 16:00-17:00** (*video on youtube*)
4. **Michel Crucifix** – UC Louvain “**The challenge of centennial climate variability**”. Friday **18.12.2020 11:00-12:00** (*video on youtube*)
5. **Heather Andres** “**Millennial climate variability and Dansgaard-Oeschger events**” / **21 Jan 2021 16:00-17:00**
6. **Julie Schindlbeck-Belo**, GEOMAR Kiel, Germany – “**The links between volcanism and climate**”/ **20.1.2021 16:00-17:00** (*video available on request*)
7. **Oliver Friedrich**, GEOW HD, Germany – **Glacial/Interglacial climate variability (10<sup>5</sup>-10<sup>7</sup> years)** **27.1.2021 11:00-12:00**
8. **Valerio Lucarini**, Reading, UK – “**Heatwaves and Cold Spells and Assessing Their Response to Climate Change**” **10.2.2021 10:00-11:00** (*title tbc*)
9. **Shaun Lovejoy**, McGill University/Canada – **Linking Climate Variability Across Scales –** **17.3.2021 16:00-17:00**

All times stated are CET (Berlin). Past lectures are available via the PAGES youtube channel: [https://www.youtube.com/playlist?list=PLSaCdvM4wMLH\\_QfoKHyc5n4d-0\\_KBDDL](https://www.youtube.com/playlist?list=PLSaCdvM4wMLH_QfoKHyc5n4d-0_KBDDL)

**Registration:** The link to the online meeting (Zoom) will be sent a day before the seminar to the first 75 registered participants. For technical questions and registration, please send an email to [paleodyn@iup.uni-heidelberg.de](mailto:paleodyn@iup.uni-heidelberg.de) with the mail header “CVAS lecture series”. **Contact:** Kira Rehfeld ([krehfeld@iup.uni-heidelberg.de](mailto:krehfeld@iup.uni-heidelberg.de))



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