

Curriculum Vitae for Mai Winstrup

Linked-in: www.linkedin.com/in/maiwinstrup

ORCID: 0000-0002-4794-4004



Employments

- 2019 – now** Postdoctoral Researcher, Division of Geodesy and Earth Observations, DTU Space
• **Ice sheet altimetry**
- 2018 – 2019** Sea Ice Remote Sensing Specialist; Danish Meteorological Institute
• **Sea ice remote sensing • Bayesian inversion • Radiative transfer modelling**
- 2017 – 2017** Assistant Professor; Climate and Computational Geophysics, Niels Bohr Institute (NBI), University of Copenhagen.
• **Trend analysis of ocean wave data • Extreme value analysis**
- 2016 – 2017** Postdoctoral researcher; Centre for Ice and Climate, NBI, University of Copenhagen.
• **Statistical algorithms for ice-core interpretations • Prediction of rogue waves**
- 2013 – 2015** Research Associate; Earth and Space Sciences, University of Washington, Seattle, USA.
• **Algorithm and software development • Image segmentation and classification**
- 2013** Postdoctoral researcher; Centre for Ice and Climate, NBI, University of Copenhagen.
• **Machine learning • Algorithm development and application • Bayesian inference**
- 2012** Visiting Researcher; Earth and Space Sciences, University of Washington, Seattle, USA, with employment by University of Copenhagen.
• **Machine learning • Signal processing • Image processing and classification**
- 2011** Rapporteur on “Climate and Resources” for Copenhagen Research Forum.
- 2008 – 2011** Ph.D. from Niels Bohr Institute, University of Copenhagen.
Thesis: An automated method for annual layer counting in ice cores
• **Machine learning • Bayesian inference • Inverse modelling • Image processing**
- 2005 – 2007** Maritime Service, Danish Meteorological Institute (student job).
• **Interpretation of weather and ocean data for optimal ship navigation**

Education

- 2005 – 2008** M.Sc. in Physics/Geophysics, Niels Bohr Institute, University of Copenhagen.
- 2001 – 2005** B.Sc. in Physics, Niels Bohr Institute, University of Copenhagen.

Publications:

- International peer-reviewed publications: 22, hereof 3 in *Nature*, and 4 recognized as highly cited papers by Web of Science.
- Citations: 1614 (Web of Science), H-index: 12 (Web of Science)

Awards:

- EUMETSAT ITT #215580: *Sea-ice surface temperature retrieval and validation for Copernicus Sentinel-3 Sea and Land Surface Temperature Radiometer* (224,856 €, co-PI, 2018)
- DHRTC PhD fellowship grant: *Rogue Waves in the North Sea: Current state and future projections* (2.2 mill. DKK, co-PI, 2018)
- DHRTC salary grant: *Trends of rogue waves in the North Sea* (250,000 DKK, co-PI, 2017).
- DHRTC salary grant: *Rogue wave prediction in the North Sea* (200,000 DKK, co-PI, 2016).

- Villum Foundation Postdoctoral Research Fellowship: *Reconciling the Greenland and Antarctic layer-counted ice-core timescales over the deglaciation by use of an objective Bayesian method* (1.3 mill DKK, PI, 2013-2015).
- Inge Lehmann Foundation Research Travel Grant, DK: *An automated method for counting annual layers in ice cores* (80,000 DKK, PI, 2012).

Teaching and outreach:

- Supervisor/co-supervisor for PhD (1), master (2) and bachelor (1) student projects at University of Copenhagen.
- Lecturer and teacher at several bachelor, master and PhD courses, University of Copenhagen.
- Rapporteur for Copenhagen Research Forum. The report was presented to political stakeholders at the European Commission, and formed background for the EU Framework Program *Horizon 2020*.

Field work:

- Qaanaaq, Greenland (10 days): Weather station and ocean monitoring network on the sea ice.
- Lyngmarksbræ, Qeqertarsuaq, Greenland (2 days): Mass balance studies.
- Blue Glacier, Washington, USA (2x4 days): Mass balance and radar studies.
- NEEM ice core, Greenland (3 weeks): Ice core analyses.

Recent High-Profile Publications:

Simonsen, M.F., G. Bacco, T. Blunier, A. Borunda, B. Delmonte, R. Frei, S. Goldstein, A. Grinsted, H.A. Kjær, T. Sowers, A. Svensson, B. Vinther, D. Vladimirova, G. Winckler, **M. Winstrup**, and P. Vallelonga, East Greenland ice core dust record reveals timing of Greenland ice sheet advance and retreat, **Nature Communications** 10, 4494 (2019).

Schüpbach S. and others, including **M. Winstrup**, Greenland records of aerosol source and atmospheric lifetime changes from the Eemian to the Holocene, **Nature Communications** 9, 1476 (2018).

Cuevas, and others, including M. Winstrup, Rapid increase in atmospheric iodine levels in the North Atlantic since the mid-20th century, **Nature Communications** 9, 1452 (2018).

Sigl, M., **M. Winstrup**, et al., Timing and global climate forcing of volcanic eruptions for the past 2,500 years, **Nature** 523, 543-549 (2015).

WAIS Divide Project Members, incl. **M. Winstrup**, Precise inter-polar phasing of abrupt climate change during the last ice age, **Nature** 520, 661-665 (2015).

NEEM community members, incl. **M. Winstrup**, Eemian interglacial reconstructed from Greenland folded NEEM ice core strata, **Nature** 495, 489-494 (2013).