

CV Gustaf Hugelius, Professor at Stockholm University

Summary and contact details

Professor at Department of Physical Geography at Stockholm University.

Vice director of the Bolin Centre for Climate Research, a large interdisciplinary climate research environment with ca. 400 active climate researchers.

Awarded Ph.D. in 2011, two years of experience as international Post-Doc, mainly at Stanford University, USA. Born in 1980, married, father of two children with one year spent on parental leave.

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Scientific profile and science policy experience

My main scientific interest is the role of soils and permafrost in the global carbon cycle. I lead a research-group working primarily on quantifying and characterizing stocks and vulnerability of carbon stored in permafrost and peatlands of Arctic and Boreal ecosystems, often combining field sampling with the use of Earth Observation data, paleo-data and spatial modelling. I have organized more than ten expeditions to different Arctic regions.

Being vice director of the Bolin Centre for Climate Research has added breadth of scope and experience in climate science leadership. I have extensive experience of coordination and scientific leadership in EU-level and international consortia, synthesis-science and leadership in international networks, including in the Permafrost Carbon Network, the International Soil Carbon Network and a Permafrost Carbon group in the International Permafrost Association. Since 2019 I lead the work to produce permafrost region decadal greenhouse gas budgets in the Global Carbon Project synthesis RECCAP. I have also contributed to Global Methane Budgets and several Future Earth “10 New insights in Climate Science”.

In recent years, I have been active in science-to-policy work and communication. I am contributing to the IPCC seventh assessment report as a lead author of chapter six within working group 1. Within the Arctic Council, I am a member of the Swedish AMAP expert group, and have acted as Science lead for the Arctic Council CAFF project “Resilience of Arctic Wetlands”, producing high level policy documents. I have contributed to policy reports assessing scientific risk of permafrost “tipping points”. In collaboration with the NGO International Cryosphere Climate Initiative I have co-organized Permafrost Day in the Cryosphere Pavilion at all UNFCCC COP-meetings since COP25. At these and other meetings I have contributed to side events and as a scientific expert in Global Stocktake Technical Dialogues and presented high-level permafrost carbon-cycle science to ministers, parliamentarians and climate negotiators from over twenty different countries.

Professional positions and international placements

- 2023- Full Professor in Geographic Information Systems (GIS) and Geomatics, Department of Physical Geography, Stockholm University

- 2015-2023 Senior Lecturer in Geographic Information Systems (GIS) and Geomatics, Department of Physical Geography, Stockholm University

- 2018- 2019: Visiting Associate Professor, Dept. of Earth System Science, Stanford University, USA

- 2015- 2017: Visiting Scholar, Dept. of Earth System Science, Stanford University, USA.

- 2011-2014: Post-doctoral researcher, Stockholm University

- 2011 Ph.D of Physical Geography, Stockholm University

Leadership in international networks and other scientific merits

- Associate Editor at the journal *Global Biogeochemical Cycles* (2020-...)
- Regional lead for the Arctic in the Global Carbon Project (GCP) RECCAP2 (2019-...).
- Founding leader of IPA interest group Permafrost and Carbon Budgets (2018-...)
- Lead of northern wetland mapping for GCP Global Methane Budget (2017-...)
- Co-lead Bolin Centre for Climate Research: Biogeochemical cycles and climate (2017-2021)
- Core group of WCRP Grand Challenge "Carbon Feedbacks in the Climate System" (2016-...)
- Swedish chair in the International Permafrost Association (IPA) (2016-...)
- Co-chair of the International Soil Carbon Network (2016-2021)
- Scientific Steering Group of the International Soil Carbon Network (2012-....)
- Manager of the Northern Circumpolar Soil Carbon Database (2012-...)
- Co-lead of "Carbon Quantity" working group in the Permafrost Carbon Network (2011-...)

Research projects awarded as principal investigator

- Schmidt Futures VICC grant *PetCat* (2025-2030; €900,000)
- EU Horizon Europe project *ILLUQ* (2024-2028; €390,000)
- Schmidt Futures VESRI grant *CALIPSO* (2023-2028; €380,000)
- Work package lead in EU Horizon Europe *AI4SoilHealth* consortium (2023-2027; €800,000)
- Swedish research council VR project grant (2023-2027; €360,000)
- Several European Space Agency consortia (2018-2027; €500,000)
- Swedish Traffic Agency (2021-2023; €130,000)
- Swedish research council (VR) project grant (2019-2022; €360,000)
- Formas research council project grant (2019-2021; €300,000, declined by applicant)
- Work package lead in EU H2020 *Nunataryuk* consortium, (2017-2021; €520,000)
- INCA: VR and EU Marie Curie *International Career Grant* (2015-2017; €460,000)
- Lead principal investigator and coordinator of the EU Joint Programming Initiative *COUP*-consortium (2014-2017; SU budget €250,000 and total consortium budget €1,400,000)

Academic leadership and teaching summary

More than ten years of university teaching, at 20-70% of full time, including course responsibility and design, lectures, labs, excursions, seminars and examination.

- Board of the Faculty of Science, Stockholm University, (2021-...)
- Baltic Sea Centre, Stockholm University, board member (2023-...)
- Stockholm Resilience Centre, Stockholm University, reserve board member (2023-...)
- Stockholm University, Faculty of Science, Board of stipends (2017-2021)
- Subject responsible for Geosciences bachelor studies at Stockholm University (2018-2021)
- Board of department, Department of Physical Geography (2009-2011 and 2021-...)

PhD and MSc supervision

- Main supervisor of six PhD projects and co-supervisor of twelve PhD projects. Four graduated students: Dr. M Siewert graduated in 2016, Dr. A. Lindgren graduated in 2020, Dr. D. Guasconi and Dr. J. Wagner graduated in 2024. Main supervisor for >50 B.Sc. and M.Sc. degree projects.

Outreach experience

- Presentations of cryosphere science on side events at COP-25,-26,-27, -28, -29 and COP-30.
- Multiple popular science lectures as well as press-releases in association with publications
- Coverage of research results in national and international media (including SVT, SR, DN, The Guardian, Washington Post, New York Times, CNBC etc.)
- Feature articles with personal interviews in national and international media