

CURRENT POSITION

11/2024 - **Postdoctoral research assistant (PHAST ERC project)** Ludwig-Maximilians Universität Munich
Supervisor: Elisa Mantelli
Theoretical and numerical modelling of ice-stream dynamics as part of the glaciology group in the Department of Earth and Environmental Sciences.

EDUCATION

10/2020 - 10/2024 **PhD Mathematics** New College, University of Oxford
Thesis title: Mathematical modelling of ice-sheet surface melt. Supervisor: Ian Hewitt

10/2016 - 07/2020 **MMath Mathematics** New College, University of Oxford
First class. Applied maths focus (e.g. fluid dynamics, geoscience, solid mechanics and elasticity, and differential equations). Dissertation: Mathematical Modelling of Hydrogels (supervisor: Matthew Hennessy).

PUBLICATIONS

- Stevens, I. T., Cook, J.M., Chevrollier, L.-A., **Woods, T.**, Hepburn, A. J., Anesio, A. M., Benning, L. G., and Tranter, M.: *The formation and evolution of the supraglacial weathering crust on the Greenland Ice Sheet*, in review.
- **Woods, T.** and Hewitt, I. J.: *Modelling the evolution of an ice sheet's weathering crust*, IMA Journal of Applied Mathematics, hxae031, <https://doi.org/10.1093/imamat/hxae031>, 2024.
- **Woods, T.** and Hewitt, I. J.: *A model of the weathering crust and microbial activity on an ice-sheet surface*, The Cryosphere, 17, 1967–1987, <https://doi.org/10.5194/tc-17-1967-2023>, 2023.

TEACHING

1/2024 - 4/2024 **Facilitator for Vice Chancellor's Colloquium on Climate Change** University of Oxford
Interdisciplinary, extracurricular course for undergraduate students.

10/2020 - 7/2023 **Tutor: undergraduate applied mathematics** New College, University of Oxford
Topics include: dynamics, fluid dynamics, differential equations, mathematical biology.
Non-stipendiary lectureship awarded for 10/2022 - 7/2023

10/2020 - 1/2021 **Teaching assistant: undergraduate applied mathematics** University of Oxford
Topics include: mathematical geoscience, elasticity and plasticity, asymptotics.

INTERNSHIPS AND SUMMER SCHOOLS

20/6 - 29/9/2023 **UKRI Policy Internship** Natural England
• Part of the Biodiversity Net Gain (BNG) Monitoring and Evaluation team. Line manager: Gregg Smith.

20/6 - 26/8/2022 **Geophysical Fluid Dynamics (GFD) Summer Programme** Woods Hole Oceanographic Institution, Massachusetts
• Theme: data-driven GFD.
• Project: Theory and experiments on deformable porous media. Supervisor: Neil Balmforth.

25/5 - 3/6/2022 **Karthus Glaciology Summer School** Karthus, Italy

SCHOLARSHIPS AND PRIZES

2025 **LMU PostDoc Support Fund** Ludwig-Maximilians Universität Munich
€1000 awarded to attend the European Geosciences Union (EGU) General Assembly 2025.

2024 **IMA Small Grant Scheme 2024**
£600 awarded to attend the European Geosciences Union (EGU) General Assembly 2024.

2023 **IMA Lighthill-Thwaites prize (shortlisted)**
Awarded for preprint of Woods and Hewitt 2023. Early-career researcher paper competition.

2020 - 2024 **EPSRC PhD studentship** University of Oxford

'2016 - 2020 **Undergraduate best performance awards** New College, University of Oxford
Various awards for best performances in mathematics examinations.

SELECTED CONFERENCE PRESENTATIONS AND INVITED TALKS

Presentations at 4 invited seminars, 4 international conferences and 7 national conferences, including:

2025	IGS Symposium on Ice Streams and Outlet Glaciers, Durham Title: Temporal stability of subtemperate regions in ice-stream formation.	Poster
2024	Durham University Applied Mathematics Seminar Title: Modelling melting and microbes on an ice-sheet surface.	Invited talk
2024	Dartmouth Ice•Climate Seminar Title: Modelling the weathering crust and microbial activity on an ice-sheet surface.	Invited talk
2024	EGU (European Geosciences Union) General Assembly Title: Modelling the evolution of the weathering crust.	Oral presentation
2023	British Applied Mathematics Colloquium Title: Modelling melting, structure and microbial activity on an ice sheet surface. IMA Lighthill-Thwaites prize finalist.	Invited talk

SKILLS AND SERVICE TO THE COMMUNITY

<i>Organiser:</i>	<ul style="list-style-type: none">• Mathematics on Ice Forum co-organiser, 09/2025 – present.• President of Oxford University SIAM-IMA Student Chapter, 10/2022 – 9/2023. Including conference organisation: SIAM UKIE National Student Chapter Conference 2023.
<i>Outreach:</i>	<ul style="list-style-type: none">• Oxford Maths Festival volunteer, 5/2023.• MESME Maths Circles mentor, 3 – 6/2021. Extracurricular problem solving for 12 year olds.
<i>Referee:</i>	<ul style="list-style-type: none">• Journals: Geoscientific Model Development, Journal of Glaciology.
<i>Convener:</i>	<ul style="list-style-type: none">• Geophysical Observations at International Glaciological Society British Branch Meeting, 9/2023.
<i>Communicator:</i>	<ul style="list-style-type: none">• Various oral presentations and posters at conferences. Runner up in the student oral presentation competition at the International Glaciological Society British Branch Meeting 2021.
<i>Programming:</i>	<ul style="list-style-type: none">• MATLAB (proficient), Python (basic), Fortran (basic), Elmer/Ice (basic).
<i>Languages:</i>	<ul style="list-style-type: none">• English (native), German (beginner, A2.1).