

NATHALIE M. VRIEND

· Paul M. Rady Department of Mechanical Engineering, University of Colorado at Boulder ·
1111 Engineering Drive, UCB 427, Boulder, Colorado 80309-0427, USA ·
· nathalie.vriend@colorado.edu ·

EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, USA
Ph.D. Mechanical Engineering (GPA 4.0/4.0), with minor in Geophysics December 2009
M.Sc. Aeronautical Engineering (GPA 3.3/4.0) June 2005

UNIVERSITY OF TWENTE, ENSCHEDE, The Netherlands
Combined B.Sc. & M.Sc. Mechanical Engineering (GPA 8.3/10) June 2004

RESEARCH EXPERIENCE

UNIVERSITY OF COLORADO AT BOULDER, *Mechanical Engineering*, BOULDER, USA

➤ 9/2022 - present **Tenured Associate Professorship**

UNIVERSITY OF CAMBRIDGE, *BP Institute and Department of Earth Sciences*, CAMBRIDGE, UK

Reduced hours to support pandemic home-schooling: 03/2020 – 09/2020, 01/2021 - 03/2021

Extended sick leave and reduced hours (~25% FTE): 12/2021 – 06/2022

➤ 10/2019 - 9/2022 **Independent group leader & BPI Senior Fellow**

UNIVERSITY OF CAMBRIDGE, *Department of Applied Mathematics and Theoretical Physics*, CAMBRIDGE, UK

Maternity leave: 10/2010 – 1/2011, 2/2012 - 4/2012 & 4/2013 - 10/2013

Reduced hours: 2/2011, 1/2013 - 4/2013 & 10/2013 - 10/2014

➤ 10/2011 - 9/2019 **Independent group leader**

➤ 1/2010 - 9/2011 **Postdoctoral Research Associate** with J.N. McElwaine

CALIFORNIA INSTITUTE OF TECHNOLOGY, *Department of Mechanical Engineering*, PASADENA, USA

➤ 9/2005 - 12/2009 **Graduate Research Assistant** with M.L. Hunt & R.W. Clayton

SELECTED PERSONAL RESEARCH FELLOWSHIPS AND RECOGNITION

Moore Foundation Experimental Physics Initiative (PI, \$1,250,000 over 60 months)	2023
Royal Society University Research Fellowship (PI, £ 831,021 over 60 months, ~9% success rate)	2019
Royal Society Dorothy Hodgkin Fellowship (PI, £ 562,166 over 60 months, ~4% success rate)	2013
NERC postdoctoral fellowship (PI, £ 354,643 over 36 months, ~14% success rate)	2011
Centennial Prize for the best Ph.D. thesis in Mechanical Engineering at Caltech	2010
Graduate Deans' award for outstanding community service and leadership at Caltech	2010

SELECTED COMPETITIVE RESEARCH FUNDING

FAPESP-NERC Global Partnerships Seedcorn (PI, £ 100,000 over 12 months for a PDRA)	2022 - 2023
Royal Society Enhancement Grant (PI, £ 169,518 over 24 months for a PhD & PDRA)	2022 - 2023
Schlumberger Gould PhD-studentship (PI, £ 102,758 over 42 months for a PhD-student)	2017
Royal Society Global Challenge Fund (PI, £ 100,000 over 12 months for a Research Assistant)	2016
Royal Society Research Grant (PI, £ 131,437 over 36 months)	2014

SCIENTIFIC PUBLICATIONS

PUBLICATIONS IN REFEREED JOURNALS:

- 30 research articles, of which 8 as first-author, 15 with a supervised student or postdoc as first-author and 16 as senior author.

INVITED TALKS:

- 3 keynote talks and 4 plenary speaking engagements at international meetings and conferences
- Invited seminars at various international universities, including Caltech, MIT, Cornell, Cambridge, Oxford, Northwestern, Rennes, Imperial College, UCSB, Stanford, CU Boulder, etc.

MEDIA ATTENTION:

- **The Conversation** (2024), Research Highlight article in **Nature** (2021), Viewpoint Article in **Physics** (2021), **PBS Terra Overview** (2021), Feature Article in the **New Scientist** (2020), **BBC** interview (2020), **Discovery Channel TV** interview (2012), **National Geographic TV** interview (2009).
- Press release & news coverage in various international news outlets (CNN, Phys.org, Smithsonian, Nature, NewScientist, Science News) of our 2020 PRL, 2015 PoF and 2007 GRL scientific articles.

SELECTED TEACHING EXPERIENCE

UNIVERSITY OF COLORADO AT BOULDER, MECHANICAL ENGINEERING, BOULDER, USA

- “*Heat Transfer*” (graduate course, 34 lectures, material & exams) 2024
- “*Multiphase Flows*” (graduate course, 34 lectures, material & exams) 2023
- “*Fluid Mechanics*” (virtual, undergraduate course, 27 lectures, material & exams) 2020, 2021, 2023

UNIVERSITY OF CAMBRIDGE, EARTH SCIENCES AND APPLIED MATHEMATICS, CAMBRIDGE, UK

- “*Environmental Hazards*” (graduate course, 2 lectures, material & practical session) 2020 - 2021
- “*Fluid Dynamics of the Environment*” (graduate course, 6 lectures, material & exam) 2015 - 2018
- “*Granular Flows*” (graduate course, 8 lectures, material) 2013

STUDENTS AND POSTDOCS SUPERVISED

UNIVERSITY OF CAMBRIDGE, *Department of Applied Mathematics and Theoretical Physics*, CAMBRIDGE, UK

Ongoing and completed PhD-supervision:

- Ben McMillan, DAMTP (supervisor): “rheology of avalanches” (2021 – 2025)
- Ben Young (2023), Karol Bacik (2021), Amalia Thomas (2019), Jonathan Tsang (2019), Matthew Arran (2018)

Ongoing and completed Postdoctoral supervision:

- Willian Assis (2023), Thomas Chalklen (2023), Yonatan Calahorra (2021), Paul Jarvis (2017), Stéphanie Riber (2017), Andrew Edwards (2015)

SELECTED ACADEMIC AND PROFESSIONAL SERVICE

APS-DSoft Elected member-at-large of the Executive Committee	2020 - 2023
Gordon Research Conference on Granular Matter Elected co-vice-Chair & co-Chair	2018, 2020, 2022
Editorial Board (Phil. Trans. of Roy. Soc. A & Granular Matter)	2019 - present
APS-DFD (Vice-)Chair of the Frenkiel Award Selection Committee	2018, 2019