THOMAS S. EAVES

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Appointments

- **University of Dundee, School of Science and Engineering** — Dundee, UK
  Lecturer in Environmental Fluid Mechanics and Renewables: Jan. 2020–Present
- **University of Oxford, Department of Physics** — Oxford, UK
  Visiting Researcher: Sept. 2019–Dec. 2019
- **University of British Columbia, Department of Mathematics** — Vancouver, Canada
  Postdoctoral Research Fellow: Sept. 2016–Aug. 2019 — with Prof. Neil Balmforth

Education and Qualifications

- **University of Cambridge, U.K.**
  - 2013–2016: **Ph.D. Applied Mathematics & Theoretical Physics**
    Supervisor: Prof. Colm-cille Caulfield
    Thesis title: Generalised nonlinear stability of stratified shear flows: adjoint-based optimisation, Koopman modes, and reduced models.
  - 2012–2013: **M.Math. (Part III) (with Distinction)**
    Thesis title: Instability and perturbation growth in stratified shear flows.
  - 2009–2012: **B.A. Mathematics (First Class)**
- **Institute of Mathematics and its Applications, U.K.**
  - 2024–Present: **Chartered Mathematician (CMath MIMA)**
- **University of Dundee, U.K.**
  - 2021–2022: **Associate Module, PGCert Academic Practice in Higher Education**
    AFHEA, Jun. 2022

Research Focus

- **Dynamical Systems and Computational Fluid Mechanics**
  - Designing control schemes to guide turbulent flows towards energy-efficient low-drag states.
  - Analysing critical trajectories in state space that transition to turbulence in oscillating flows.
  - Understanding the effect of oscillations on structures embedded in chaotic dynamical systems.
- **Environmental Flows – Computation and Analysis**
  - Direct numerical simulation of environmental flows, including ocean and estuarine mixing.
  - Developing diagnostics to analyse mixing events, using underlying conservation laws.
  - Analysing coherent nonlinear structures and waves in stratified shear flows.
- **Non-Newtonian Modelling of Industrial and Environmental Fluid Processes**
  - Thixotropic modelling and simulation of concrete pumping, for industrial benchmarking.
  - Modelling of natural estuarine sediments and industrial compressible porous media.
  - Migration of salt through sea-ice into overlying snow, for sea-ice thickness calibration.

Research Funding

- **EPSRC New Investigator Award** — PI, £244k awarded, £305k FEC, Feb. 2023 – Dec. 2025
  Saving energy via drag reduction: a mathematical description of oscillatory flows (EP/W021099/1)
  - Dynamical systems interpretation of oscillating-boundary drag reduction and its optimisation.
- **London Mathematical Society Joint Research Groups** — Co-I, £1.5k awarded, Jan. – Aug. 2025
  East Scotland Nonlinear Dynamics & Fluids
  - Funding to establish a new regional reserach group.
- **British Society of Rheology Undergraduate Bursary** — PI, £3.4k awarded, Jun. – Sep. 2024
  Thixotropic (non-Newtonian) Modelling of Concrete Pumping
  - Funding to employ an undergraduate research student to simulate the flow of concrete.
- **ETP Knowledge Exchange Network** — Co-I, £10k awarded, £28k FEC, Mar. – Jun. 2022
  Hydrowheel – predicting and harvesting freely available electricity (ETP KEN PR052-EDI)
  - Advising on the simulation, design, and testing of "Hydrowheel", an inexpensive and portable floating waterwheel, and interpreting and explaining power extraction data.

Additional Research Experience

- **Isaac Newton Institute** — University of Cambridge, UK
  Invited Programme Participant: Jan.–Jul. 2024
  - Programme: Anti-diffusive dynamics: from sub-cellular to astrophysical scales
- **Woods Hole Oceanographic Institution** — Woods Hole, Massachusetts, USA
  Geophysical Fluid Dynamics Program Fellow: Jun.–Aug. 2015
  - Collaborator: Prof. Neil Balmforth
- **University of Cambridge, DAMTP** — Cambridge, UK
  Research Assistant: Jun.–Aug. 2012
  - Supervisor: Prof. John Lister
- **University of Cambridge, DAMTP** — Cambridge, UK
  Research Assistant: Jun.–Sep. 2011
  - Supervisors: Prof. Nathalie Vriend, Prof. Jim McElwaine, Prof. Stuart Dalziel
- **Other Extended Research Visits**
  - Staff member, Geophysical Fluid Dynamics Program, Woods Hole Oceanographic Institution, *Summer 2018, 2019, 2022, 2025.*
  - Industrial collaboration, VTT Technical Research Centre of Finland, *Apr., Aug. 2019.*
  - Industrial seminars, Valmet Ltd (Montreal Canada, Sundsvall Sweden), *Multiple, 2016–2019*.

Teaching and Mentoring

- **Lecturer** — University of Dundee, UK
  2020–Present
  SSEN Learning and Teaching Awards Finalist (Innovation), 2020
  SSEN Learning and Teaching Awards Nominee (Innovation), 2021
  DUSA Student Led Teaching Awards Finalist (Innovation), 2023

- **Taught Courses (Ongoing):**
- **EG11003 Science and Engineering Mathematics 1A (Year 1 BEng)**: 2021–Present.
  Introductory Mathematics (Algebra; Functions; Trigonometry; Vectors; Calculus).
- **ME40002 Fluid Mechanics (Year 4 BEng)**: 2024–Present.
  Advanced Engineering Fluid Mechanics (Piping Systems, Mass Conservation, Navier–Stokes, Exact Solutions, Potential Flows, Boundary Layers, Drag & Lift, Compressible Flows).
- **Taught Courses (Previous):**
- **ME22002 Mechanics of Machines (Year 2 BEng)**: 2020–2024.
  Mathematics of Fundamental Mechanics (Rotation; Energy; Momentum; etc.); Applications to Machinery (Dynamic Balancing; Vibration; Mathematical Models of Gear Trains & Belt Drives).
- **EG22010 Solid Mechanics (Year 2 BEng)**: 2020-2024.
  Introductory Solid Mechanics (Restraints; Stress and Strain; Shear Force; Bending Moments; Moments of Area; Bending Stresses; Torsion; Mohr's Circle; FMEA).
- **CE40003/EV40001 Water Resources and Treatment (Year 4 BEng/BSc)**: 2020–2021.
  Water Treatment (Water Treatment Plants; Softening; Flocculation; Settling; Filtration).
- **CE50033 Coastal Processes and Engineering Applications (MSc)**: 2020.
  Surface-wave Processes (Shoaling; Refraction; Diffraction; Reflection; Coastal Structures).
- **Project Supervision:**
- **ME30001 Engineering Design with Industry (Year 3 BEng)**:
  Eliminating resonance in an industrial machine (Rautomead Ltd. 2025)
  Designing a new robotic production line (Rautomead Ltd. 2024)
  Insulating an industrial furnace. (Rautomead Ltd. 2023)
  Tank design for growing algae on a production scale. (Foodmek Ltd. 2022)
  Designing a cheaper Lazy Susan. (Foodmek Ltd. 2021)
- **CE40001 Civil Engineering Honours Project (Year 4 BEng)**:
  Coastal transport of pollutants by river discharge (2022/23)
  Power grids: identifying weak points likely to cause blackouts (2020/21)
- **GA40001 Graduate Apprenticeship Civil Engineering Honours Project (Year 4 BEng)**:
  Design of a table-top coastal defense experiment for outreach (2022/23)
  A comparison between offshore wind farm and tidal energy arrays (2021/22)
- **ME40005 Mechanical Engineering Honours Project (Year 4 BEng)**:
  Moto GP aerodynamics (2024/25)
  Wind & tidal turbine comparison (2024/25)
  Supersonic wheel tips (2023/24)
  Simulation of heat transfer in agitated cooking vessels (2022/23)
  Aerodynamics of a truck in a cross-wind (2022/23)
  Close approach of a tidal turbine blade to the seafloor (2021/22)
  Unsteady flow effects on tidal turbine efficiency (2021/22)
  Review of modern paper pressing technology and its modelling (2020/21)
- **CE50007 Civil Engineering Research Project (MSc)**:
  Assessment of the settling and deposition of organic wastes from fish farming (2020/21)
- **ME53001 Industrial Placement Engineering Project (MSc)**:
  Industrial engineering management systems (Logie Timber 2024)
  Investigation of the power take-off of a novel renewable energy device. (Guha 2023)
  Market research on hydrokinetic, wind and tidal turbines in the UK. (Guha 2023)
  Design and simulation of Ocean Hydrowheel. (Hydroweel Ltd. 2022)
  River Hydrowheel simulation, design and testing. (Hydrowheel Ltd. 2022)
  Selection of a Cobot for automotive manufacturing. (Interplex PMP Ltd. 2021)

Optimisation of electroplating to reduce thickness non-uniformity. (Interplex PMP Ltd. 2021)
Modelling the cooking time of steam-jacketed cooking vessels. (Foodmek Ltd. 2020)

- **Lecturer** — University of British Columbia, Canada
  Postdoctoral Lecturer: 2016–2018
  Special commendation from the Dean, Faculty of Science, 2017, 2018
  - **MATH 256 Differential Equations (Year 2 Engineering Mathematics**: 2016/17, 2017/18.
    Differential Equations (First-order ODEs; Second-order ODEs; Systems of first-order ODEs; Laplace transforms; Fourier series; Separation of variables for PDEs).
- **College Teaching Assistant (Tutorials)** — University of Cambridge (St. John's College), UK
  2014–2016
  - **Methods (Year 2 Mathematics)**:
    Further Differential Equations (Fourier series; Sturm–Liouville theory; Wave, heat and Laplace equations; Separable solutions of PDEs; Green's functions for ODEs and PDEs; Fourier transforms; Method of images).
- **Undergraduate Supervisor (Small-group teaching)** — University of Cambridge (St John's College, Churchill College, Fitzwilliam College, Emmanuel College, Murray Edwards College), UK
  2013–2016
  - **Methods (Year 2 Mathematics)**
  - **Dynamical Systems (Year 3 Mathematics)**:
    Essentials of Dynamical Systems (Phase portraits; Stability of fixed points and periodic orbits; Near-Hamiltonian flows; Stationary bifurcations; Hopf bifurcations; Bifurcations of maps; Definitions of chaos; Horseshoes).
  - **Asymptotic Methods (Year 3 Mathematics)**:
    Introduction to Asymptotic Methods (Asymptotic sequences; Laplace's method; Stationary phase; Steepest descent; WKB and Liouville–Green).
  - **Mathematical Biology (Year 3 Mathematics)**:
    Topics in Mathematical Biology (Discrete or continuous dynamical systems; Fixed points and stability; Master equations; Fokker–Planck equations; Similarity solutions; Travelling wave solutions; Turing instability).

Mentoring

- **Postdoctoral Researcher Supervision** — University of Dundee, UK
  2023–Present
  - Jorge Sandoval (Oct. 2023– Dec. 2025) funded by EPSRC New Investigator Award
    Computation of coherent structures in oscillating boundary layers.
- **PhD Supervisor** — University of Dundee, UK
  2020–Present
  - Yi Yuan (matric. 2022) CSC Studentship
    Primary Supervisor. Fluid-solid flow transitions in mixed (sand-mud) sediments.
  - Filip Jovanovic (matric. 2021, writing up) EPSRC DTP
    Primary Supervisor. Periodic forcing of chaotic dynamical systems.
  - Saranraj Gururaj (matric. 2020, grad. 2023) U. Dundee Scholarship
    Secondary Supervisor. Instabilities and mixing in partially stratified estuaries.

- **Advisor of Studies** — University of Dundee, UK
  Academic and Pastoral Advisor
  - BEng Mechanical Engineering (and with Renewables): matric. 2022 – 27 students
  - BEng Mechanical Engineering (and with Renewables): matric. 2020 – 2 students
- **Research Student Mentoring** — University of British Columbia, Canada
  Postdoctoral mentoring of graduate and undergraduate research
  - Daniel Paterson, PhD Candidate, Department of Chemical Engineering (now at AFT-Global)
  - Romain Mary, Undergraduate Research Visitor from ENSTA Paris (now at AVNIR Engineering)

Publications

- **Under Review**

1. Sandoval, J. and Eaves, T. S. 2025: Transition to turbulence in the Stokes boundary layer: edge states and the Periodic Self-Sustaining Process *J. Fluid Mech.* under review (2025).

- **Published Manuscripts**

1. Eaves, T. S. 2025: Nonlinear stability measures of synchronised states in a power-grid model *J. Nonlinear Sci.* 35(46) (2025).
2. Paterson, D., Eaves, T. S., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2022: One-dimensional compression of a saturated elasto-visco-plastic medium. *Phys. Rev. Fluids* 7, 054303 (2022).
3. Pershin, A., Beaume, C., Eaves, T. S., and Tobias, S. M. 2022: Optimizing the control of transition to turbulence using a Bayesian method. *J. Fluid Mech.* 941, A25 (2022).
4. Paterson, D., Eaves, T. S., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2021: On two-phase modelling of dewatering of pulp suspensions. *AIChE J.* 67, e17277 (2021).
5. Eaves, T. S., Paterson, D., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2020: Dewatering saturated, networked suspensions with a screw press. *J. Eng. Math.* 120, 1-28 (2020).
6. Langham, J., Eaves, T. S. and Kerswell, R. R. 2020: Stably stratified exact coherent structures in shear flow: the effect of Prandtl number. *J. Fluid Mech.* 882, A10 (2020).
7. Paterson, D., Eaves, T. S., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2019: Flow-induced compaction of a fibrous porous medium. *Phys. Rev. Fluids* 4, 074306 (2019).
8. Eaves, T. S. and Balmforth, N. J. 2019: Instability of sheared density interfaces. *J. Fluid Mech.* 860, 145-171 (2019).
9. Ponetti, G., Balmforth, N. J. and Eaves, T. S. 2018: Instabilities in a staircase stratified shear flow. *Geophys. Astrophys. Fluid Dyn.* 112, 1-19 (2018).
10. Eaves, T. S. and Caulfield, C. P. 2017: Multiple instability of layered stratified plane Couette flow. *J. Fluid Mech.* 813, 250-278 (2017).
11. Eaves, T. S. and Balmforth, N. J. 2016: Noisy homoclinic pulse dynamics. *Chaos* 26, 043104 (2016).
12. Eaves, T. S. and Caulfield, C. P. 2015: Disruption of SSP/VWI states by a stable stratification. *J. Fluid Mech.* 784, 548-564 (2015).
13. Brun, P.-T., Audoly, B., Ribe, N. M., Eaves, T. S. and Lister, J. R. 2015: Liquid ropes: A geometrical model for thin viscous jet instabilities. *Phys. Rev. Lett.* 114, 174501 (2015).

Presentations

- **Invited Seminars**
  1. University of Leeds, CDT Fluid Dynamics Symposium, *12 Jun. 2025*.
  2. Isaac Newton Institute, Mechanisms of Layering, *28 May 2024*.
  3. University of Durham, Applied Mathematics Seminar Series, *20 Jun. 2023*.
  4. Woods Hole Oceanographic Institution, Geophysical Fluid Dynamics Program, *27 Jul. 2022*.
  5. University of Bristol, Fluids and Materials Seminar Series, *17 Jun. 2021*.
  6. Marine Alliance for Science and Technology for Scotland (MASTS) **Public Webinar Series**, *3 Mar. 2021*. YouTube
  7. University of Strathclyde, Continuum Mechanics and Industrial Mathematics Seminar Series, *20 Oct. 2020*.
  8. Imperial College London, Aerodynamics and Control Seminar Series, *14 Oct. 2020*. Vimeo
  9. University of St Andrews, Applied Mathematics Seminar Series, *25 Sept. 2020*.
  10. University of Oxford, Mathematical Geoscience Seminar Series, *25 Oct. 2019*.
  11. Woods Hole Oceanographic Institution, Geophysical Fluid Dynamics Program, *24 Jul. 2019*.
  12. Philipps-Universität Marburg, Complex Systems Seminar Series, *30 Apr. 2019*.
  13. Woods Hole Oceanographic Institution, Geophysical Fluid Dynamics Program, *3 Aug. 2018*.
  14. University of British Columbia, Scientific Computing, Applied and Industrial Mathematics Seminar Series, *31 Oct. 2017*.
  15. University of British Columbia, Fluid Dynamics Seminar Series, *9 Mar. 2017*.
  16. University of Cambridge, G.K. Batchelor Laboratory Seminar Series, *30 May 2014*.

- **Recent & Selected Conference Presentations**
  1. Sandoval, J. and Eaves, T. S. 2024: Transition to turbulence in the Stokes boundary layer. Part 2: Edge states and unsteady self-sustained process (USSP). APS DFD, *24-26 Nov 2024*.
  2. Eaves, T. S. 2024: Transition to turbulence in the Stokes boundary layer. Part 1: Minimal seeds. Bifurcations and Instabilities in Fluid Dynamics, *24-28 Jun 2024*.
  3. Sandoval, J. and Eaves, T. S. 2024: Transition to turbulence in the Stokes boundary layer. Part 2: edge states. Bifurcations and Instabilities in Fluid Dynamics, *24-28 Jun 2024*.
  4. Jovanovic, F. A. and Eaves, T. S. 2024: Optimisation of average quantities in a forced Lorenz system: influence of periodic orbits. Bifurcations and Instabilities in Fluid Dynamics, *24-28 Jun 2024*.
  5. Eaves, T. S. 2023: Compressional rheology of a fibrous porous medium. BSR Mid-Winter Meeting, *19-21 Nov 2023*.
  6. Jovanovic, F. A. and Eaves, T. S. 2023: Structures and dynamics in a periodically forced Lorenz system. APS DFD, *19-21 Nov 2023*.
  7. Eaves, T. S. 2023: Minimal disturbances to cause blackouts in model power grids. British Applied Mathematics Colloquium, *3-5 Apr. 2023*.
  8. Eaves, T. S., Gururaj, S. and Guha, A. 2022: Identification of stratified shear flow instabilities: an estuarine example, International Symposium on Stratified Flows, *29-01 Aug.-Sept. 2022*.
  9. Eaves, T. S., Paterson, D., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2021: A poro-elasto-visco-plastic model of the dewatering of a two-phase suspension, Interpore, *31-4 Jun. 2021*.
  10. Eaves, T. S. 2020: Towards a categorisation of ocean mixing data sets, MASTS Marine Climate Change Forum, *1-10 Dec. 2020*. **Plenary.**

11. Eaves, T. S., Paterson, D., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2020: A poro-elasto-visco-plastic model of the dewatering of a two-phase suspension, APS DFD, *22-24 Nov. 2020*. **Invited.**
12. Eaves, T. S. and Salehipour, H. 2019: Flavours of stratified shear flows: algorithmic detection, APS DFD, *23-26 Nov. 2019*.
13. Eaves, T. S., Paterson, D., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2019: Dewatering saturated, networked suspensions with a screw press, APS DFD, *23-26 Nov. 2019*.
14. Eaves, T. S., Paterson, D., Hewitt, D. R., Balmforth, N. J. and Martinez, D. M. 2019: Compaction of fibrous porous media. Oxford Fluids Network Workshop: Large-Deformation Mechanics of Fluids with Complex Rheology, *22-23 Oct. 2019*.
15. Eaves, T. S. and Balmforth, N. J. 2019: Instability of sheared density interfaces. Bifurcations and Instabilities in Fluid Dynamics, *16-19 Jul. 2019*.
16. Eaves, T. S., Caulfield, C. P. and Mezić, I. 2019: Koopman operator theory for turbulence transition in plane Couette flow. SIAM Dynamical Systems, *19-23 May 2019*. **Invited.**
17. Eaves, T. S. and Balmforth, N. J. 2017: Secondary nonlinear dynamics of the Taylor–Caulfield instability. SIAM Pacific NW Conference, *27-29 Oct. 2017*. **Invited.**
18. Eaves, T. S., Caulfield, C. P. and Mezić, I. 2016: Transition to turbulence: highway through the edge of chaos is charted by Koopman modes. APS DFD, *20-22 Nov. 2016*.
19. Eaves, T. S. and Caulfield, C. P. 2016: Disruption of the vortex-wave interaction self-sustaining process in stratified plane Couette flow. Fields Institute Workshop on Extreme Events and Criticality in Fluid Mechanics, *25-29 Jan. 2016*.

- **Recent Conference Posters**
  1. Jovanovic, F. A. and Eaves, T. S. 2022: Periodic forcing of chaotic fluid systems. Scottish Fluid Mechanics Meeting, *26 May 2022*.

Service

- **Department Roles**
  - Civil Engineering Admissions Tutor & Recruitment Lead (2024–Present)
    Organising and running open days in Civil Engineering.
    Complete redesign of open day offering, including talks, demos, and lab tours.
    Updating Civil Engineering webpage and marketing materials.
    Tracking and reporting on in-year recruitment progress.
    Advising Admissions on entrance requirements for Civil Engineering.

- **Committee Membership**
  - Civil Engineering Industrial Advisory Committee Working Group on the Climate Emergency (2023–2024)
    Developed a vision for the discipline around tackling the Climate Emergency.
    Embedded industry projects on the Climate Emergency into our academic portfolio.
  - School Sustainability Working Group (2023–present)
    Identifying and addressing sustainability issues within SSEN.
    Disseminating policies and opportunities around sustainability issues to colleagues.
  - Short Life Working Group on Scientific Computing (2023)
    Information gathering on scientific computing needs with Civil Engineering.
    Developed job descriptions for new scientific computing officer and manager positions.

  - Pedagogy Champion, Mechanical Engineering (2022–24)
    Discussing pedagogical approaches with the School Education Committee.
    Disseminating pedagogy recommendations to Mechanical Engineering colleagues.
  - School Internationalisation Committee (2020–21)
    School planning committee for international student recruitment and conversion.
    Feedback of committee actions to Civil and Mechanical Engineering staff.
  - Short Life Working Group on Usage of Space (2021)
    Information gathering on office space requirements with the School.
    Designed a survey to gather staff opinions on office space and working post-Covid.
    Developed the survey using feedback from the group – survey used by the Dean.

- **PhD Examiner**
  - Exam Convenor (University of Dundee): Maciej Jozwik (2024)
    A rapid methodology for assessing durability of concretes with slowly reacting cements
  - Exam Convenor (University of Dundee): Jonathan Wilkin (2024)
    New insights into turbidity currents and their deposits in channel mouth settings
  - Internal Examiner (University of Dundee): Azin Lamei (2023)
    Elastic response of floating offshore wind turbines to waves, current and wind
  - Internal Examiner (University of Dundee): Lorna Dennison-Wilkins (2021)
    A study of human body movement in inland waterways

- **Peer Review**
  - Journal of Fluid Mechanics (25 manuscripts, plus revisions)
  - Physical Review Fluids (2)
  - Proceedings of the Royal Society A (1)
  - SIAM Journal on Applied Mathematics (1)
  - Physics Letters A (1)
  - ASME Offshore Mechanics and Arctic Engineering (1)
  - Applied Mathematical Modelling (1)
  - Journal of Waterway, Port, Coastal, and Ocean Engineering (1)

- **Seminar Organisation**
  - Session Chair, SIAM Dynamical Systems, *12 May 2025*.
  - Session Chair, International Symposium on Stratified Flows, *30 Aug. 2022*.
  - Organiser, G. K. Batchelor Laboratory Seminar Series, *2014.*
    Scheduled speakers, organised end-of-year event.

- **Outreach**
  - STEM Expo, Michelin Scotland Innovation Park, Dundee, *2025*.
  - Festival of the Future, Dundee, *2024*.
    Civil Engineering activities (ground anchors, water filtration).
  - Maths Week Scotland, Dundee, *2024*.
    Secondary-school visit day, demonstrating double pendulum, statistics, and problem solving.

- STEM Ambassador *2022–present*.
  2022–2023: Engineering the Curriculum: Inspiring the Next Generation of Engineers, Dundee.
  Academic leader, designing secondary-school classroom activities.
- Math Mania Volunteer, University of British Columbia, *2018*.
  Interactive mathematics demonstrations, puzzles, and games, for primary-age children.
- Fluid Dynamics Laboratory Demonstrator, Cambridge Science Festival, *2014*.
  Demonstration of vortex stretching and other fluids experiments.

Academic Awards

- **Van den Akker Prize 2023 for Significant Contribution to Paper Physics** The Institute of Paper Chemistry, The Institute of Paper Science and Technology, and The Renewable Bioproducts Institute, *2025*
- **Geophysical Fluid Dynamics Fellowship** at the GFD Program, Woods Hole Oceanographic Institution, USA, *Jun.–Aug. 2015*
- **Sims Scholarship for PhD** University of Cambridge, UK, *Oct. 2013 – Sept. 2016*
- **Dirac Prize for High Performance in Part III (Master's Degree)** St John's College, University of Cambridge, UK, *Oct. 2013*
- **Ian Hall Prize for High Performance in Part II (Bachelor's Degree)** St John's College, University of Cambridge, UK, *Oct. 2012*

Additional Information

- Proficient in programming in Fortran and Matlab.
- Professional affiliations: Chartered Member of the Institute of Mathematics and its Applications (CMath MIMA), Associate Fellow of the Higher Education Authority (AFHEA), member of the American Physical Society (APS), member of the Society for Industrial and Applied Mathematics (SIAM), member of the British Society of Rheology (BSR).
- Citizenship: United Kingdom.

References

- **Prof. Colm-cille P. Caulfield** — U. Cambridge (Applied Mathematics)

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  Wilberforce Road
  Cambridge CB3 0WA
  United Kingdom

  Telephone: +44 (0)1223 337744

  Email: C.P.Caulfield@damtp.cam.ac.uk

- **Prof. Neil J. Balmforth** — U. British Columbia (Mathematics)

  Mailing address: Department of Mathematics
  Room 121, 1984 Mathematics Road
  Vancouver, BC V6T 1Z2
  Canada

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  Email: njb@math.ubc.ca