

# Jemima M. Tabcart

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TU Eindhoven

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## RESEARCH INTERESTS AND CONTRIBUTIONS

Numerical linear algebra, data assimilation, preconditioning, numerical partial differential equations, optimization, model order reduction, high-dimensional industrial problems (partners include the Met Office and Cerfacs).

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## EMPLOYMENT

- **Assistant Professor (with Tenure)** October 2023 –  
*Department of Mathematics and Computer Science, TU Eindhoven*  
*Member of Centre for Analysis, Scientific Computing and Applications*
- **Hooke Research Fellow** September 2022 – October 2023  
*Mathematical Institute, University of Oxford*  
*Independent research fellowship in the Numerical Analysis Group*
- **Fulford Junior Research Fellow** October 2022 – October 2023  
*Somerville College, University of Oxford*
- **Postdoctoral Research Associate** October 2019 – August 2022  
*School of Mathematics, University of Edinburgh*  
*Project: Modern linear algebra for PDE-constrained optimisation models for huge-scale data analysis, EPSRC Grant EP/S027785/1, working with Dr John W. Pearson.*
- **Semester Postdoctoral Fellowship** January 2020 – April 2020  
*Institute for Computational and Experimental Research in Mathematics (ICERM)* *Brown University*  
*Fellowship for the program “Model and dimension reduction in uncertain and dynamic systems”.*

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## EDUCATION

- **PhD** October 2016 – November 2019  
*EPSRC Centre for Doctoral Training in Mathematics of Planet Earth* *University of Reading*  
*Thesis title: On the treatment of correlated observation errors in data assimilation*  
*Supervised by: Professor Sarah L. Dance, Dr Amos S. Lawless, Professor Nancy K. Nichols, Dr Joanne A. Waller, and Dr David Simonin (MetOffice@Reading)*  
*In collaboration with the National Centre for Earth Observation and the Met Office, my research investigated how correlated observation error can be incorporated into a data assimilation framework whilst reducing the negative impact on convergence that has been observed theoretically and operationally.*
- **MRes in Mathematics of Planet Earth (Distinction)** 2015 – 2016  
*Imperial College London and University of Reading*  
*Project title: On the variational data assimilation problem with non-diagonal observation weighting matrices*  
*Awarded Best MRes Project.*
- **MMath (1st Class Honours), Mathematics with Study Year Abroad** 2011 – 2015  
*University of Bath*  
*Undertook assessed third year at Université Joseph Fourier (now part of Université Grenoble Alpes) where I completed the Parcours A stream for students preparing to study graduate mathematics.*  
*Awarded Chancellor’s Prize for best final year undergraduate student.*

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## RESEARCH EMPLOYMENT

- **Visiting Researcher** July – August 2018  
*Met Office, Exeter, UK*  
*8 week research project based in Ocean Forecasting and Research Development group to investigate importance of error covariances for sea surface temperature observations. Compared diagnosed errors obtained using method of Desroziers et al. (2005) with estimates produced by ESA CCI SST project, finding significant differences between the two estimate types.*
- **Researcher** July – August 2014  
*University of Bath*  
*8 week research placement based at the Universities of Bath and Cambridge. The bouncing droplet phenomenon, a fluid dynamics problem with parallels in quantum physics, was modelled in 1D using MATLAB. The resulting programs, graphs, and final report provided a starting point for my undergraduate research project.*

- **Research Assistant**

- *University of Bath*

*Awarded a 5 week Bursary placement in June 2010 – subsequently returned to work on a European-wide project studying Gallium Nitride (GaN). Created a new tool to aid the 3D visualisation of GaN's physical properties, which involved learning to program in Visual Basic, communicating with other scientists on the same project and presenting my work to non-experts. The placement culminated in the publication of a joint paper in *Integrated Ferroelectrics* (Vol 133 Issue 1).*

## RESEARCH VISITS

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- ICMS, Edinburgh (29th September – 3rd October 2025; 9th March – 13th March 2026)  
Funded by ICMS research in groups scheme
- CERFACS, Toulouse (13th – 15th May 2025)  
Funded by INI Networks grant
- University of Potsdam (31st March – 4th April 2025)  
Funded by INI Networks grant
- University of Reading (4th – 6th December 2023, 15th – 18th October 2024)  
Funded by INI Networks grant
- University of Edinburgh (18th – 22nd September 2023)  
Funded by London Mathematical Society Research in Pairs Scheme
- Cerfacs, Toulouse (30th May – 2nd June 2023)
- Charles University, Prague (15th – 17th March 2023)
- KU Leuven (5th – 9th September 2023)  
Funded by Una Europa grant
- University of Bologna (4th – 8th July 2023)  
Funded by Una Europa grant
- Cerfacs, Toulouse (22nd – 26th November 2021)

## JOURNAL PUBLICATIONS

- JP1**, I. Daužickaitė, M. A. Freitag, S. Gürol, A. S. Lawless, A. Ramage, J. A. Scott, and **J. M. Tabcart**, “An Introduction to Solving the Least-Squares Problem in Variational Data Assimilation”, In press, *SIAM Review*
- JP2**, **J. M. Tabcart** and J. W. Pearson. “Saddle point preconditioners for weak constraint 4D-Var”, (2024) *Electronic Transactions on Numerical Analysis*, 10.1553/etna\_vol60s197
- JP3**, D. Palitta and **J. M. Tabcart** (2023) “Stein-based preconditioners for weak-constraint 4D-Var”, *Journal of Computational Physics*, 112068 <https://doi.org/10.1016/j.jcp.2023.112068>
- JP4**, E. Qian, **J. M. Tabcart**, C. Beattie, S. Gugercin, J. Jiang, P. R. Kramer, and A. Narayan. (2022) “Model reduction of linear dynamical systems via balancing for Bayesian inference”, *Journal of Scientific Computing*, 91, (29) <https://doi.org/10.1007/s10915-022-01798-8>
- JP5**, **J. M. Tabcart**, S. L. Dance, A. S. Lawless, N. K. Nichols, and J. A. Waller. (2021) “New bounds on the condition number of the Hessian of the preconditioned variational data assimilation problem”, *Numerical Linear Algebra with Applications*, e2405. <https://doi.org/10.1002/nla.2405>
- JP6**, S. Vetra-Carvalho, S. L. Dance, D. C. Mason, J. A. Waller, E. S. Cooper, P. J. Smith, and **J. M. Tabcart**. (2020). “Collection and extraction of water level information from a digital river camera image dataset”, *Data in Brief*, 33, 106338. <https://doi.org/10.1016/j.dib.2020.106338>
- JP7**, **J. M. Tabcart**, S. L. Dance, F. Hilton, A. S. Lawless, S. Migliorini, N. K. Nichols, and J. A. Waller (2020) “The impact of reconditioning of the correlated observation error covariance matrix on the Met Office system”, *Quarterly Journal of the Royal Meteorological Society*, 146(728), 1372-1390. <https://doi.org/10.1002/qj.3741>
- JP8**, **J. M. Tabcart**, S. L. Dance, A. S. Lawless, N. K. Nichols, and J. A. Waller (2020). “Improving the condition number of estimated covariance matrices”, *Tellus A: Dynamic Meteorology and Oceanography*, 72(1), 1–19. <https://doi.org/10.1080/16000870.2019.1696646>
- JP9**, **J. M. Tabcart**, S. L. Dance, S. A. Haben, A. S. Lawless, N. K. Nichols, and J. A. Waller. (2018) “The conditioning of least squares problems in variational data assimilation”, *Numerical Linear Algebra with Applications*, 25(5), e2165. <https://doi.org/10.1002/nla.2165>
- JP10**, M.-L. Hicks, **J. Tabcart**, M. J. Edwards, E. D. Le Boulbar, D. W. E. Allsopp, C. R. Bowen, and A. C. E. Dent. (2012) “High temperature measurement of elastic moduli of (0001) Gallium Nitride”, *Integrated Ferroelectrics*, 133(1) 17–24. <https://doi.org/10.1080/10584587.2012.663309>

## SUBMITTED

**PP1, J. M. Tabcart**, S. Gürol, J. W. Pearson, and A. Weaver, “Block alpha-circulant preconditioners for all-at-once diffusion-based covariance operators”, *IMA Journal on Numerical Analysis* Preprint arXiv:arXiv:2506.03947

## FUNDING

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### RESEARCH FUNDING

- Co-PI EAISI EMDAIR Round 4 with Prof. Wouter Huberts (Biomedical engineering) for **funded** PhD position (September 2026 - September 2030). Value of award €290,000.
- Named member and contributing grant author for **funded** grant: ICMS Research in Groups (September 2025 – March 2026). Value of award £9,000
- Named member and contributing grant author for **funded** grant: Isaac Newton Institute Network Support for the Mathematical Sciences (June 2023 – June 2025). Value of award £6,000
- Co-organiser of research semester programme, CWI for the programme: Bridging Numerical Analysis and Scientific Machine Learning: Advances and Applications. Value of award €30,000.
- Grant author and awardee for **funded** grant: London Mathematical Society Research in Pairs Scheme (June – September 2023) for research exchange with Dr John W. Pearson (University of Edinburgh).
- Co-investigator and co-author for **funded** grant: Una Europa Seed Funding DIGITALIZED! call (November 2021) for the project ‘Tensor-based Optimal Control approaches for Deep Learning’ with Dr Davide Palitta (University of Bologna) and Dr Nick Vannieuwenhoven (KU Leuven), <https://site.unibo.it/toc4deep/en>. Wrote proposal with Co-Is. Value of award: €11,000

### SCHOLARSHIPS AND FELLOWSHIPS

- CoSeC (Computational Science Centre for Research Communities) Fellowship, UKRI, October 2025 – December 2026. Value of award £3,000.
- Postdoctoral semester fellowship, ICERM, Brown University (Spring 2020): \$26,500 stipend, \$800 travel funding
- MRes/PhD studentship at Mathematics of Planet Earth Centre for Doctoral Training. £100,000 over 4 years.

### TRAVEL GRANTS

- Research visit to RIKEN, Japan (January 2019): £1500
- Workshop on Sensitivity Analysis and Data Assimilation (August 2018): DARE training fund €820 euros + £200
- International Workshop on Climate Change and Natural Disasters (August 2017): £4000

### PRIZES AND AWARDS

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- University Teaching Qualification (Netherlands), April 2025.
- Finalist: Best Teacher 2025 (Bachelor in Computer Science) by GEWIS study association
- Best invited talk: It’s Her! Women in STEMM Summit 2023.
- Nominated: Edinburgh University Students’ Association (EUSA) Teaching Award, “Outstanding Course” category for tutoring/co-lecturing on Numerical Partial Differential Equations BSc/MSc course, April 2022
- Associate Fellow of the Higher Education Academy, September 2021
- Poster Prize: LMS Women in Mathematics Day, University of Strathclyde, June 2021.
- Nominated: PhD Researcher of the Year 2019, University of Reading (Mathematics and Statistics Division candidate).
- Best group project: MPE CDT Industrial Study Group, March 2018. 2 day study group on industrial problem from AIR worldwide. Team of PhD students developed a research idea using industrial data and presented to a panel of academics and industry representatives.
- Best group project: presenting National Centre for Earth Observation science to an industrial audience, NCEO Researchers’ Forum, February 2018. Team of researchers from across NCEO developed a presentation on a specified topic to promote novel NCEO research and its societal impacts. Judged by panel of academics and science communication experts.
- Best poster presentation: NCEO Researchers’ Forum, February 2018.
- Best MRes project: MPE CDT, March 2017.
- Chancellor’s Prize for best final year undergraduate student: University of Bath, June 2015.

## CONFERENCES

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### PLENARY TALKS

1. 27th – 29th May 2026, International Conference on Preconditioning Techniques for Scientific and Industrial Applications, University of Edinburgh, Scotland
2. 8th – 13th June 2025, Householder Symposium XXII, Cornell University, USA

### INVITED CONFERENCE AND WORKSHOP TALKS

1. 26th June, SCS Spring meeting, TU Delft, Netherlands
2. 27th – 28th April, 3rd Lanzcos meeting, Trinity College Dublin, Ireland
3. 5th – 6th January 2026, AARMS kick-off event, Memorial University of Newfoundland, Canada
4. 22nd – 23rd April 2025, Mathematics for AI session, NMC (Dutch Mathematical Congress), Netherlands
5. July 2024 – Conference on Scientific Computationa and Differential Equations, National University of Singapore
6. May 2024 – SIAM Linear Algebra conference, Sorbonne University, Paris, France
7. March 2024 – Topical speaker in Applied Linear Algebra Section, GAMM 94th Annual Meeting, University of Magdeburg, Germany
8. November 2023 – Workshop on Computational Mathematics for Data Science, Danish Technical University, Denmark.
9. 27th August – 1st September 2023, New Directions in Applied Linear Algebra, Banff International Research Station for Mathematical Innovation and Discovery, Canada
10. 27th – 30th June 2023 29th Biennial Numerical Analysis Conference, University of Strathclyde, UK
11. 3rd – 5th April 2023, British Applied Mathematics Colloquium, University of the West of England, UK
12. 27th February – 3rd March 2023, SIAM Computational Science and Engineering, Amsterdam, The Netherlands
13. 20th – 22nd June 2022, Sparse Days, Saint-Girons, France
14. 13th – 17th June 2022 (rescheduled from 14th – 19th June 2020), Householder Symposium XXI, Italy
15. 6th – 10th June 2022, Numerical Methods for Large Scale Problems, Belgrade, Serbia (Online)
16. 11th – 14th July 2021, 31st European Conference on Operational Research (EURO XXXI), Athens, Greece (Online)
17. 10th May 2021, Communications in Numerical Linear Algebra seminar series, Online, <https://bit.ly/3q4sR9T>
18. 30th July 2020, Reading student seminar series, University of Reading, UK (Online)
19. 29th May 2020, Scottish Numerical Methods Network, Workshop on Inverse Problems and Optimisation for PDEs, University of Edinburgh, UK
20. 25th September 2019, Royal Meteorological Society Data Assimilation Special Interest Group, Reading, UK
21. 1st – 2nd July 2019, Advances in Linear Algebra and Huge-Scale Optimization, ICMS, Edinburgh, UK
22. 11th June 2018, Imperial College SIAM student conference, UK

### INVITED SEMINARS

1. 1st May 2026, ASML, The Netherlands
2. 13th April, Statistics, Uncertainty Quantification and Data Science Seminar, University of Manchester, UK
3. 24th February 2026, University of Groningen, The Netherlands
4. 3rd June 2025, CWI, The Netherlands
5. 2nd April 2025, University of Potsdam, Germany
6. 14th November 2024, KU Leuven, Belgium
7. 23rd October 2024, TU Chemnitz, Germany
8. 1st May 2024, Argonne National Lab (remote), US
9. 13th March 2024, University of Reading, UK
10. 27th February 2024 UCLouvain, Belgium
11. 10th November 2023 Leiden/VU/Delft-seminar, TU Delft, The Netherlands
12. 2nd June 2023 Algo-Coop seminar, Cerfacs, Toulouse
13. 28th April 2023 Numerical Analysis seminar, University of Bath, UK
14. 27th April 2023 Computational Mathematics and Applications Seminar, Rutherford Appleton Laboratory, UK
15. 26th April 2023 Imperial/UCL Numerics seminar, Imperial College, UK
16. 16th March 2023 Departmental seminar, Charles University, Prague, Czechia
17. 2nd June 2022 Institute for Computational and Experimental Research in Mathematics, Providence, USA
18. 18th March 2022, Numerical Analysis and Scientific Computing Seminar, University of Manchester, UK

19. 22nd October 2021, Applied Mathematics Seminar, University of Warwick, UK
20. 19th July 2021, Oberseminar Dynamics, Technical University of Munich, Germany (Online)
21. 6th July 2021 Algo-Coop seminar, Cerfacs, Toulouse (Online)
22. 14th April 2021, Reading Data Assimilation Research Centre seminar, University of Reading, UK (Online)
23. 1st April 2020, NRL seminar, Naval Research Laboratory, Monterey, US (Online)
24. 28th January 2019, Data Assimilation Seminar Series, RIKEN Centre for Computational Science, Kobe, Japan
25. 2nd November 2018, Environmental Research DTP Student Seminar Series, University of Oxford, UK
26. 28th August 2018, Met Office Ocean Group Seminar Series, Exeter, UK
27. 7th February 2018, Imperial College Junior Applied Mathematics Seminar, UK

#### INVITED WORKSHOP PARTICIPANT

1. 27th August – 1st September 2023, New Directions in Applied Linear Algebra, Banff International Research Station for Mathematical Innovation and Discovery, Canada
2. 9th – 13th January 2023, Retreat for Women in Applied Mathematics, ICMS, Edinburgh, UK
3. 2nd – 5th November 2020, ECMWF/EUMETSAT NWP SAF Workshop on the treatment of random and systematic errors in satellite data assimilation for NWP, European Centre for Medium-Range Weather Forecasts, Reading, UK (Online)
4. 5th – 6th February 2018, NCEO Researchers' Forum, University of Leicester, UK  
*Poster: Accounting for correlated observation errors in variational data assimilation*
5. 29th August – 2nd September 2017, International Workshop on Climate Change and Natural Disasters, Cemaden/INPE, São Jose dos Campos, Brazil
6. 19th – 20th March 2018, MPE CDT Industrial Study Group, University of Reading, UK
7. 20th – 21st March 2017, MPE CDT Industrial Study Group, Imperial College London, UK

#### SELECTED CONTRIBUTED PRESENTATIONS

##### International oral presentations

1. 6th – 10th June 2022, International Symposium on Data Assimilation, Fort Collins, USA
2. 17th – 21st May 2021, SIAM Conference on Applied Linear Algebra, New Orleans, USA (Online)
3. 24th November 2020, Sparse Days, Cerfacs, Toulouse, France (Online)
4. 15th – 19th July 2019, International Congress on Industrial and Applied Mathematics, Valencia, Spain
5. 21st – 24th January 2019, 7th International Symposium on Data Assimilation, RIKEN Centre for Computational Science, Kobe, Japan
6. 1st – 6th July 2018, Workshop on Sensitivity Analysis and Data Assimilation in Meteorology and Oceanography, Meli Ria Hotel, Aveiro, Portugal

##### International poster presentations

1. 21st – 24th January 2019, 7th International Symposium on Data Assimilation, RIKEN Centre for Computational Science, Kobe, Japan

##### National oral presentations

1. 19th – 21st September 2018, CliMathNet Conference, University of Reading, UK
2. 27th – 30th June 2017, National Centre for Earth Observation and Centre for Earth Observation Instrumentation annual conference, University of Bath, UK
3. 19th June 2017, Imperial College SIAM Student Conference, Imperial College London, UK

##### National poster presentations

1. 16th June 2021, LMS Women in Mathematics Day, University of Strathclyde, UK
2. 4th – 7th September 2018, National Centre for Earth Observation Conference, University of Birmingham, UK
3. 30th April – 1st May 2018, LMS Women in Maths Days, Isaac Newton Institute, Cambridge, UK
4. 21st March 2018, MPE CDT Jamboree, University of Reading, UK
5. 22nd March 2017, MPE CDT Jamboree, Imperial College, London, UK

## TEACHING EXPERIENCE

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- **Responsible Lecturer** 2026–  
*Linear Algebra for Data Analysis (1st year Data Science)* TU Eindhoven
- **Responsible co-Lecturer** 2026–  
*Advanced Numerical Linear Algebra with Applications* Master Math
- **Responsible Lecturer** 2025–  
*Calculus (1st year Computer Science)* TU Eindhoven
- **Responsible Lecturer and Instructor** 2023–25  
*Linear Algebra and Applications (1st year Computer Science)* TU Eindhoven  
*Award for Excellent Course Evaluations (2023 and 2024), Nominated GEWIS (student association) Best Teacher Computer Science 2025*
- **Instructor** 2023–  
*Various courses* TU Eindhoven  
*Math 1 (Industrial Engineering), Matrices and Differential Equations (Built Environment), Optimization*
- **Guest Lecturer** January – March 2022  
*Numerical Partial Differential Equations (4th/5th year BSc/MSc)* University of Edinburgh  
*Lectured on spectral methods*  
*Managed and marked computational assessment for 65 students*  
*Nominated for Outstanding Course (Edinburgh University Students' Association Teaching Awards)*
- **Lecturer** October – November 2021  
*Computational Methods for Data Driven Modelling (PhD level)* University of Edinburgh  
*Lectured on: optimization, gradient descent, convex optimization, mirror descent*  
*Managed and marked assessment for 18 students.*
- **College Tutor** April – May 2023  
*Fourier Series and Partial Differential Equations* Christ Church, University of Oxford  
*Planning and leading revision classes in Fourier Series and PDEs (2nd year). Marking work including Collections exams.*
- **Tutor** April – May 2023  
*Revision classes* University of Oxford  
*Planning and leading revision classes in Data Science for Optimisation (3rd year) and Continuous Optimisation (MSc)*
- **Tutor** January – April 2023  
*Continuous Optimisation (MSc)* University of Oxford  
*Leading in-person tutorials and mentoring a teaching assistant.*
- **Tutor** October – December 2022  
*Networks (4th year BSc/MSc)* University of Oxford  
*Leading in-person tutorials and mentoring a teaching assistant*
- **Teaching assistant** 2021 – 2022  
*Numerical Partial Differential Equations (4th/5th year BSc/MSc)* University of Edinburgh  
*Leading Zoom and in-person workshops and Python computer labs*
- **Teaching assistant** 2017 – 2019  
*Numerical Methods for Financial Engineering (MSc Finance)* University of Reading  
*Co-leading computer practicals for 16 students assisting with Visual Basic*
- **Teaching assistant** 2016 – 2019  
*Linear Algebra (1st year BSc)* University of Reading  
*Co-leading weekly workshops for 30 students, and marking termly summative assignments for 210 students*
- **Teaching assistant** 2015 – 2016  
*Linear Algebra (1st year BSc)* University of Bath  
*Leading and preparing weekly tutorials for 16 students. Marking weekly formative problem sets for 30 students*

## SUPERVISION

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- **Masters Project supervision** 2026– 205  
*TU Eindhoven*  
*One ongoing sole supervised project in Mathematics.*
- **Bachelor End Project supervision** 2024– 2025  
*TU Eindhoven*  
*One jointly and one sole supervised dissertation project in Mathematics. Students obtained 9/10 and 8/10. One ongoing sole supervision.*

- **Modelling week project supervision** 2023– 2024  
TU Eindhoven  
*Academic supervisor for one week intensive modelling project with industry (Sioux and Canon Production Printing)*
- **MSc dissertation supervision** May – August 2023  
University of Oxford  
*One sole and one jointly supervised dissertation projects on MSc in Mathematical Modelling and Scientific Computing. Students obtained Distinction and Pass.*
- **Group MSc project** January – March 2023  
University of Oxford  
*Designing, supervising and mentoring 5 MSc students through an 8 week project. Marking oral and written presentations.*
- **MSc project supervision** Summer 2020 and 2021  
University of Edinburgh  
*Sole supervisor for 3× students on Computational and Applied Mathematics MSc and 2× Operational Research MSc projects. Students obtained Distinction (×2), Merit (×2), and Pass.*

## LEADERSHIP

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- **Member of Eindhoven Young Academy of Engineering** September 2026 – September 2030
- **Organisation Hackathon : Data Assimilation in Firedrake** April 2026  
Rutherford Appleton Laboratory, funded by CoSeC Fellowship
- **Co-organisation Section S17: Applied and numerical linear algebra** March 2026  
GAMM Annual Meeting, Stuttgart  
*Co-organising with Marcel Schweitzer.*
- **Research semester programme co-organiser** Autumn 2025  
CWI, Amsterdam  
*Bridging Numerical Analysis and Scientific Machine Learning: Advances and Applications. 1 autumn school and 1 workshop. Co-organised with Victorita Dolean-Maini, Alexander Heinlein, Tristan van Leeuwen and Benjamin Sanderse.*
- **Mini-symposium co-organiser** June 2025  
Biennial Numerical Analysis Meeting, University of Strathclyde  
*Recent advances in numerical linear algebra with insights from scientific machine learning. Co-organised with James Jackaman*
- **Colloquium co-organiser** June 2024 –  
CASA, TU Eindhoven  
*Invited and hosted speakers, organised room bookings, publicised talks and chaired seminars.*
- **Mini-symposium co-organiser** June 2024  
SIAM Linear Algebra, Paris  
*NLA for Inverse Problems with Applications to Data Assimilation and Imaging. Co-organised with Jennifer Scott*
- **Seminar organiser** October 2022 – June 2023  
Data Science Group, University of Oxford  
*Invited and hosted speakers, organised room bookings, publicised talks and chaired seminars.*
- **Workshop co-organiser** April/July/September 2022  
Universities of Edinburgh, Bologna and KU Leuven  
*Co-organiser of 3 hybrid workshops as part of the TOC4Deep Una Europa grant, hosted at the University of Edinburgh (April), University of Bologna (July) and KU Leuven (September), <https://site.unibo.it/toc4deep/en/agenda>*
- **Workshop co-organiser** April 2022  
International Centre for Mathematical Sciences, Edinburgh  
*Recent Advances in Numerical Linear Algebra for PDEs, Optimization, and Data Assimilation Conference website*
- **Communications in Numerical Linear Algebra** September 2020 – June 2021  
Online seminar series  
*Co-founder and co-organiser of CommNLA, online seminar series for early career researchers in Numerical Linear Algebra Hosted traditional seminars, panel discussions, and industry themed sessions. 41 seminars talks to date. Between 15-40 live viewers on Zoom/YouTube per session. 140 subscribers to the YouTube channel and 3,454 views of recorded videos.*
- **Communications Officer/Secretary** October 2016 – September 2018  
University of Reading SIAM-IMA Student Chapter  
*Co-organised annual conference for over 50 PhD students from across the South West (June 2017 and May 2018). Awarded £100 additional funding to enable gender diversity of keynote speakers.*

**Trustee**

- *Reading University Students' Union*  
Served as *Deputy Chair*, 2017 – 2018.  
Represented the views of post-graduate students.  
Ensured the organisation continued to act in the best interest of its members.

**REVIEWING**


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Peer reviewed papers for journals including Quarterly Journal of the Royal Meteorological Society, BIT Numerical Mathematics, Tellus A: Dynamic Meteorology and Oceanography, Geoscientific Model Development, Computers & Operations Research, Electronic Transactions in Numerical Analysis, Numerical Linear Algebra with Applications, Journal of Computational Physics, International Journal for Numerical Methods in Engineering, Linear and Multilinear Algebra, SIAM Journal on Scientific Computing, Software X.  
Grant reviews reviewed for: Czech science foundation.

**OTHER PROFESSIONAL ACTIVITIES**

- 
- Best PhD talk judge – 29th Biennial Numerical Analysis Conference, University of Strathclyde, UK (June 2023).
  - Invited session chair – Preconditioning Conference, ICMS Edinburgh (May 2026), 29th Biennial Numerical Analysis Conference, University of Strathclyde, UK (June 2023).
  - Poster session judge – SIAM Computational Science and Engineering, Amsterdam (February 2023).
  - Careers presentation to DPhil students (University of Oxford, September 2023).
  - Panel member on doing a PhD for final year undergraduate/MSc students (University of Oxford February 2023).
  - Session chair – Householder Symposium XXI (June 2022).

**PROFESSIONAL MEMBERSHIPS**

- 
- EMS Topical Activity group on Applied and Numerical Linear Algebra and Matrix Analysis.
  - 4TU.AMI SRI 'Bridging Numerical Analysis and Machine Learning'
  - Edinburgh Mathematical Society
  - GAMM Activity Group on Optimization with Partial Differential Equations
  - GAMM Activity Group on Applied and Numerical Linear Algebra
  - UK Higher Education Academy

**OUTREACH ACTIVITIES**

- 
- Invited blog post explaining a recent paper for a non-specialist audience for the DARC blog
  - Invited talk at It's Her! Women in STEMM Summit for International Women's Day (University of Oxford, 2023).
  - Delivered a taster lecture at Piscopia Initiative Forum. (September 2020)
  - Ran online presentation and discussion sessions to families as part of the Skype a Scientist Programme. (April 2020)
  - Designed and led outreach sessions for 10 Year 8 classes at Bulmershe School, Woodley. Demonstration of how curriculum mathematics is used in real-world scenarios and research. (May and June 2019)
  - Completed University of Reading Students in Schools programme, weekly volunteering in GCSE mathematics classes. (March – July 2019)
  - Undertook school visits to promote STEM careers with 14–18 year old students. (January 2018 – June 2019)
  - Blogs about conference attendance and summarising research including: lay summary of recent paper NCEO website, article in Mathematics Today (August 2017) about SIAM Student Conference.

**TRAINING COURSES**

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| • Academic Leadershop training course (TU Eindhoven) | June – November 2025.  |
| • NERC training course Oceans in Weather and Climate | 12th – 16th March 2018 |
| • EUMETSAT/ECMWF NWP-SAF Satellite Data Assimilation | 3rd – 7th April 2017   |
| • ECMWF Data Assimilation Course                     | 27th – 31st March 2017 |
| • Met Office internal training: Using Rose and Cylc  | 9th – 10th May 2016    |

**COMPUTING**


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Highly proficient with Unix, MATLAB, Python,  $\LaTeX$   
Significant experience with high performance computing, using the Met Office Rose/Cylc system, netCDF

**LANGUAGES**


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Native English speaker, fluent in French (C1 level)