

# Andrew L. Krause

## CURRICULUM VITAE

Department of Mathematical Sciences,  
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### Education

- 2019–20 **PGCert in Teaching and Learning in Higher Education**, *University of Oxford*, UK, *Distinction*.  
2014–18 **DPhil in Mathematics**, *University of Oxford*, UK.  
2012–14 **M.S. in Mathematics, Specialization in Analysis**, *New Mexico Tech*, USA.  
2008–12 **B.S. in Mathematics and joint B.S. in Computer Science**, *New Mexico Tech*, USA, *Highest Honors*.

### Positions Held

- 2021- **Assistant Professor in Applied Mathematics**, *Department of Mathematical Sciences, University of Durham*.  
2019-21 **Departmental Lecturer in Applied Mathematics**, *Mathematical Institute, University of Oxford*.  
2017-19 **Postdoctoral Research Assistant**, *Mathematical Institute, University of Oxford*.  
2017-19 **Stipendiary Lecturer**, *Pembroke College, University of Oxford*.  
2015-16 **Stipendiary Lecturer**, *St Anne's College, University of Oxford*.  
2014-16 **Teaching Assistant/Tutor**, *Mathematical Institute, University of Oxford*.  
2014 **Technical Writing Tutor**, *Graduate Writing Center, English Department, New Mexico Tech*.  
2012–14 **Teaching Assistant**, *Mathematics Department, New Mexico Tech*.

### Publications

See [www.andrewkrause.org/research-publications](http://www.andrewkrause.org/research-publications) for journal and open access links.

#### Journal Articles

- [32] **A. L. Krause**, E. A. Gaffney, P. K. Maini, and V. Klika. Modern perspectives on near-equilibrium analysis of Turing systems. *Philosophical Transactions of the Royal Society A*. In Press.
- [31] **A. L. Krause**, Václav Klika, Philip K Maini, Denis Headon, and Eamonn A Gaffney. Isolating patterns in open reaction–diffusion systems. *Bulletin of Mathematical Biology*, 83(7):1–35, 2021.
- [30] R. A. Van Gorder, A. Kamilova, and **A. L. Krause**. Locating the baking isotherm in a Söderberg electrode: analysis of a moving thermistor model. *SIAM Journal on Applied Mathematics*, 81(4):1691–1716, 2021.
- [29] Thomas E Woolley, **A. L. Krause**, and Eamonn A Gaffney. Bespoke Turing systems. *Bulletin of Mathematical Biology*, 83(41):1–32, 2021.
- [28] R. A. Van Gorder, V. Klika, and **A. L. Krause**. Turing conditions for pattern forming systems on evolving manifolds. *Journal of Mathematical Biology*, 82(4), 2021.
- [27] **A. L. Krause**, V. Klika, J. Halatek, P. K. Grant, T. E. Woolley, N. Dalchau, and E. A. Gaffney. Turing patterning in stratified domains. *Bulletin of Mathematical Biology*, 82:136, 2020.
- [26] **A. L. Krause** and R. A. Van Gorder. A non-local cross-diffusion model of population dynamics II: exact, approximate, and numerical traveling waves in single- and multi-species populations. *Bulletin of Mathematical Biology*, 82:113, 2020.
- [25] N. P. Taylor, H. Kim, **A. L. Krause**, and R. A. Van Gorder. A non-local cross-diffusion model of population dynamics I: emergent spatial and spatiotemporal patterns. *Bulletin of Mathematical Biology*, 82:112, 2020.
- [24] J. C. Price, **A. L. Krause**, S.L. Waters, and A. J. El Haj. Predicting bone formation in MSC seeded hydrogels using experiment based mathematical modelling. *Tissue Engineering Part A*, 26(17–18):1014–1023, 2020.
- [23] R. A. Van Gorder, **A. L. Krause**, B. A. Malomed, and D. J. Kaup. Unstaggered-staggered solitons on one-and two-dimensional two-component discrete nonlinear schrödinger lattices. *Communications in Nonlinear Science and Numerical Simulation*, 85:105244, 2020.
- [22] **A. L. Krause**, V. Klika, T. E. Woolley, and E. A. Gaffney. From one pattern into another: analysis of Turing patterns in heterogeneous domains via WKBJ. *Journal of the Royal Society Interface*, 17:20190621, 2020.
- [21] M. A. R. Strobl, **A. L. Krause**, M. Damaghi, R. Gillies, A. R. A. Anderson, and P. K. Maini. Mix & match: phenotypic coexistence as a key facilitator of cancer invasion. *Bulletin of Mathematical Biology*, 82:15, 2020.

- [20] Y. Xu, **A. L. Krause**, and R. A. Van Gorder. Generalist predator dynamics under Kolmogorov versus non-Kolmogorov models. *Journal of Theoretical Biology*, 486:110060, 2020.
- [19] R. A. Van Gorder, H. Kim, and **A. L. Krause**. Diffusive instabilities and spatial patterning from the coupling of reaction-diffusion processes with stokes flow in complex domains. *Journal of Fluid Mechanics*, 877:759–823, 2019.
- [18] **A. L. Krause**, M. A. Ellis, and R. A. Van Gorder. Influence of curvature, growth, and anisotropy on the evolution of Turing patterns on growing manifolds. *Bulletin of Mathematical Biology*, 81(3):759–799, 2019.
- [17] E. F. Fussell, **A. L. Krause**, and R. A. Van Gorder. Hybrid approach to modeling spatial dynamics of systems with generalist predators. *Journal of Theoretical Biology*, 462:26–47, 2019.
- [16] R. A. Van Gorder, **A. L. Krause**, and J. A. Kwiecinski. Amplitude death criteria for coupled complex Ginzburg-Landau systems. *Nonlinear Dynamics*, 97(1):151–159, 2019.
- [15] F. Sánchez-Garduño, **A. L. Krause**, J. A. Castillo, and P. Padilla. Turing–Hopf patterns on growing domains: the torus and the sphere. *Journal of Theoretical Biology*, 481:136–150, 2019.
- [14] **A. L. Krause**, D. Beliaev, R. A. Van Gorder, and S. L. Waters. Lattice and continuum modelling of a bioactive porous tissue scaffold. *Mathematical Medicine and Biology: A Journal of the IMA*, 36(3):325–360, 2019.
- [13] **A. L. Krause**, V. Klika, T. E. Woolley, and E. A. Gaffney. Heterogeneity induces spatiotemporal oscillations in reaction-diffusion systems. *Physical Review E*, 97(5):052206, 2018.
- [12] **A. L. Krause**, L. Kurowski, K. Yawar, and R. A. Van Gorder. Stochastic epidemic metapopulation models on networks: SIS dynamics and control strategies. *Journal of Theoretical Biology*, 449:35–52, 2018.
- [11] **A. L. Krause**, A. M. Burton, N. T. Fadai, and R. A. Van Gorder. Emergent structures in reaction-advection-diffusion systems on a sphere. *Physical Review E*, 97(4):042215, 2018.
- [10] **A. L. Krause**, D. Beliaev, R. A. Van Gorder, and S. L. Waters. Bifurcations and dynamics emergent from lattice and continuum models of bioactive porous media. *International Journal of Bifurcation and Chaos*, 28(11):1830037, 2018.
- [9] V. Klika and **A. L. Krause**. Beyond Onsager-Casimir relations: shared dependence of phenomenological coefficients on state variables. *The Journal of Physical Chemistry Letters*, 9:7021–7025, 2018.
- [8] R. M. Eide, **A. L. Krause**, N. T. Fadai, and R. A. Van Gorder. Predator-prey-subsidy population dynamics on stepping-stone domains with dispersal delays. *Journal of Theoretical Biology*, 451:19–34, 2018.
- [7] R. A. Van Gorder, **A. L. Krause**, F. Brosa Planella, and A. M. Burton. Coupled complex Ginzburg-Landau systems with saturable nonlinearity and asymmetric cross-phase modulation. *Annals of Physics*, 396:397–428, 2018.
- [6] J. A. Kwiecinski, A. Kovacs, **A. L. Krause**, F. Brosa Planella, and R. A. Van Gorder. Chaotic dynamics in the planar gravitational many-body problem with rigid body rotations. *International Journal of Bifurcation and Chaos*, 28(05):1830013, 2018.
- [5] J. A. Kwiecinski, **A. L. Krause**, and R. A. Van Gorder. Effects of tidal torques on 1i/2017 U1 (‘Oumuamua). *Icarus*, 311:170–174, 2018.
- [4] L. Kurowski, **A. L. Krause**, H. Mizuguchi, P. Grindrod, and R. A. Van Gorder. Two-species migration and clustering in two-dimensional domains. *Bulletin of Mathematical Biology*, 79(10):2302–2333, 2017.
- [3] A. Bassett, **A. L. Krause**, and R. A. Van Gorder. Continuous dispersal in a model of predator-prey-subsidy population dynamics. *Ecological Modelling*, 354:115–122, 2017.
- [2] **A. Krause**, M. Lewis, and B. Wang. Dynamics of the non-autonomous stochastic p-laplace equation driven by multiplicative noise. *Applied Mathematics and Computation*, 246:365–376, 2014.
- [1] **A. Krause** and B. Wang. Pullback attractors of non-autonomous stochastic degenerate parabolic equations on unbounded domains. *Journal of Mathematical Analysis and Applications*, 417(2):1018–1038, 2014.
- [Submitted Preprints \(Available Upon Request\)](#)
- [P1] J. S. Ritchie, **A. L. Krause**, and R. A. Van Gorder. Pattern formation from hyperbolic reaction-diffusion systems on manifolds.

## Editorial Work

- 2020-21 **Recent Progress and Open Frontiers in Turing's Theory of Morphogenesis**, Theme Issue of the *Philosophical Transactions of the Royal Society A*.  
Guest edited theme issue with Vaclav Klika, Eamonn Gaffney, and Philip Maini. In progress; to be published in 2021.

## Teaching Experience

- Training & Professional Endorsements:** Postgraduate Certificate in Teaching and learning in Higher Education (2020); Fellow of the Higher Education Academy (2021)
- 2014-20 **Oxford Tutoring/Class Teaching**, *Pembroke College, St Anne's College, Mathematical Institute*.  
**College Teaching (2-3 students/tutorial):** Introductory Calculus, Multivariable Calculus, Geometry, Dynamics, Differential Equations 1 and 2, Quantum Theory, Fluids and Waves, Statistics, Special Relativity, Integral Transforms, Modelling in Mathematical Biology; **Departmental (~10 students/class):** Topics in Fluid Mechanics, Further Mathematical Biology, Mathematical Physiology, Applied Partial Differential Equations, Mathematical Methods, Further Mathematical Methods, Networks, Stochastic Modelling of Biological Processes; **Doctoral Training Centre Demonstrating (~20 DPhil students/class):** Systems Medicine/Mathematical Biology
- 2014-20 **Oxford Lecturing**, *Mathematical Institute, Oriel College*.  
**Departmental Lectures (~25 MSc students):** Supplementary Applied Mathematics, Further Mathematical Methods, Mathematical Physiology (Guest lecturing); **Summer Lecture Course at Oriel (~50 students):** Numerical Analysis & Image Processing
- 2012-14 **New Mexico Tech Teaching**, *New Mexico Tech*.  
**Mathematics Labs (~20 students/class):** Linear Algebra, Ordinary Differential Equations; **Lecturing (~40 students):** Trigonometry, Calculus I; **Tutoring (individuals):** All Undergrad Mathematics Courses; Thesis/Dissertation Writing; Computer Science: Analysis of Algorithms, Discrete Mathematics, Formal Languages and Automata

## Student Supervision

### Oxford Masters in Mathematical Modelling and Scientific Computing Theses

- 2021 **Alec Sargood**, *Gene Expression Time Delays in Reaction-Diffusion Systems*.  
Co-supervised with Eamonn Gaffney
- 2021 **Chenyuan Wang**, *Spatial Heterogeneity in Reaction-Chemotaxis Systems*.  
Co-supervised with Eamonn Gaffney
- 2020 **William Dash**, *Distributed Delay in Reaction-Diffusion Systems*.  
Co-supervised with Eamonn Gaffney
- 2020 **Claudia Serrano**, *Localisation of Turing Patterning in Discrete Heterogeneous Media*.  
Co-supervised with Eamonn Gaffney, Awarded Distinction
- 2019 **Anna Maria Riera Escandell**, *Distributed Control of Swarm Robotic Systems in Crowded Environments*.  
Co-supervised with Radek Erban
- 2018 **Steven Cochrane**, *Self-Organized Formations of Groups of Autonomous Robots and Drones*.  
Co-supervised with Radek Erban, Awarded Distinction
- 2018 **Yifang Xu**, *Dynamics from Generalist Predator Models [20]*.  
Co-supervised with Robert Van Gorder
- 2017 **Steffen Ridderbusch**, *Mean Exit Time of Crowded Robots Modelled by Velocity Jump Processes*.  
Co-supervised with Radek Erban and Maria Bruna, Awarded Distinction
- 2017 **Ragna Eide**, *Predator-Prey-Subsidy Dynamics on Networks with Temporal and Spatial Obstructions [8]*.  
Co-supervised with Robert Van Gorder and Nabil Fadai, Awarded Distinction
- 2017 **Wanjing Jiang**, *Turing Instabilities in Reaction-Diffusion Systems on Networks*.  
Co-supervised with Robert Van Gorder
- 2016 **Arjen Aerts**, *Optimising Swarm Dynamics in a Simple Coverage Task*.  
Co-supervised with Radek Erban and Tamsin Lee

### Oxford Third & Fourth Year Undergraduate Dissertations

- 2017-18 **Meredith Ellis**, *Turing Instabilities in Reaction-Diffusion Systems on Surfaces [18]*.  
Part C, co-supervised with Robert Van Gorder, Awarded Distinction
- 2017-18 **Elizabeth Fussell**, *Continuum, Discrete, and Hybrid Models in Population Ecology [17]*.  
Part C, co-supervised with Robert Van Gorder, Awarded Distinction
- 2017-18 **Carmel Black**, *Epidemic Metapopulation Models for SIS Dynamics on Time Dependent and Random Networks*.  
Part C, co-supervised with Robert Van Gorder, Awarded Distinction

- 2017-18 **Hyunyeon (Belle) Kim**, *Turing Instabilities in Reaction-Advection-Diffusion Systems* [19].  
Part B, co-supervised with Robert Van Gorder, Awarded Distinction
- 2016-17 **Lawrence Kurowski**, *Control of Stochastic SIS Contagions on Networks* [12].  
Part B, co-supervised with Robert Van Gorder, Awarded Distinction
- Short Projects**
- 2021 **A. Ó hEachteirn**, *A mathematical model of nanoparticle transport and clearance in the murine lymph node*.  
SABS CDT Short Project (DPhil), co-supervised with Eamonn Gaffney and Mark Coles
- 2021 **C. Evensen, A. Kenny, X. Liang, A. Peard, A. Sargood**, *Chimeras in Fragmented Landscapes*.  
Oxford MMSC Case Study
- 2020 **B. Fellows**, *Integral Projection Models and Matrix Projection Models*.  
Oxford Undergraduate Summer Project, co-supervised with Eamonn Gaffney and Steven White
- 2020 **A. Bowes**, *Plankton-Oxygen Dynamics in Realistic Climate Change Scenarios*.  
Oxford OMMS Dissertation
- 2020 **A. Knight**, *Impacts of Climate Change on Temperature-Dependent Sex Ratios*.  
Oxford Part C Dissertation
- 2020 **G. Aliatimis, T. Baggio, C. Gormezano, M. Meier, & J. Noonan**, *Stochastic Population Dynamics: Oscillations and Chaos in Multitrophic Ecosystems*.  
Oxford MMSC Case Study
- 2019 **X. Cui, H. Hurst, J. Hyde, J.B. Liu, A. M. Riera, & R. Sherbo**, *Chaos in Tritrophic Food Webs*.  
Oxford MMSC Case Study
- 2018 **O. Bamford, N. Barton, S. Cochrane, A. Grusovin, & Y. Wu**, *Chimeras in Spatial Population Ecology*.  
Oxford MMSC Case Study
- 2018 **G. Fletcher & I. Kearney**, *Nonlinear Schrödinger Equations on Manifolds*.  
Oxford Undergraduate Summer Project
- 2018 **C. Hutchings & D. Nieuwerf**, *Stabilization of Chaos in Tritrophic Food Webs*.  
Oxford Undergraduate Summer Project
- 2016 **L. Kurowski**, *Two-Species Migration and Clustering in Two-Dimensional Domains* [4].  
Oxford Undergraduate Summer Project, co-supervised with Robert Van Gorder
- 2016 **A. Bassett**, *Continuous Dispersal in a Model of Predator-Prey-Subsidy Population Dynamics* [3].  
Oxford Undergraduate Summer Project, co-supervised with Robert Van Gorder
- 2013-14 **M. A. Lewis**, *Dynamics of the Non-Autonomous Stochastic  $p$ -Laplace equation Driven by Multiplicative Noise* [2].  
New Mexico Tech Undergraduate Project, co-supervised with Bixiang Wang

## Professional Service

### Journal Reviewing.

I take review work seriously and strive to provide thorough and constructive comments, while respecting differences in scientific perspectives. I have reviewed for the following journals: *Applied Mathematics and Computation*, *Applied Sciences*, *Biological Cybernetics*, *Biophysical Chemistry*, *Bulletin of Mathematical Biology*, *Chaos*, *Discrete and Continuous Dynamical Systems Series S*, *Dynamics of Partial Differential Equations*, *Entropy*, *IMA Journal of Applied Mathematics*, *Journal of Biological Dynamics*, *Journal of Contemporary Mathematical Analysis*, *Journal of Engineering Mathematics*, *Journal of Mathematical Biology*, *Journal of Nonlinear Science*, *Mathematics*, *Mathematics and Computers in Simulation*, *Nonlinearity*, *Physics Letters A*, *Scientific Reports*, *SIAM Journal on Applied Dynamical Systems*, *Studies in Applied Mathematics*, *Theoretical Biology and Medical Modelling*, & *Zeitschrift für Naturforschung A*.

### Book Reviews.

I have written three book reviews published by the Mathematical Association of America; details on my website.

### Admissions, Oxford.

Interviewed undergraduate students for St Anne's College (2016), Pembroke College (2017, 2018, 2019), and interviews/admissions work for the Oxford Masters in Mathematical Sciences (2019, 2020) and the Oxford Masters in Mathematical Modelling and Scientific Computing (2019, 2020, 2021).

### Examining, Oxford.

Examined lectured courses and short projects (MMSC Case Studies, third and fourth year undergraduate dissertations), internal DPhil confirmation exams, and been the internal examiner for a DPhil Thesis in Mathematical Biology.

- 2011-14 **Mathematics Department Seminars, New Mexico Tech.**

Coordinated three internal seminars for the Mathematics department.

## Conferences & Talks

### Invited Talks

- 9/2021 **Celebrating Alan Turing's work in Mathematical Biology (Upcoming)**, *University of Sheffield, UK*.  
TBA
- 9/2021 **ICMS workshop on Diffusive systems: pattern formation, bifurcations, and biological applications (Upcoming)**, *UK (Virtual)*.  
Recent Progress and Open Frontiers in Turing-Type Morphogenesis
- 5/2021 **Oxford Invariants Society, UK (Virtual)**.  
Turing's Theory of Morphogenesis: Teaching, Research, and Public Understanding (*with Natasha Ellison*)
- 5/2021 **SIAM Applications of Dynamical Systems, US (Virtual)**.  
*Minisymposium: Bulk and Surface Diffusion on Membranes*  
Turing Patterning in Stratified Domains
- 5/2021 **PIMS Workshop on New Trends in Localized Patterns in PDEs, Canada (Virtual)**.  
Recent Progress and Open Frontiers in Turing-Type Morphogenesis
- 3/2021 **Mathematical Biology Seminar, Iowa State University, US (Virtual)**.  
Recent Progress & Open Frontiers in Turing-Type Morphogenesis
- 12/2020 **Applied Mathematics Colloquium, University of Sheffield, UK (Virtual)**.  
Recent Progress & Open Frontiers in Turing-Type Morphogenesis
- 2/2020 **Nottingham Centre for Mathematical Medicine and Biology Seminar, University of Nottingham, UK**.  
Heterogeneity in Space and Time: Novel Dispersion Relations in Morphogenesis
- 11/2019 **Warwick Applied Mathematics Seminar, University of Warwick, UK**.  
Heterogeneity in Space and Time: Novel Dispersion Relations in Morphogenesis
- 10/2019 **Leicester Applied Mathematics Seminar, University of Leicester, UK**.  
Heterogeneity in Space and Time: Novel Dispersion Relations in Morphogenesis
- 6/2019 **Waves Côte d'Azur, Université Côte d'Azur, Nice, France**.  
Reaction-Diffusion Systems on Structured and Evolving Manifolds
- 5/2019 **SIAM Applications of Dynamical Systems, Snowbird, Utah, USA**.  
*Minisymposium: Understanding Spatiotemporal Dynamics through Analytical Approaches*  
Pattern Formation in Bulk-Surface Reaction-Diffusion Systems & Non-Canonical Dispersion Relations
- 4/2019 **Mathematical Biology Seminar, Institute of Mathematics of the Czech Academy of Sciences, Prague, Czech Republic**.  
Instabilities in Morphogenesis: Reaction-diffusion systems in complex and evolving domains
- 12/2018 **Mathematics Colloquium, New Mexico Tech, USA**.  
Spatiotemporal Patterning in Biology and Physics
- 12/2018 **Applied Mathematics Colloquium, University of Cardiff, UK**.  
Some Spatiotemporal Phenomena in Biological and Physical Media
- 12/2018 **New Frontiers in Pattern Formation Workshop, University of Cardiff, UK**.  
Morphogenesis is Nonlinear and Nonlocal: Limitations of Turing mechanisms and speculation on how to overcome them
- 7/2014 **AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain**.  
Existence and Upper Semicontinuity of Pullback Attractors for Non-autonomous Stochastic Degenerate Parabolic Equations on Unbounded Domains

### Organized Minisymposia & Seminars

- 8/2020 **Dynamics Days Digital, Virtual**.  
Organised Minisymposium *New Twists on Reaction-Diffusion Phenomena*
- 4/2019 **British Applied Mathematics Colloquium, University of Bath, UK**.  
Organised Minisymposium *Network dynamical systems in mechanics and biology* with Alexander Erlich; gave talk entitled *Metapopulation Models in Ecology & Epidemiology*
- 3/2018 **British Applied Mathematics Colloquium, University of St Andrews, UK**.  
Organized Minisymposium *Frontiers and Challenges in Pattern Formation* with Thomas Woolley; gave talk entitled *Emergent dynamics due to spatial heterogeneity in reaction-diffusion systems*
- 2012-14 **Analysis of PDE Seminar, New Mexico Tech, USA**.  
Organized and lectured various topics in PDE, with Ivan Avramidi from Taylor's *Partial Differential Equations*

### Contributed Talks, Posters, & Workshops

- 4/2021 **UK Grad Modelling Camp, Isaac Newton Institute, Cambridge (Virtual)**.  
Workshop (Mentor): Modelling photosensitive chlorine dioxide-iodine-malonic acid (CDIMA) reactions

- 4/2021 **British Applied Mathematics Colloquium**, *Virtual*.  
Talk: Recent Progress & Open Frontiers in Turing-Type Morphogenesis
- 9/2020 **Society for Mathematical Biology Annual Meeting**, *Virtual*.  
Talk: Matching Theory to Real Biology: Recent Progress and Open Questions in Turing's Theory of Morphogenesis
- 9/2019 **On Growth and Pattern Formation: Philip Maini's 60th Birthday Workshop**, *University of Oxford, UK*.  
Poster: Morphogenesis in Complex & Evolving Domains
- 4/2017 **British Applied Mathematics Colloquium**, *University of Surrey, UK*.  
Talk: Analysis of Lattice and Continuum Models of Bioactive Porous Media
- 3/2016 **British Applied Mathematics Colloquium**, *University of Oxford, UK*.  
Talk: A Network Model of Bioactive Porous Media
- 8/2015 **Young Researchers in Mathematics Conference**, *University of Oxford, UK*.  
Poster: Fluid-Growth Interactions in Bioactive Porous Media, 2nd Place Prize
- 3/2015 **InFoMM UK Grad Camp**, *University of Oxford, UK*.  
Workshop (Student Participant): Optimising Security Camera Placement
- 4/2014 **American Mathematical Society Western Spring Sectional Meeting**, *University of New Mexico, USA*.
- 5/2013 **Institute for Mathematics and its Applications Annual Program Year Workshop: Stochastic Modeling of Biological Processes**, *University of Minnesota, USA*.
- 4/2013 **Mathematics Association of America Southwest Section**, *New Mexico Tech, USA*.  
Poster: Existence of a Random Attractor for a Degenerate Parabolic Equation

### Internal Talks

- 3/2020 **Oxford Centre for Industrial and Applied Mathematics Seminar**, *University of Oxford, UK*.  
Heterogeneity in Space and Time: Novel Dispersion Relations in Morphogenesis
- 04/2018 **North Meets South Colloquium**, *University of Oxford, UK*.  
Emergent Dynamics due to Spatial Heterogeneity in Reaction-Diffusion Systems
- 06/2018 **Oxford Fluids Network**, *University of Oxford, UK*.  
Lattice and continuum models of bioactive porous media
- 10/2016 **Oxford Centre for Industrial and Applied Mathematics Seminar**, *University of Oxford, UK*.  
Population Dispersal in Spatially Structured Domains
- 10/2015 **Oxford Centre for Industrial and Applied Mathematics Seminar**, *University of Oxford, UK*.  
A Network Model of Bioactive Porous Media

### Awards & Funding

- 10/2020 **International Visitor Program**, *Sydney Mathematical Research Institute, University of Sydney*.  
\$7,150 (AUD); Delayed due to Covid
- 3/2020 **Mathematical Institute Award for Excellence**, *University of Oxford*.  
Recurrent salary increase; £1,500 p.a.
- 2018-20 **Student Bursaries**, *University of Oxford*.  
Departmental and College bursaries for 4 student projects; approximately £4,000 (awarded to students)
- 9/2015 **Waterson Graduate Scholarship**, *St Anne's College, University of Oxford*.  
£500
- 8/2012 **Silver & Lottery Scholarships**, *New Mexico Tech*.  
\$5,000 (USD)