

Potential PhD advisors in Dept of Mathematics & Statistics, University of Exeter



University
of Exeter

The [Department of Mathematics and Statistics](#) brings together internationally leading research in several areas of pure mathematics, applied mathematics and statistics, including number theory, arithmetic geometry, geophysical and astrophysical fluid dynamics, dynamical systems, control theory, statistical forecasting and uncertainty quantification. Our interdisciplinary research has a strong focus on applications in fields such as weather forecasting, climate science, systems biomedicine, engineering, ecology, epidemiology and natural hazards. We have close partnership with the UK Met Office as well as strong links with several Research Institutes within the University, namely the Global Systems Institute, the Living Systems Institute and the Institute for Data Science and Artificial Intelligence. A summary of our main areas of [research focus and current research projects](#) as well as some [current PhD research opportunities](#) can be found on our department website.

We have a large number of potential advisors and so have compiled this information that may be useful for individuals trying to determine who in the Department can help supervise a PhD project in their area of interest. Below are some keywords and a list of staff with research interests in these areas. We include links to staff webpages for more information and note that the latest information can be found there. Each advisor is associated to one of the following research themes though many of the advisors are capable and willing to supervise in several research themes.

GAFD: Geophysical and Astrophysical Fluid Dynamics

<https://mathematics.exeter.ac.uk/research/fluid-dynamics/>

W&C: Weather and Climate

<https://mathematics.exeter.ac.uk/research/weather-climate/>

NTAG: Number Theory, Algebra and Geometry

<https://mathematics.exeter.ac.uk/research/numbers/>

SDS: Statistics and Data Science

<https://mathematics.exeter.ac.uk/research/statistics/>

DSA: Dynamical Systems and Analysis

<https://mathematics.exeter.ac.uk/research/dynamical-systems/>

MHL: Maths of Health and Life Sciences

<https://mathematics.exeter.ac.uk/research/health-life-sciences/>

These details were last checked in March 2025. For updates and/or more details, please contact any of the staff listed on the next pages or Prof Jimmy Tseng, our Director of PGR.



[Prof Jimmy Tseng](#)

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Name	Theme	Potential supervision areas
Hamid Alemi Ardakani	GAFD	Theoretical Fluid Dynamics, Multi-symplectic Numerical Methods and Ocean Wave Forecasting, Finite Volume Methods for Hyperbolic PDEs
Demi Allen	DSA	Metric number theory, Dynamics
Julio Andrade	NTAG	Analytic number theory, Random Matrix Theory, L-functions in Function Fields
Peter Ashwin	DSA	Nonlinear dynamics, Ergodic theory, Stochastic and chaotic dynamics, Bifurcation theory, Computational modelling with applications in life and earth sciences
Robert Beare	GAFD	Boundary Layer, Meteorology, Numerical weather prediction
Vadim Biktashev	DSA	Cardiac modelling, Partial differential equations
Nigel Byott	NTAG	Algebra, and algebraic number theory, Galois module structure, Hopf-Galois theory and its connections to the Yang-Baxter Equation
Jennifer Catto	W&C	Meteorology, Climate Variability, Cyclones
Robin Chadwick	W&C	Tropical Climate, Climate Modelling, Regional Climate Change
Peter Challenor	SDS	Uncertainty quantification, climate model emulation, environmental statistics
Mat Collins	W&C	ENSO, Equatorial Waves
Peter Cox	W&C	Carbon Cycle, Climate Intervention, Tipping Points
George Datseris	DSA	Dynamical systems methodologies, Multistability and tipping in conceptual climate models, Clouds-climate interactions
Theo Economou	SDS	Environmental epidemiology, climate change and health, early warning systems
Georgios Efstathiou	GAFD	NWP, LES of atmospheric flows, Turbulence Modelling, Meteorology
Chris Ferro	SDS	Statistics, probability, forecasting, theory and methods for forecast evaluation
Pierre Friedlingstein	W&C	Carbon Cycle
Claire Foullon	GAFD	Solar Physics, Data Science, Machine Learning
Andrew Gilbert	GAFD	Waves, instabilities, vortex dynamics, MHD, dynamo theory.
Marc Goodfellow	MLH	Mathematical and computational biology
James Haywood	W&C	Aerosols, Geoengineering, Climate Intervention, Wildfires
Andrew Hillier	GAFD	Solar Physics, MHD, instabilities, turbulence
Mark Holland	DSA	Extreme Events, Ergodic theory, Dynamical systems
Henri Johnston	NTAG	Algebraic Number Theory, Iwasawa Theory
Anthony Jones	W&C	Atmospheric aerosol modelling
Tim Jupp	W&C	Aerosols, Geoengineering, Climate Intervention, Atmospheric Modelling
Mark Kelson	SDA	Health data science, Statistics, Epidemiology
Frank Kwasniok	DSA/SDS	Causal inference, Artificial Intelligence, Atmospheric Modelling, Data Science, ENSO, Extreme Weather, Forecasting, Machine Learning
Andreas Langer	NTAG	Arithmetic Geometry, Algebraic geometry
Chris Lazda	NTAG	Arithmetic Geometry, Number Theory

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Hugo Lambert	GAFD	Atmospheric Modelling, Climate Modelling, Hydrology, Data Science/Statistics, Planetary Science
Doug McNeill	W&C	Data Science/Statistics, Uncertainty Quantification, Climate Modelling
Joanne Mason	GAFD	Theoretical Fluid Dynamics, Solar Physics, Numerical Modelling
Cyril Morcrette	W&C	Machine Learning, Artificial Intelligence, Meteorology, Atmospheric Physics
Hossein Mohammadi	SDS	Uncertainty quantification, emulation, Gaussian process modelling, Sequential design of experiments, Bayesian optimisation
Chaitra Nagaraja	SDS	Timeseries analysis
Tarje Nissen-Meyer	SDS	Seismology, GIS, Data Science, Artificial Intelligence
Fiona O'Connor	W&C	Atmospheric Modelling, Atmospheric Chemistry
Mike O'Sullivan	W&C	Carbon Cycle, Atmospheric Modelling
Daniel Partridge	W&C	Aerosols, Clouds, Geoengineering
Oscar Rodriguez de Rivera Ortega	SDS	Environmental statistics, Statistical Ecology, Spatial modelling.
Mohamed Saidi	NTAG	Anabelian Geometry, Algebraic Geometry, Number Theory
James Salter	SDS	Uncertainty quantification, climate model emulation
Tony Samuel		Aperiodic Order (Mathematical Quasicrystals), Numeration Systems (Diophantine Approximations), Ergodic Theory and Fractal Geometry
Adam Scaife	W&C	NWP, Climate Variability, Seasonal Prediction
Tanja Schindler	DSA	Ergodic Theory, Dynamical Systems, Number Theory, Aperiodic Order, Fractal Geometry, Probability Theory
James Screen	W&C	Climate Variability, Climate Change, Cryosphere, Climate Modelling, Climate Prediction, Teleconnections, Atmospheric Dynamics
Jan Sieber	DSA	Nonlinear dynamics, effects of delays, tipping points, piecewise smooth dynamical systems, computations for dynamical systems
William Seviour	GAFD	Atmospheric Modelling, Climate Modelling, Cryosphere, Seasonal Prediction, Planetary Science
Jemma Shipton	GAFD	NWP, Atmospheric Modelling, Numerical Modelling
Stefan Siegert	SDS	Artificial Intelligence and machine learning for weather and climate data
Piotr Slowinski	MLH	Data Science, Dynamical Systems, Healthcare
David Stephenson	SDS	Statistical climatology, natural hazards risk estimation
Peter Stott	W&C	Attribution, Climate Communications
Magdalena Strauss	MHLS	Data Science/Statistics, applications in genomic medicine, interdisciplinary work
Stephen Thomson	GAFD	Atmospheric Modelling, Climate Modelling, Machine Learning, Planetary Science
John Thuburn	GAFD	Numerical methods for atmospheric modelling; Physics-Dynamics Coupling in atmospheric models.
Krasimira Tsaneva	MLH	Modelling and Data Analytics for Health and Life Sciences, Dynamical systems

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Jimmy Tseng	NTAG	Homogeneous Dynamics, Ergodic Theory, links to Geometry and Analytic Number Theory
Geoffrey Vallis	GAFD	Theoretical Fluid Dynamics, Atmospheric Modelling, MJO
Margaritis Voliotis	MLH	Mathematical Life Sciences. Statistics
Victoria Volodina	SDS	Uncertainty quantification, climate model emulation
Jamie Walker	MLH	Dynamical Systems, Modelling in Neuroendocrinology
Kirsty Wan	MLH	Mathematical Biology, Low Reynolds Number Fluid Dynamics, active matter, cell motility
Helen Webster	W&C	Atmospheric dispersion modelling, source inversion techniques, aviation, hazards
Kyle Wedgwood	MLH	Dynamical Systems in Biology, Diabetes, Pattern Formation
Mark Williamson	W&C	Carbon cycle, Atmospheric Modelling, Tipping Points
Beth Wingate	GAFD	Theoretical Fluid Dynamics, NWP, Numerical Modelling
Ben Youngman	SDS	Statistical modelling of environmental extremes

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[Dr Hamid Alemi Ardakani](#)



[Prof Robert Beare](#)



[Dr Robin Chadwick](#)



[Dr Demi Allen](#)



[Prof Vadim Biktashev](#)



[Prof Peter Challenor](#)



[Dr Julio Andrade](#)



[Prof Nigel Byott](#)



[Prof Mat Collins](#)



[Prof Peter Ashwin](#)



[Prof Jennifer Catto](#)



[Prof Peter Cox](#)

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[Dr George Datseris](#)



[Prof Pierre Friedlingstein](#)



[Prof James Haywood](#)



[Prof Theo Economou](#)



[Dr Claire Foullon](#)



[Prof Andrew Hillier](#)



[Dr Georgios Efstathiou](#)



[Prof Andrew Gilbert](#)



[Prof Mark Holland](#)



[Dr Chris Ferro](#)



[Prof Marc Goodfellow](#)



[Dr Henri Johnston](#)

Potential PhD advisors in Dept of Mathematics & Statistics, University of Exeter



Dr Tim Jupp



Prof Andreas Langer



Dr Cyril Morcrette



Prof Mark Kelson



Dr Chris Lazda



Dr Hossein Mohammadi



Dr Frank Kwasniok



Dr Joanne Mason



Dr Chaitra Nagaraja



Dr Hugo Lambert



Dr Doug McNeill



Prof Tarje Nissen-Meyer

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[Dr Fiona O'Connor](#)



[Prof Mohamed Saidi](#)



[Dr Tanja Schindler](#)



[Dr Mike O'Sullivan](#)



[Dr James Salter](#)



[Prof James Screen](#)



[Dr Daniel Partridge](#)



[Dr Tony Samuel](#)



[Prof Jan Sieber](#)



[Dr Oscar Rodriguez De Rivera Ortega](#)



[Prof Adam Scaife](#)



[Dr William Seviour](#)

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[Dr Jemma Shipton](#)



[Prof Peter Stott](#)



[Prof Krasimira Tsaneva](#)



[Dr Stefan Siegert](#)



[Dr Magdalena Strauss](#)



[Prof Jimmy Tseng](#)



[Dr Piotr Slowinski](#)



[Dr Stephen Thomson](#)



[Prof Geoffrey Vallis](#)



[Prof David Stephenson](#)



[Prof John Thuburn](#)



[Dr Margaritis Voliotis](#)

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[Dr Victoria Volodina](#)



[Dr Kyle Wedgwood](#)



[Dr Jamie Walker](#)



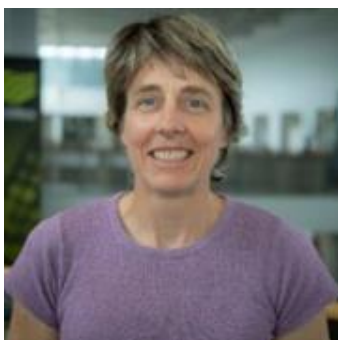
[Dr Mark Williamson](#)



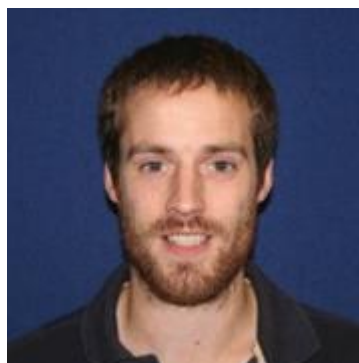
[Prof Kirsty Wan](#)



[Prof Beth Wingate](#)



[Dr Helen Webster](#)



[Dr Ben Youngman](#)