STOR-i Conference: 11ᵗʰ – 12ᵗʰ January 2024

Speaker Biographies

Day 1

Paul Harper, Cardiff University

Paul is a Professor of Operational Research in the School of Mathematics at Cardiff University and Director of the Wales Data Nation Accelerator. His research interests are in stochastic modelling, including queueing theory, simulation methods, optimisation and game theory, and applications to healthcare. He is an elected Fellow of the Learned Society of Wales (FLSW), recipient of the 'Companion of OR' Award and the Lyn Thomas Impact Medal (from The OR Society) and was a panel member of the UK Government's Research Excellence Framework (REF2021) for Mathematical Sciences.

Hugo Winter, Moody's RMS - STOR-i Alumni

Hugo is currently a Lead Cyclone Hazard Modeller at Moody's RMS. He is working on the development of catastrophe models that are used in the insurance industry to estimate the risks associated with natural hazards. Specifically, he is developing models for extreme winds caused by tropical cyclones using extreme value statistics. Hugo was at STOR-i from 2011-2015 undertaking a PhD called 'Extreme value modelling of heatwaves' supervised by Jon Tawn and Simon Brown from the Met Office. After leaving Lancaster Hugo worked at EDF Energy until 2020 using extreme value statistics to undertake hazard analyses for energy infrastructure in the UK and helping to supervise two STOR-i PhD students.

Christina Pagel, University College London

Christina Pagel is Professor of Operational Research and Director at University College London, using mathematical tools to support delivery of health services. She runs a large programme of research to understand and communicate outcomes in congenital heart disease. She is also co-director of the new UCL CHIMERA hub where researchers will examine anonymised data to develop a better understanding of how people's physiology changes during intensive care. Since May 2020, she has been a member of Independent SAGE, a group of scientists working together to provide independent scientific advice on the COVID-19 crisis. This has included giving weekly public live-streamed briefings on the latest covid situation and research in the UK and abroad and many interviews in print and broadcast media, nationally and internationally.

Roberto Rossi, University of Edinburgh

Roberto Rossi, B.Eng. (Bologna), M.Eng. (Bologna), Ph.D. (Cork), holds the Chair of Uncertainty Modelling at the University of Edinburgh (UK) and he is a Fellow of the UK Higher Education Academy. Formerly, he was Reader in Management Science (2015-19) and Lecturer in Management Science (2012-15) at the University of Edinburgh, Assistant Professor (2009-11) at Wageningen University (NL) and, before that, he spent four years at the Cork Constraint Computation Centre (now Insight Centre for Data Analytics). His research focuses on automated reasoning and on the development of systems that aim to be robust and scalable in such a way as to enable computers to act intelligently in increasingly complex real world settings and in uncertain environments. He conducts cross-disciplinary methodological as well as applied research in decision making under uncertainty, artificial intelligence, operational research and supply chain management. He has over fifty intellectual contributions in flagship international journals and conference proceedings; he attracted research council as well as industry funding in excess of 1.5 million EUR. (personal website: https://gwr3n.github.io/).

Maddie Smith, STOR-i PhD student

Maddie Smith is a 3rd year STOR-i PhD student whose research specialises in forecast combination and Dynamic Linear Models, supervised by Dr Nicos Pavlidis and Dr Adam Sykulski. In particular, Maddie is interested in applying adaptive discount factor selection procedures to the forecast combination problem to deal with sudden changes in forecaster quality, and methods for dealing with highly correlated forecasters. Before joining STOR-i, Maddie completed an MSci degree in Theoretical Physics with Mathematics at Lancaster University, contributing to a review on the prospects for quarkonium studies at the CERN Large Hadron Collider in her final year. Maddie has also recently started work on estimating properties of coupled oscillations in the dual frequency-plane.

Matthew Davison, STOR-i PhD student

Matthew is a third-year PhD student at Lancaster University, supervised by Ahmed Kheiri, Konstantinos Zografos (Lancaster University Management School) and Alexandre Jacquillat (MIT Sloan). His research interests include modelling and solving large-scale optimisation problems. In particular, Matthew's research focuses on scheduling problems in the context of higher education.

Niall Adams, Imperial College London

Niall Adams is Professor of Statistics in the Mathematics department of Imperial College London. Since 2021, he has been Director of Research and Development for Models with CompareTheMarket. From 2011 to 2016, he was seconded to the Heilbronn Institute for Mathematical Research at the University of Bristol. His research interests include methodological aspects of streaming data analysis, change-point detection and machine learning, and practical applications including cyber-security and consumer finance.

Rhian Davies, Jumping Rivers – STOR-i Alumni

Rhian is data science consultant at Jumping Rivers, specialising in the development of statistical software. She works across many sectors, including energy, environmental and healthcare. As an educator she has delivered hundreds of courses and workshops across the U.K. She volunteers as a statistical ambassador for the Royal Statistical Society, engaging with the media, schools and wider public to improve statistical literacy.

Roland Langrock, Universität Bielefeld

Roland is a Professor of Statistics and Data Analysis at Bielefeld University, where he also is the speaker of the interdisciplinary Centre for Statistics and the Director of Teaching in the Department of Business Administration and Economics. Before coming to Bielefeld in 2015, he studied Mathematics in Heidelberg (2003-2008), did a PhD in Economics in Göttingen (2008-2011), and from 2011-2015 spent four years at the University of St Andrews in Scotland, initially as a postdoc and later as a Lecturer in Statistics. Roland's research focuses on statistical method development for state-switching time series models, in particular hidden Markov models, as well as their applications primarily in ecology, sports and economics.

Day 2

Chris Dent, University of Edinburgh

Chris Dent is Professor of Industrial Mathematics at the University of Edinburgh, and a Fellow at the Alan Turing Institute. He has broad interests across energy and infrastructure analysis, climate resilience, and decision support in public policy. He currently works on a number of industrial innovation projects, and holds a KE Catalyst grant from the International Centre for Mathematical Sciences to support the Global Power System Transformation consortium with their research agenda in system planning, control rooms, and AI. In 2021-2 he was Technical Lead for the National Digital Twin programme Climate Resilience Demonstrator. As well as working in a School of Mathematics, he is also a Chartered Engineer.

Thomas Newman, STOR-i PhD student

Thomas Newman is a 2nd year Ph.D. student at Lancaster University whose research focuses on Bayesian inversion problems. His work is a collaboration between the STOR-i CDT and Shell supervised by Prof. Christopher Nemeth (Department of Mathematics and Statistics), Prof. Philip Jonathan (Department of Mathematics and Statistics and Shell), and Dr. Matthew Jones (Shell). His interests lie in developing and implementing scalable computationally efficient gradient-based MCMC methods and non-linear state-space models.

Katie Howgate, STOR-i PhD student

Katie Howgate, a second-year PhD student within STOR-i, is exploring the dynamic field of markdown pricing in retail. Katie's journey in statistics began after her mathematics degree from Lancaster University and a brief subsequent career in credit risk analytics before returning to do a PhD. Supervised by Chris Nemeth and Jamie Fairbrother, her research focuses on developing statistical models to optimize product pricing strategies under uncertainty. Her work primarily involves Gaussian process models and risk-sensitive optimization techniques, including conditional value at risk. In collaboration with Tesco, Katie's project focuses on achieving a balance between maximizing profits and reducing waste in retail pricing, whilst navigating the challenges posed by limited data availability and data censoring.

Carla Pinkney, STOR-i PhD student

Carla is a second year PhD student jointly supervised by Dr Alex Gibberd and Dr Carolina Euan (Department of Mathematics and Statistics, Lancaster University) and Professor Ali Shojaie (Department of Biostatistics, University of Washington). Carla's research focusses on advances in spectral analysis for neuroscience spike train data. In particular, she is interested in estimation methods for high dimensional inverse spectral density matrices in the point-process setting. These estimates can be used to infer networks of neuronal interactions.

Ben Lowery, STOR-i PhD student

Ben Lowery is a second-year PhD student at the STOR-i CDT within Lancaster University. His research focuses on Inventory Control, with particular interest in stochastic inventory policies during the end-of-sales-life. Prior to joining STOR-i, he received a BSc and MSc in Mathematics from the University of Hull.

Ruth Misener, Imperial College London

Professor Ruth Misener is the BASF / Royal Academy of Engineering (RAEng) Research Chair in Data-Driven Optimisation (2022-27) at the Imperial Department of Computing. She has previously held an EPSRC Early Career Fellowship (2017 - 2022) and an RAEng Research Fellowship (2012 - 2017). Foundations of her research are in numerical optimisation and computational software. Her applications focus on optimisation challenges arising in industry, e.g. scheduling in manufacturing or experimental design in chemicals research. Ruth also works at the interface of operations research and machine learning. Ruth received the 2017 Sir George Macfarlane Medal as the overall winner of the RAEng Engineers Trust Young Engineer of the Year Award. She has given 2 named lectures (2023 Saville Lecture at Princeton, 2018 Mellichamp Lecture at GATech), received 5 best paper awards (2013 *Journal of Global Optimization* Best Paper, 2014 David Smith Award from the American Institute of Chemical Engineers, 2020 *International Conference on Autonomous Agents & Multi-Agent Systems* Best Demo, 2021 *Conference on the Integration of Constraint Programming, Artificial Intelligence, & Operations Research* Best Paper, 2021 Rosenbrock Prize for the best paper in *Optimization & Engineering*) and her Optimisation and Machine Learning Toolkit (OMLT) won the 2022 COIN-OR Cup as the "best contribution to open-source operations research software development".