Monday 9 February (morning session)

8:00 – 8:30	Registration				
8:30 – 9:00	Conference opening				
9:00 – 9:50	**Plenary talk : Jennifer Flegg** Multiscale modelling in biology, with applications to malaria *Chair : Mary Myerscough*				
	Room 1 and 2 *Chair :* *Douglas Brumley*	**Room 3** *Chair:* *Courtney Quinn*	**Room 4** *Chair:* *Steve Taylor*	**Room 5** *Chair :* *Stephen Davis*	**Room 6** *Chair : Catherine Sweatman*
10:00 – 10:20	**Jessica Crawshaw** The whole baby PK/PD model of anti-VEGF therapy that big pharma doesn't want you to see	**David John Warwick Simpson** Peculiar periodicity paths and other patterns in the parameter space of piecewise-linear maps.	**David Jenkins** Coke reactivity with CO2 and H2O and impacts on coke microstructure	**Ruarai Tobin*** The role of antibody-mediated immunity in shaping the seasonality of respiratory viruses	**Aidan Patterson*** An Agent-Based Approach to Modelling Antimicrobial Interactions with Bacterial Populations
10:20 – 10:40	**Mary Myerscough** Heart attacks and strokes; why (mathematical) cholesterol matters	**Samuel Bolduc-St-Aubin*** From Resonance to Chaos in a Delayed-Feedback Model of ENSO	**Edward Bissaker** Quantitative approaches to improve coal blending models for high-performance ironmaking	**Sadia Tasnim Sristy*** Epidemiology of Plasmodium knowlesi Malaria in Sabah, Malaysia (2009-2023): case incidence and diagnostic performance	**Cecilia Olivesi*** An agent-based and blood flow model of vascularisation in endometriotic lesions.
10:40 – 11:00	**Tristen Jackson*** Mathematical Modelling of Retinal Immune Cells During Inflammation		**Matthias Kabel** Rapid Offline Training for Deep Material Networks: A Displacement-Based Laminate Formulation and Novel Sampling for Fatigue Modeling	**James McCaw** Linking intra-host parasite dynamics, transmission and epidemiological dynamics to evaluate the public health utility of alternative drug regimens for Falciparum malaria.	**Neda Khodabakhsh Joniani*** Intercellular Forces Regulate Stratification and Turnover in a Two-Layer Corneal Epithelium
11:00 – 11:20	Morning tea - Grand Ballroom				

Monday 9 February (morning session continued)

	Room 1 and 2 *Chair :* *Maud El-Hachem*	**Room 3** *Chair:* *David Simpson*	**Room 4** *Chair:* *David Jenkins*	**Room 5** *Chair :* *Bronwyn Hajek*	**Room 6** *Chair :* *Larry Forbes*
11:20 – 11:40	**Matthew Simpson** Data-informed model reduction for inference and prediction from non-identifiable models	**Joe Steele*** Modelling and Analysis of Semiconductor Lasers Subject to Fibre Bragg Grating Feedback	**Pierluigi Cesana** Equilibrium and Interaction Regimes in Mixed Disclination–Dislocation Systems	**Jacob Gentner*** Evolution of complex singularities for Burgers' equation with discontinuous initial conditions	**Matthew Walker*** A viscoplastic deposit on a vibrating plate
11:40 – 12:00	**Alexander Browning** Prediction, uncertainty, and treatment design in cancer through mathematical modelling	**Bernd Krauskopf** Devil's terraces in a conceptual climate model with periodic forcing	**Teresa Heiss-Synak** New Method for Analyzing The Hole-Structure of a Crystal: Merge Trees of Periodic Filtrations	**Scott McCue** Exponential asymptotics, dispersive waves and the KdV equation	**Siluvai Antony Selvan** Inertial particle focusing in the duct with elliptical centreline
12:00 – 12:20	**David James Warne** Efficient simulation and inference of non-Markovian stochastic biochemical reaction networks	**Hinke Osinga** Phase resetting in a system of coupled Van der Pol oscillators	**Kenji Kajiwara** Truss Structures with Mechanical Optimality Generated by Integrable Discrete Holomorphic Functions	**Dave Smith** Linearized KdV on the line with a metric graph defect	**Andrey Pototsky** The effect of self-induced Marangoni flow on polar-nematic waves in active-matter systems
12:20 – 12:40	**Elijah Foo*** Reliable model selection of ODE models in face of parameter non-identifiability	**Davide Papapicco*** Inferring critical transitions from timeseries	**Eloise Tredenick** Mathematical Modelling of bilayer cathodes that enable fast charging of lithium-ion batteries	**Philip Broadbridge** Circular solution of a Navier-Stokes system for compressible fluid with temperature-dependent viscosity	**Fiaz Ur Rehman*** Flow dynamics of a viscous fluid above granular material on a slope
12:40 – 13:00	**Patrick Grant** Predicting Buckling in Epithelial Monolayers	**Courtney Rose Quinn** Rate-induced tipping and delay: examples and challenges through the lens of a paleoclimate model		**John H Knight** Periodic soil heat flow – the phase difference between maximum heat flux and maximum temperature	**Liam Morrow** A finite element based solver for studying large scale groundwater dynamics

13:00 – 14:00	Lunch - Grand Ballroom LGBTQIA+ and allies Lunch - Level 5

Monday 9 February (afternoon session)

14:00 – 15:00	**Plenary talk : Andrew Bassom** The not-so-simple stability of a time-periodic flow *Chair : Luke Bennetts*				
	Room 1 and 2 *Chair :* *Dietmar Oelz*	**Room 3** *Chair :* *Eloise Tredenick*	**Room 4** *Chair :* *Stuart Johnston*	**Room 5** *Chair :* *Roslyn Hickson*	**Room 6** *Chair :* *Hritika Gupta*
15:00 – 15:20	**Graeme Wake** Unusual nonlocal calculus assists cancer cell growth treatments	**Andrew Axelsen*** Covariations between persistent synoptic features and Antarctic sea ice via unsupervised regression learning	**Robert Cope** Topological summary statistics for Approximate Bayesian Computation on Collective Motion models	**Matthew Berry** Effectiveness of dose-sparing against Mpox	**Ashley Hanson*** The Price of Anarchy in Strategic Queues
15:20 – 15:40	**Ying Xie** A Novel Secondary Therapeutic Strategy Combined with Antihistamines Based on Morphology-Defined Endotypes of Chronic Spontaneous Urticaria	**Noa Kraitzman** Bounding Thermal Transport in Sea Ice	**Yvonne Stokes** Modelling chemical signalling on fertilisation of the mammalian cumulus-oocyte complex.	**Rebecca Chisholm** Modelling the impact of mass drug administration on human onchocerciasis when there is suboptimal response of parasites to treatment	**Peter Gerrard Taylor** Strategic Customer Behaviour in an M/M/1 Feedback Queue
15:40 – 16:00	**Afternoon tea - Grand Ballroom**				

Monday 9 February (afternoon session continued)

	Room 1 and 2 *Chair :* *Alex Tam*	**Room 3** *Chair:* *Bernd Krauskopf*	**Room 4** *Chair:* *Phil Broadbridge*	**Room 5** *Chair :* *Rebecca Chisholm*	**Room 6** *Chair :* *Peter Heiss Synak*
16:00 – 16:20	**Brendan Florio** Tendon adaptation through damage and repair mechanisms	**Ofri Adiv*** Classification of Energy Surfaces in a Coupled Light-Matter System	**Justin Tzou** Curved vegetation stripes on a curved terrain	**Oliver Eales** Developing on-farm management strategies for reducing H5N1 transmission in dairy cattle	**Sergey A. Suslov** Flow in a rotating film: how far can one go without DNS?
16:20 – 16:40	**Kailas Honasoge*** Evolutionary game theory for better environmental decisions	**Priya Subramanian** Mode interactions between two length scales	**Michael Dallaston** The Fisher-KPP equation with mass conservation at a moving boundary	**Michael Plank** Is it over yet? Estimation of end-of-outbreak probabilities	**Sami Al-Izzi** Symmetry based methods of active mechanics
16:40 – 17:00	**Kevin Downard** Prime Amino Acids - Number Theory Meets Protein Evolution	**Siwen Deng** A non-radially symmetric MFPT problem with a small trap undergoing small amplitude rotation	**David Plenty*** Non-Classical Symmetries and Non-Lie Solutions with Biological Growth Rate Functions to a Class of Nonlinear Reaction-Diffusion Equations	**Vincent Lomas*** Integrating Ethnic Heterogeneity into Infectious Disease Transmission Models	**Caitriona Lightbody*** Draw resonance in microstructured optical fibre fabrication
17:00 – 17:20	**Maud El-Hachem** From whales to mosquitoes: delayed recruitment models with density dependence and competition	**Kaname Matsue** A Design of Distributed Controllers for Linear Nonautonomous Multi-Agant Systems	**Yoshimichi Hayashi*** Mathematical Modeling and Numerical Simulation of Localized Bioconvection	**Daniel Longmuir*** When hosts gather: how extreme seasonal aggregation affects epidemiological outcomes	**Peter Heiss Synak** Taming Non-Manifold Meshes and Simulating Bubbles with Colours
17:20 – 17:40	**Sungrim Seirin-Lee** Decoding Cell Geometry: Insights from Mathematical Modeling Based on Imaging Data	**Fumito Mori** Coupling estimation in synchronized oscillators using spike timing data	**Christopher Lustri** Stokes' Phenomenon Within a Small-Time Boundary Layer	**Matt Ryan** How BaD can it be? Model identifiability for behaviour and disease models	**Tharindi Thathsarani Amarathunge Achchige*** Pattern formation in ionic liquids: two-phase thin-film model
18:30 – 20:30	**Student Social Event - Grease Monkey, 19 Lonsdale St, Braddon**				