

3MC+PIMS+ICMS Winter school - Multiscale Modeling: Infectious Diseases, Cancer and Treatments

Monday 2 – Friday 13 December 2024

The programme is subject to change. All times are Greenwich Mean Time (GMT).

MONDAY 2 DECEMBER 2024	
9.00 – 9.20	Registration and Refreshments
9.20 – 9.30	Welcome and Housekeeping
9.30 – 11.00	Gibin Powthall , Swansea University <i>Mathematical Oncology: Introduction to agent-based modelling and multi-scale approach</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Gibin Powthall , Swansea University <i>Mathematical Oncology: Introduction to agent-based modelling and multi-scale approach (continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Tutorial 1
15.30 – 17.00	Practical 1
17.00 – 18.00	Welcome Reception, hosted at ICMS

TUESDAY 3 DECEMBER 2024	
9.30 – 11.00	Ruth Bowness , University of Bath <i>Modelling infectious diseases within-host using a hybrid multiscale individual-based model</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Ruth Bowness , University of Bath <i>Modelling infectious diseases within-host using a hybrid multiscale individual-based model (continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Tutorial 2
15.30 – 17.00	Project

WEDNESDAY 4 DECEMBER 2024	
9.30 – 11.00	Robert Insall , Beatson Institute & University College London <i>Helping dissect directed cell migration using computational modelling</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	John MacKenzie , University of Strathclyde <i>Helping dissect directed cell migration using computational modelling (Continued)</i>
13.00 – 14.00	Lunch
14.00 – 17.00	Project

THURSDAY 5 DECEMBER 2024	
9.30 – 11.00	Mariya Ptashnyk , Heriot-Watt University <i>Multiscale modelling and analysis of biological systems</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Chandrasekhar Venkataraman , University of Sussex <i>Numerical methods for multiscale models arising in biology</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Practical 2

15.30 – 17.00	Project
19.00 onwards	Workshop Dinner, hosted at The Scholar <i>Pollock Estate, 18 Holyrood Park Rd, Edinburgh EH16 5AY</i>

FRIDAY 6 DECEMBER 2024

9.30 – 11.00	Mariya Ptashnyk , Heriot-Watt University <i>Multiscale modelling and analysis of biological systems (Continued)</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Chandrasekhar Venkataraman , University of Sussex <i>Numerical methods for multiscale models arising in biology (Continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Practical 3
15.30 – 17.00	Project

SATURDAY 7 DECEMBER 2024

11:00 – 18:30	Excursion to St Andrews 11:00 – pick up outside KM Hotel, 5-9 Richmond Place, Edinburgh, EH8 9ST 13:00 – arrival to St Andrews walking tour of town, followed by refreshments free time to explore 17:00 – back on bus to Edinburgh 18:30 – rough arrival time back to Edinburgh (drop off at KM Hotel)
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SUNDAY 8 DECEMBER 2024

Free day	
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MONDAY 9 DECEMBER 2024

9.30 – 11.00	Rachel Bearon , King's College London <i>Insights from mathematical models of micro-tissues for drug uptake & cancer spread</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Julien Arino , University of Manitoba <i>Deterministic models in mathematical epidemiology</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Tutorial 3
15.30 – 17.00	Project

TUESDAY 10 DECEMBER 2024

9.30 – 11.00	Frank Ball , University of Nottingham <i>Stochastic models of epidemics</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Rachel Beron , King's College London <i>Insights from mathematical models of micro-tissues for drug uptake & cancer spread (Continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Practical 4
15.30 – 17.00	Project

WEDNESDAY 11 DECEMBER 2024	
9.30 – 11.00	Julien Arino , University of Manitoba <i>Deterministic models in mathematical epidemiology (Continued)</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Frank Ball , University of Nottingham <i>Stochastic models of epidemics (Continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Practical 5
15.30 – 17.00	Project

THURSDAY 12 DECEMBER 2024	
9.30 – 11.00	Mark Chaplain & Nikolaos Sfakianakis , University of St Andrews <i>A differential equation approach to cancer growth, invasion, and metastasis</i>
11.00 – 11.30	Refreshments
11.30 – 13.00	Mark Chaplain & Nikolaos Sfakianakis , University of St Andrews <i>A differential equation approach to cancer growth, invasion, and metastasis (Continued)</i>
13.00 – 14.00	Lunch
14.00 – 15.30	Practical 6
15.30 – 17.00	Project

FRIDAY 13 DECEMBER 2024	
9.30 – 11.00	Projects Presentation
11.00 – 11.30	Refreshments
11.30 – 13.00	Projects Presentation
13.00 – 14.00	Lunch
14.00 – 15.30	Panel Discussion
15.30 – 17.00	Closing Session