Session Program

29 June 2025 to 4 July 2025

Higgs School on Advances in Computational Active Matter

Afternoon Session

James Clerk Maxwell Building
Mayfield Road Edinburgh EH9 3JZ UK

Monday 30 June

14:00

Afternoon Session: LAMMPS and Cellular Potts

Session | **Location:** James Clerk Maxwell Building, Mayfield Road Edinburgh EH9 3JZ UK | **Convener:** Tyler Shendruk

14:00–15:30 **Run-and-tumble particles**

Speaker
Chantal Valeriani

15:30–16:00 **Coffee**

16:00–17:30 **Cell-based modelling approaches to animal development**

Speaker
Erika Tsingos

17:30

Tuesday 1 July

14:00

Afternoon Session: Vertex and Phase Field Models

Session | **Location:** James Clerk Maxwell Building, Mayfield Road Edinburgh EH9 3JZ UK

14:00–15:30

Modelling active elastic membranes and sheets using triangulated surfaces

Speaker
Rastko Sknepnek

15:30–16:00 **Coffee**

16:00–17:30 **Pattern formation in phoretic active matter**

Speaker
Benno Liebchen

17:30

Wednesday 2 July

14:00

Afternoon Session: Stokesian Dynamics and Lattice Boltzmann Methods

Session | **Location:** James Clerk Maxwell Building, Mayfield Road Edinburgh EH9 3JZ UK

14:00–15:30 **Active Stokesian Dynamics**

Speaker
Gwynn Elfring

15:30–16:00 **Coffee**

16:00–17:30

Lattice Boltzmann method: suspensions and fluctuating hydrodynamics

Speaker
Timm Krueger

17:30

Thursday 3 July

14:00

Afternoon Session: Immersed Boundary Methods and Multi-phase Cahn-Hilliard Dynamics

Session | **Location:** James Clerk Maxwell Building, Mayfield Road Edinburgh EH9 3JZ UK

14:00–15:30 **Immersed boundary methods: applications to active matter**

Speaker
Enkeleida Lushi

15:30–16:00 **Coffee**

16:00–17:30 **Tissue and cell monolayer modelling via phase fields**

Speaker
Davide Marenduzzo

17:30

Friday 4 July

14:00

Afternoon Session: Hydrodynamic Studies of Microswimmers and Conclusion

Session | **Location:** James Clerk Maxwell Building, Mayfield Road Edinburgh EH9 3JZ UK

14:00–15:30

Hydrodynamic Studies of Microswimmers II: Squirmer rods, E. coli bacteria, African trypanosomes, ...

Speaker
Holger Stark

15:30–16:00 **Coffee**

16:00–17:00 **What have we learned?**

Speaker
Ignacio Pagonabarraga

17:30