

Session Program

12–17 Jul 2026



**European Conference on Mathematical and Theoretical
Biology (ECMTB 2026)**

Whole-cell modelling: progress and perspectives

University of Graz

Thursday 16 July

10:40

Whole-cell modelling: progress and perspectives

Session | Location: University of Graz, 11.01 - HS

10:40–11:00

Producing quantitative protein function data at scale to enable mechanistic simulation - and protein design

Speaker

Cyrus Knudsen

11:00–11:20

Thermodynamically Consistent Mechanochemical Modelling of Actin Dynamics

Speaker

Volkan Ozcoban

11:20–11:40

The landscape reconsidered: non-equilibrium constraints on cell fate

Speaker

Lucy Ham

11:40–12:00

Membrane Transport and Metabolic Patterns: Mathematical Building Blocks and Data-Driven Insights

Speaker

Adelle Coster

12:00

15:10

Whole-cell modelling: progress and perspectives

Session | Location: University of Graz, 11.01 - HS

15:10–15:30

What would a smart yeast do? Mapping biosynthetic resource allocation to explain prevalence of the Crabtree effect in yeasts

Speaker

Pranas Grigaitis

15:30–15:50

How Do T Cells Migrate Through Collagen? Inferring Subcellular Forces from Fiber-Resolved Extracellular Matrix Deformations

Speaker

Jeremy Worsfold

15:50–16:10

Agent-based Modelling of Molecular Dynamics in the Gram-negative Outer Membrane

Speakers

Thomas Williams, James Osborne, KJ Goh, Trevor Lithgow, Jennifer Flegg

16:10–16:30

Model-based integration of large-scale datasets

Speaker

Jan Hasenauer

16:30