

Session Program

12-17 Jul 2026



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

Population level models of bacterial processes and interaction

University of Graz

Tuesday 14 July

15:00

Population level models of bacterial processes and interaction

Session | Location: University of Graz, 03.01 - HS

15:00–15:20

Toward Sustainable Corrosion Control: Identifying tuning parameters associated with Biofilm-Induced corrosion Inhibition in a mathematical framework

Speaker

Blessing Emerenini

15:20–15:40

A Predictive Model of Subaerial Biofilms: Insights into Daily Dynamics and Environmental Changes

Speakers

Alberto Tenore, B Buttaro, Fabiana Russo, Isaac Klapper, J. Jacob, J.D. Grattepanche

15:40–16:00

Mathematical Modeling of Microbial-Induced Corrosion of Bioplastic in Marine Environments

Speaker

Luigi Frunzo

16:00–16:20

Towards a mechanistic model of the mercury methylation process

Speaker

Grace D'Agostino

16:20

17:00

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17:00–17:20

Bacterial Biofilm Growth Modelling in a Counter-Diffusion System, Coupled with Biozone Formation in the Aqueous Phase by Planktonic Bacteria, driven by Directed Movement.

Speaker

Rachana Mandal

17:20–17:40

Aspects of Nonlinear Dynamics, Spatial Effects and Cellular Memory in Bacterial Quorum Sensing

Speaker

Christina Kuttler

17:40–18:00

Modelling accumulation of toxic substances in bacterial cells: a route to suppressing antimicrobial resistance

Speaker

Sandeep Shirgill

18:00–18:20

Ecological interactions and spatial dynamics in microbial aggregates: A novel modelling framework

Speaker

Viktoria Freingruber

18:20