MODELING, OPTIMIZATION, AND CONTROL IN BIOMEDICINE

A two-day workshop organized by the Department of Computational Science and Philosophy, Frankfurt School of Finance & Management

Topics of focus include:
- **Recent advancements in modeling, optimization, and control with applications in biomedicine**
- **Studying the complex interplay between the microbiome and antibiotics**

28 - 29 August, 2025
09:00 - 17:00

Executive Learning Centre (2A)
Frankfurt School of
Finance & Management
Adickesallee 32-34
60322 Frankfurt am Main

For more information and to register, visit the event website

bit.ly/fs-workshop-biomed

hessian.AI

SPEAKERS AND TOPICS

TOM CHOU (UCLA)

Evolution of Structured Populations: From Cells to Organisms

MICHEL FLIESS (ÉCOLE POLYTECHNIQUE, SORBONNE UNIVERSITÉ)

Detection and Suppression of Epileptiform Seizures via Model-Free Control and Derivatives in a Noisy Environment

THOMAS STIEHL (RWTH AACHEN)

Mechanistic Computational Modeling of Malignant Cell Dynamics in the Human Bone Marrow

PIA DOMSCHKE (FRANKFURT SCHOOL)

Structured Population Models of Cell Migration Incorporating Membrane Reactions

REINHARD C. LAUBENBACHER (UFL)

Challenges and Opportunities Related to Digital Twins in Medicine

KAROLINE FAUST, PALLABITA SAHA (KU LEUVEN)

Gut Microbial Communities as Complex Systems

LORENZO SALA (INRAE JOUY-EN-JOSAS)

Hybrid Inference for Microbial Community Models: Physics-Informed Neural Networks for Parameter Estimation in Generalized Lotka-Volterra Systems

LUCAS BÖTTCHER (FRANKFURT SCHOOL)

Model-Based Control of Biomedical Dynamical Systems Using Neural Networks and Automatic Differentiation