

Invitation to the talk by Prof. Matthias Röger for the GAMM Junior Research Group

Place: R165 (hybrid)
Zoom Link: [Link](#)
Meeting ID: 933 4484 3319
Passcode: 554823

Date: Thursday, 24th April 2025
Time: 4:00 pm (16:00)

Agenda

TOP 1: (Quick) Election of the executive Board

TOP 2: Talk by [Prof. Dr. Matthias Röger](#) (see abstract below)

TOP 3: Discussion and Questions

TOP 4: Open Exchange including drinks and food

Abstract

Variational models for biomembranes

Prof. Dr. Matthias Röger - TU Dortmund University, Biomathematics group

Shape energies of Canham-Helfrich type are essential components in numerous successful models for biomembranes. The mathematical analysis of these models, along with the associated curvature energies, poses significant challenges and is considerably less developed than elasticity models for solids. In this work, we present derivations of shape energies derived from three-dimensional theories, discuss constrained minimization problems, and explore phase-field approximations.

Short CV

Period	Position
2003	PhD in Mathematics, University of Bonn
2003, 2004	RTN Postdoc, Universities Paris VI, Paris XI, University of Nottingham
2004–2006	Postdoc, University of Technology Eindhoven, University of Bonn
2006–2009	Postdoc, Max Planck Institute for Mathematics in the Sciences, Leipzig
since 2009	Full Professor (W3), TU Dortmund University