

# European Mathematical Society School on Mathematical Modelling, Numerical Analysis and Scientific Computing

May 24 – May 29, 2026, Kácov, Czech Republic

SCHEDULE

## Sunday, May 24

Time	Speaker	Title
19:30		Dinner
20:45		Opening and Introduction

## Monday, May 25

Time	Speaker	Title
8:00		Breakfast
9:00	Ewelina Zatorska	Analysis of hydrodynamic models of collective behaviours – Part 1
10:10		Coffee & Refreshment
10:40	Dallas Albritton	Self-similarity, singularity formation, and non-uniqueness in the partial differential equations of fluid dynamics – Part 1
11:50		Break
12:00	Corbin Keegan Balitactac	A higher-gradient theory for incompressible viscous fluids
12:10	Angelica Pia Di Feola	Existence of global weak solutions to a parabolic $p$ -Laplacian problem with convective term
12:20	Petr Kaplický	On the stability of a generalized Navier–Stokes–Fourier system
12:30		Lunch & Break
15:30		Coffee & Refreshment
16:00	Javier Gomez Serrano	Computers and mathematics in partial differential equations: past, present and future – Part 1
17:10		Break
17:30	Josef Málek	In vivo evidence of blood flow slippage: failure of the no-slip boundary condition assumption
17:40	Lenka Košárková	Existence of the time-periodic weak solution for incompressible non-stationary Navier-Stokes equations in three dimensions with inflow, outflow and Navier’s slip boundary condition
17:50	Lucie Wintrová	A multiscale mixture model for cortical tissue clearance
18:00	Ondřej Kreml	Time-periodic solutions to incompressible flows in moving domains
18:10	Dalibor Pražák	Analysis of fluids with dynamic boundary conditions
18:20		Break
18:45		Dinner



## EMS SCHOOL ON MATHEMATICAL ASPECTS OF FLUID FLOWS

Sporthotel Kácov      May 24 – 29, 2026

<https://ems-maff.cuni.cz/>

## Tuesday, May 26

Time	Speaker	Title
8:00		Breakfast
9:00	Javier Gomez Serrano	Computers and mathematics in partial differential equations: past, present and future – Part 1
10:10		Coffee & Refreshment
10:40	Ewelina Zatorska	Analysis of hydrodynamic models of collective behaviours – Part 2
11:50		Break
12:00	Tania Biswas	Interaction between fluids and solids undergoing plastic deformation
12:10	Roman Korsak	Interaction between incompressible, non-Newtonian fluid and particles with negligible density
12:20	Pei Su	On the motion of a rigid body immersed in a compressible inviscid fluid
12:30		Lunch & Break
15:30		Coffee & Refreshment
16:00	Sebastian Schwarzacher	Challenges on the mathematical description of fluid-solid interactions – Part 1
17:10		Break
17:30	Václav Mácha	On the analysis of the symmetrized mass-diffusive model for compressible fluids flows
17:40	Flora Philipp	Chemotaxis compressible Navier–Stokes equations with density-dependent viscosity modeling vascular network formation
17:50	Milan Pokorný	Steady compressible Navier–Stokes–Fourier system with general temperature dependent viscosities and hard sphere pressure law
18:00	Jiří Půček	On the existence of a stochastic magnetohydrodynamics system with noise acting in the magnetic field
18:10	Aaron Baier-Reinio	Finite element algorithms for multicomponent convection-thermodiffusion
18:20		Break
18:45		Dinner & Pub visit

## Wednesday, May 27

Time	Speaker	Title
8:00		Breakfast
9:00	Dallas Albritton	Self-similarity, singularity formation, and non-uniqueness in the partial differential equations of fluid dynamics – Part 2
10:10		Coffee & Refreshment
10:40	Miroslav Bulíček	Weak sequential stability of solutions to a nonisothermal kinetic model for incompressible dilute polymeric fluids
10:50	Maja Szlenk	Discontinuous shear-thickening asymptotic for power-law compressible flows
11:00	Jakub Woźnicki	Existence and weak-strong uniqueness of measure solutions
11:10	Umberto Zerbinati	A compressible Oseen–Frank energy with prescribed pressure fields
11:20	Tobiáš Krupa	Chemically reacting mixtures: asymptotic stability of steady solutions
11:45		Lunch
12:40		Organized trip to castle Český Šternberk or free afternoon
19:00		Dinner & Fire session

## Thursday, May 28

Time	Speaker	Title
8:00		Breakfast
9:00	Ewelina Zatorska	Analysis of hydrodynamic models of collective behaviours – Part 3
10:10		Coffee & Refreshment
10:40	Javier Gomez Serrano	Computers and mathematics in partial differential equations: past, present and future – Part 3
11:50		Break
12:00	Florian Oschmann	Darcy's law for inhomogeneous incompressible flows
12:10	Luka Tolj	Modelling of the Forchheimer-extended Darcy–Brinkman–Boussinesq flow through a thin channel
12:20	Jakub Cach	A thermodynamically consistent Johnson-Segalman-Giesekus model: numerical simulation of the rod climbing effect
12:30		Lunch & Break
15:30		Coffee & Refreshment
16:00	Sebastian Schwarzacher	Challenges on the mathematical description of fluid-solid interactions – Part 2
17:10		Break
17:30	Dallas Albritton	Self-similarity, singularity formation, and non-uniqueness in the partial differential equations of fluid dynamics – Part 3
18:40		Break
18:45		Conference dinner

## Friday, May 29

Time	Speaker	Title
8:00		Breakfast
9:00	Sebastian Schwarzacher	Challenges on the mathematical description of fluid-solid interactions – Part 3
10:10		Coffee & Refreshment
10:40		Discussion: perspectives, difficulties, open problems
11:55	Closing	
12:00		Lunch
13:00	Departure	