

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

May 28 – June 2, 2023, Kácov, Czech Republic

SCHEDULE

Sunday, May 28

Time	Speaker	Title
<i>Chair: Josef Málek</i>		
19:30		Dinner
20:45		Opening and Introduction

Monday, May 29

Time	Speaker	Title
8:00		Breakfast
<i>Chair: Mirko Rokyta</i>		
9:00	Chi Wang Shu	Discontinuous Galerkin methods: survey and recent developments – Part 1
10:15		Coffee & Refreshment
<i>Chair: Josef Málek</i>		
10:45	Patrick Farrell	Bifurcation techniques for calculating multiple solutions of nonlinear PDEs – Part 1
12:00	Václav Kučera	Low-Mach consistency of a class of linearly implicit schemes for the compressible Euler equations
12:15	Lukáš Vacek	L2 stability for Godunov-like numerical fluxes
12:45		Lunch & Break
15:30		Coffee & Refreshment
<i>Chair: Zdeněk Strakoš</i>		
16:00	Walter Zulehner	Saddle point problems: construction, analysis, and preconditioning – Part 1
17:15		Break
<i>Chair: Jakub Šístek</i>		
17:30	Jan Zeman	Multi-scale computational analysis of periodic and non-periodic heterogeneous media – Part 1
18:45		Dinner & Pub visit

Tuesday, May 30

Time	Speaker	Title
8:00		Breakfast
	<i>Chair: Jan Blechta</i>	
9:00	Patrick Farrell	Bifurcation techniques for calculating multiple solutions of nonlinear PDEs – Part 2
10:15		Coffee & Refreshment
	<i>Chair: Václav Kučera</i>	
10:45	Chi Wang Shu	Discontinuous Galerkin methods: survey and recent developments – Part 2
12:00	Jakub Šístek	A scalable multilevel domain decomposition solver for immersed boundary finite element method
12:15		Lunch & Break
15:30		Coffee & Refreshment
	<i>Chair: Miroslav Tuřma</i>	
16:00	Walter Zulehner	Saddle point problems: construction, analysis, and preconditioning – Part 2
17:15		Break
17:30	Ivan Gudoshnikov	Elastoplasticity with softening in spring network models: a state-dependent sweeping process approach
17:45	Ruma Rani Maity	Finite element methods for reduced Landau-de Gennes minimization problems of nematic liquid crystals and ferronematic systems
18:00	Ondřej Souček	On the pitfalls of diffuse interface methods in problems involving non-material interfaces
18:15	Jiří Malík	Melting probe – thermomechanical modeling of descent rate
18:45		Dinner

Wednesday, May 31

Time	Speaker	Title
8:00		Breakfast
	<i>Chair: Dalibor Lukáš</i>	
9:00	Jan Zeman	Multi-scale computational analysis of periodic and non-periodic heterogeneous media – Part 2
10:15		Coffee & Refreshment
10:45	Pablo Alexei Gazca Orozco	On certain stability properties of DG schemes for incompressible flow
11:00	Anita Gjesteland	Convergence of a second-derivative finite-volume method
11:15	Jakub Kmec	Use of neural network for time signal categorization in acoustic emission and astroparticle physics
11:30	Anna Kovárnová	Model order reduction of transport-dominated systems using shifted proper orthogonal decomposition and artificial neural networks
11:45		Lunch
12:35		Organized trip to castle Český Šternberk or free afternoon
19:00		Dinner

Thursday, June 1

Time	Speaker	Title
8:00		Breakfast
	<i>Chair: Miroslav Rozložník</i>	
9:00	Walter Zulehner	Saddle point problems: construction, analysis, and preconditioning – Part 3
10:15		Coffee & Refreshment
	<i>Chair: Monika Balázsová</i>	
10:45	Chi Wang Shu	Discontinuous Galerkin methods: survey and recent developments – Part 3
12:15		Lunch & Break
15:30		Coffee & Refreshment
	<i>Chair: Jaroslav Hron</i>	
16:00	Jan Zeman	Multi-scale computational analysis of periodic and non-periodic heterogeneous media – Part 3
17:15		Break
	<i>Chair: Karel Tůma</i>	
17:30	Patrick Farrell	Bifurcation techniques for calculating multiple solutions of nonlinear PDEs – Part 3
18:45		Conference dinner

Friday, June 2

Time	Speaker	Title
8:00		Breakfast
	<i>Chair: Josef Málek</i>	
9:00	Christoph Allolio	Multiscale models for microbiology
9:15	Karel Tůma	Numerical investigation of three-dimensional blood flows in the aortic root
9:30	Jakub Fara	Nonstandard interface conditions for fluid-structure interaction with applications in hemodynamics
9:45	Alena Jarolímová	Assimilation of 4D PC-MRI data into a blood flow model
10:00		Coffee & Refreshment
	<i>Chair: Zdeněk Strakoš</i>	
10:30		Discussion: perspectives, difficulties, open problems
11:40	Closing	
12:00		Lunch
13:00	Departure	