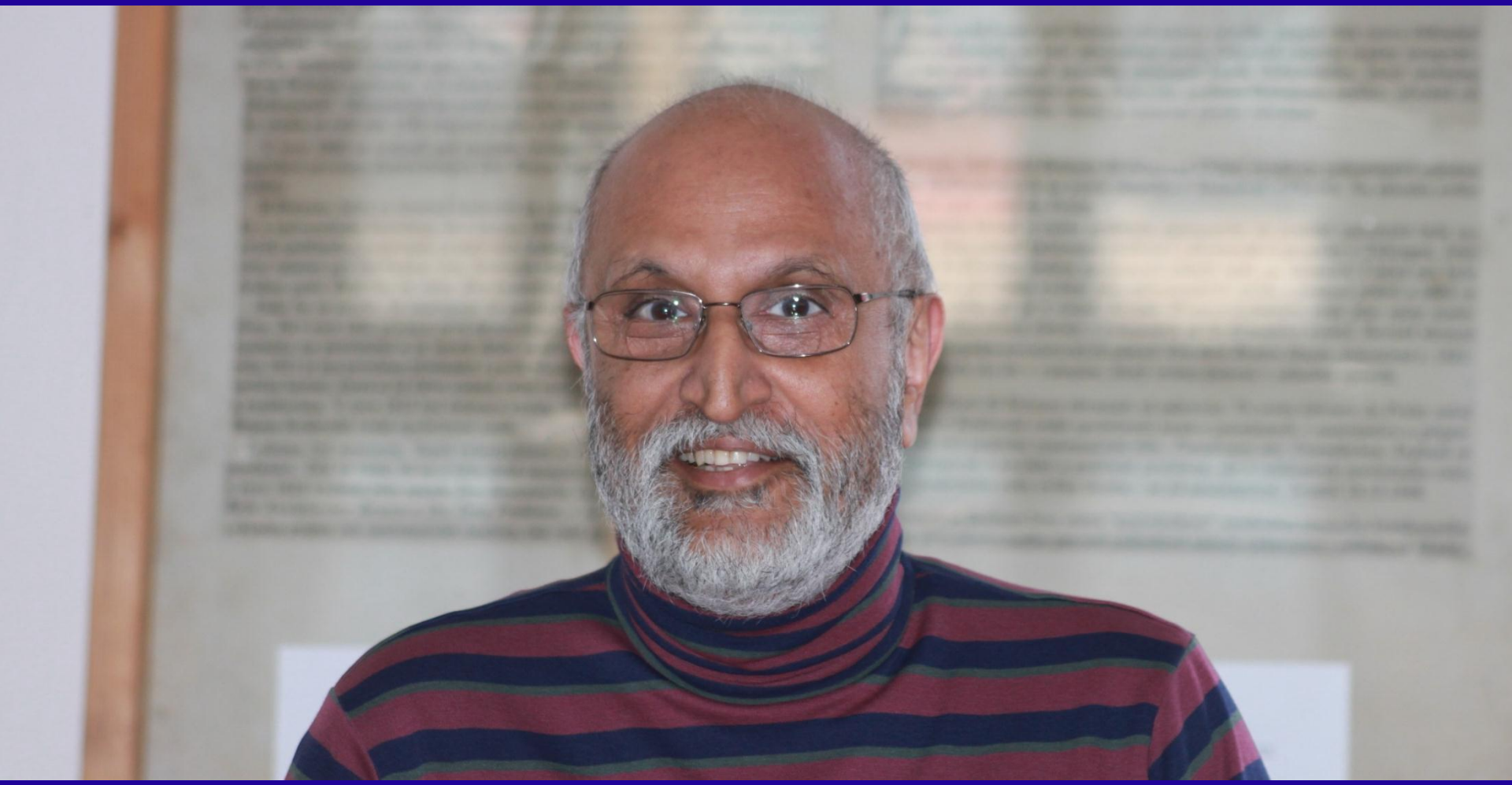
Challenges in analysis and modelling

Prague, March 31, 2012



The workshop is organized by the Mathematical Institute of Charles University, Department of Mathematical Modelling on the occasion of awarding Professor K. R. Rajagopal "Doctor Honoris Causa“ by the Charles University in Prague

Josef Málek

Opening of the Workshop

The aim of the workshop is to present recent open and challenging topics in the field of modelling of complex materials and processes from the perspectives of both mathematical and numerical analysis, modelling and computation. Lectures will be given by professor Rajagopal's collaborators and colleagues within the Czech and Charles university scientific community.

Jan Kratochvíl

Crystal plasticity treated as a quasi-static material flow through adjustable crystal lattice

František Maršík

Thermodynamic stability condition - Couette flow application

Ondřej Souček

A constitutive model for non-reacting binary mixtures

Zdeněk Strakoš

Challenges in analysis of algebraic iterative solvers

Martin Lanzendörfer

Incompressible piezoviscous fluids: first steps, a long ways to go

Jaroslav Hron

On numerical solution of implicitly constituted fluid flow

Milan Pokorný

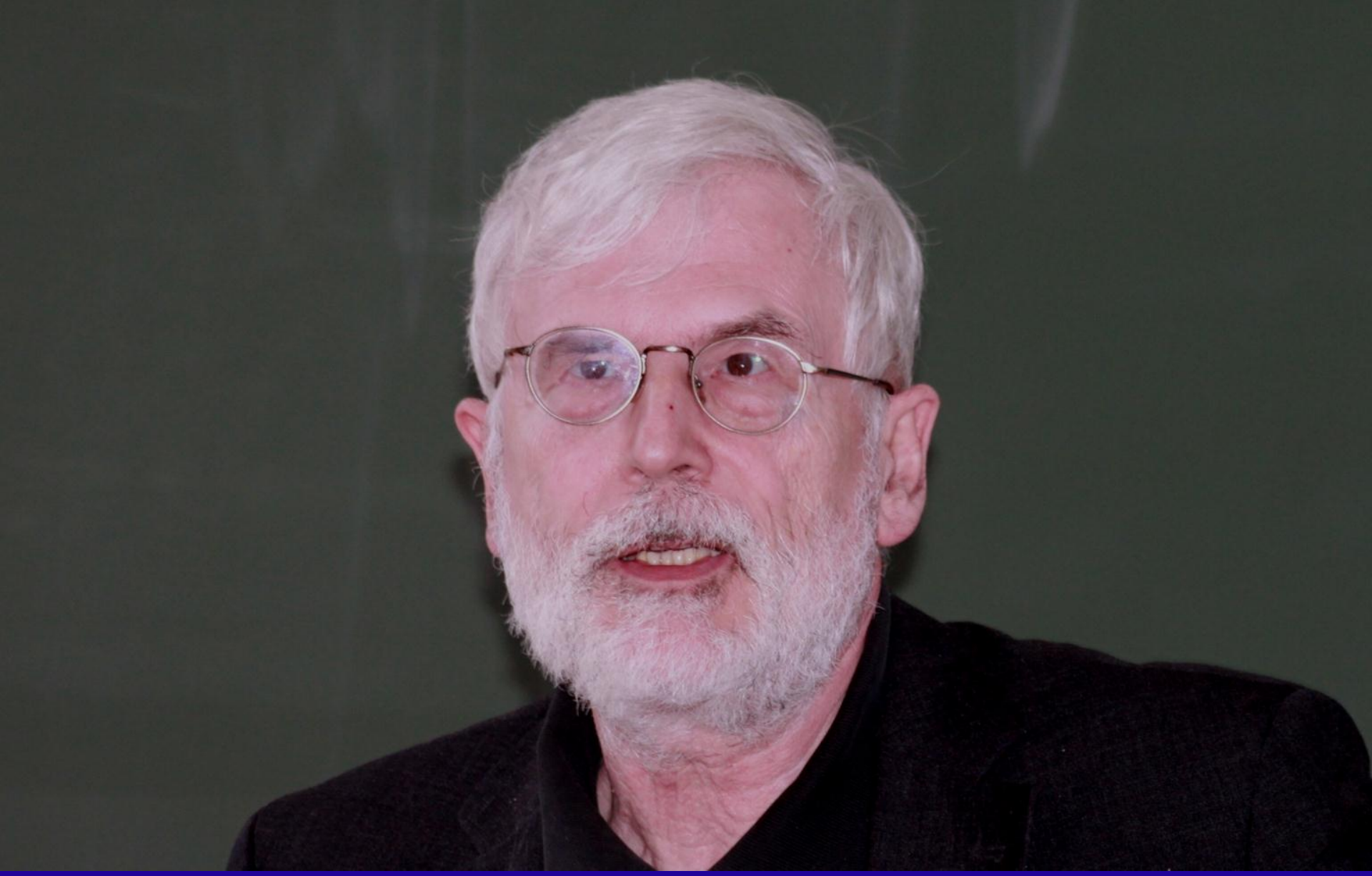
On steady compressible Navier-Stokes-Fourier system

Dalibor Pražák

Simple mechanical oscillators with implicit constitutive relations

Miroslav Bulíček

Regularity for systems of PDEs arising in continuum thermodynamics



Jens Frehse

The Prandtl-Reuss law for mixtures

Tomáš Roubíček

Modelling of phase transformations in magnetostrictive materials like NiMnGa

Eduard Rohan

Modeling double porosity media using hierarchical homogenization

Vít Průša

Implicitly constituted materials with fading memory


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Photo by Jan Franců