

# Scientific Program

- Plenary Lectures**
- (1) **Anthony T. Patera** (Massachusetts)  
Certified Reduced Basis Methods for Parameterized Partial Differential Equations
  - (2) **Patrick Anderson** (Eindhoven)  
Non-singular Boundary Integral Method for Confined Viscous Flow
  - (3) **Zdeněk P. Bažant** (Evanston)  
Probabilistic Nano-Mechanical Theory of Quasibrittle Structure Strength, Crack Growth, Lifetime and Fatigue
  - (4) **Meinhard Kuna** (Freiberg)  
Fracture Mechanics Computations for Piezoelectric and Ferroelectric Materials
  - (5) **Andreas Frommer** (Wuppertal)  
Matrix Functions: Computation and Applications
  - (6) **Peter Gumbsch** (Freiburg)  
Progress in Dislocation Based Plasticity
  - (7) **Stefan Ulbrich** (Darmstadt)  
Multilevel Methods for PDE-constrained Optimization Based on Adaptive Discretizations and Reduced Order Models
  - (8) **Carlo Bottasso** (Milano)  
Validation and Calibration of Computational Tools for Wind Energy Systems
  - (9) **Arjan van der Schaft** (Groningen)  
Network Modeling and Control of Multi-physics Systems
  - (10) **Andrea Braides** (Rome)  
Asymptotic Analysis of Atomistic Systems

- Special Lectures**
- Ludwig Prandtl Memorial Lecture**  
**Alexander Smits** (Princeton)  
Turbulence at Extreme Reynolds Numbers
- Public Lecture**  
**Vladimir Dragović** (Belgrade)  
Unusual Billiards: Geometry and Mechanics