

Workshop on:

# “Common Challenges in Computationally- Based Engineering Research”

HCI J4 ETH Zurich, June 5<sup>th</sup> 2013

- 8:50 Opening  
*Prof. R. Siegwart (Vice President Research and Corporate Relations, ETH Zurich)*  
*Prof. L. Hurni (Head of Dep. of Civil, Env. and Geomatic Eng.; Inst. of Cartography & Geoinformation)*
- 9:10 Numerical Modelling and Practical Reality in River Engineering  
*Prof. em. H. de Vriend (TU Delft)*
- 10:00 Coffee Break
- 10:20 Harnessing Electromagnetism for the Manufacturing of New Multifunctional  
Particulate Materials: Modeling and Simulation  
*Prof. T. Zohdi (UC Berkeley)*
- 11:10 End-to-End Earthquake Simulation: From the Source to Propagation Path and Seismic  
Response of Building Clusters  
*Prof. J. Bielak (Carnegie-Mellon University)*
- 12:00 Lunch Break
- 13:00 A Framework for Parallel Agent-Based Simulation in Physical Space  
*Dr. D. Charypar (Inst. for Transport Planning and Systems (IVT))*
- 13:15 Simulation of Water Flow and Sediment Transport - Grid Based and Mesh Free  
Approaches  
*Dr. D. Vetsch (Laboratory of Hydraulics, Hydrology and Glaciology (VAW))*
- 13:30 „Nanoscale Structural and Dynamical Complexity in Materials for Construction”  
*Prof. E. Del Gado (Inst. for Building Materials (IfB))*
- 13:45 Simulating Building Materials  
*Prof. H.J. Herrmann (Inst. for Building Materials (IfB))*
- 14:00 Stochastic Approaches in Modelling and Control of Water Resources Systems  
*Prof. W. Kinzelbach (Inst. of Environmental Engineering (IfU))*
- 14:15 Coffee Break
- 14:45 A Numerical Study of Tsunamigenic Landslides  
*Dr. P. Trapper, Prof. A. Puzrin (Inst. for Geotechnical Engineering (IGT))*
- 15:00 Computationally-Based Geoinformation Engineering Research  
*Prof. M. Raubal (Inst. of Cartography and Geoinformation (IKG))*
- 15:15 Multi-Label and Higher-Order Potts Models in Image Processing  
*Prof. K. Schindler (Inst. of Geodesy and Photogrammetry (IGP))*
- 15:30 Hybrid Simulation: Merging Experimental and Theoretical Structural Mechanics  
*Prof. B. Stojadinovic (Inst. of Structural Engineering (IBK))*
- 15:45 A Short Review of Computational Methods for Uncertainty Quantification in  
Engineering  
*Prof. B. Sudret (Inst. of Structural Engineering (IBK))*
- 16:00 Coffee Break
- 16:30 Panel Discussion (*H. de Vriend, T. Zohdi, J. Bielak, H.J. Herrmann, B. Stojadinovic, R. Boes*)

program

Organized by

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