

IAMMC 2017 Program

9th May 2017 Tuesday

9:30 General introduction

Prof. Elżbieta Frąckowiak, Vice-President of Polish Academy of Sciences, Poland

Prof. Tadeusz Burczyński, President of Committee on Mechanics of Polish Academy of Sciences
Director of IPPT PAN, Warsaw, Poland

Prof. Jean-François Ganghoffer, Université de Lorraine, Nancy, France

Prof. Jan Sokołowski, Université de Lorraine, Nancy, France

Prof. Marek Więckowski, Director of the Scientific Centre of the Polish Academy of Sciences in Paris

10:00 Plenary I

10:00 **Ammari Habib** (ETH, Zürich)

Mathematics Of Super-Resolution In Resonant Media

10:30 **Martine Ben Amar** (LPS, ENS, Paris)

Mimicking The Cortex Convolutions Through The Wrinkling Of Growing Soft Bilayers

11:00 **Piotr Kowalczyk** (IPPT PAN)

Parametric Constitutive Modelling Of Cancellous Bone

11:30 - 12:00 Coffee Break

12:15 Plenary II

12:15 **Jean-François Ganghoffer** (Université de Lorraine, Nancy)

Symmetry Analysis And Conservation Laws Of Non-Linear Wave Models In Fiber-Reinforced Anisotropic Incompressible Hyperelastic Solids

12:45 **Tadeusz Burczyński** (IPPT PAN)

Topology Optimization In Nano-Scale - New Graphene-Like Materials

13:15 **Jean-Jacques Marigo** (Ecole Polytechnique, Palaiseau)

The Variational Approach To Fracture: Formulation, General Properties And Examples

13:15 Lunch Time

18:00 Reception in the Polish Embassy in Paris

10th May 2017 Wednesday

9:00 Plenary III

9:00 **Henryk Petryk** (IPPT PAN)
On Incremental Energy Minimization In Dissipative Solids

9:30 **Paul Steinmann, C. Carstensen, F. Ebobisse, AT McBride, BD Reddy** (University of Erlangen-Nuremberg)
Aspects of Strain Gradient Plasticity

10:00 **Umberto Perego** Politecnico di Milano (Italy)
Cohesive Modelling Of Mixed-Mode Delamination With Internal Friction

10:30 - 11:00 Coffee Break 11:00 Plenary IV

11:00 **Pierre Ladevèze** (LMT, ENS Cachan)
Model Order Reduction In Nonlinear Solid Mechanics With Parameters

11:30 **Mieczysław Kuczma** (Poznań University of Technology)
The Damping Capacity Of Structural Elements Made Of Pseudoelastic Shape Memory Alloys.

12:00 **Olivier Allix, P. Gosselet, M. Blanchard, P-A Guidault, M Wangermez** (LMT, ENS Cachan)
Non-Intrusive Multiscale Methods : Analysis And Recent Development

12:30 - 14:00 Lunch Time

14:00 Plenary V

14:00 **Pierre Suquet** (LMA, Marseille)
A Spectral Method For Micromechanics Of Materials With Complex Microstructure

14:30 **Paco Chinesta** (Ecole Centrale, Nantes)
Data-Based Engineering Science And Technology In The 4th Industrial Revolution

15:00 **Stanisław Stupkiewicz** (IPPT PAN)
Size-Dependent Microstructures: Sharp- And Diffuse-Interface Modelling

15:30 - 16:00 Coffee Break

16:00 Plenary VI

16:00 **Jerzy Rojek** (IPPT PAN)
Multiscale Modelling Of Powder Sintering

16:30 **Piotr Breitkopf** (Laboratoire Roberval, Université de Technologie de Compiègne)
Towards Manifold Learning Approaches In Computational Mechanics

17:00 **Guenter Leugering** (University of Erlangen-Nuremberg)
The second-order mixed shape derivatives of energy functionals and passive control of crack propagation.

18:00 Banquet

11th May 2017 Thursday

9:00 Plenary VII

9:00 **Tomasz Łodygowski** (Poznań University of Technology)
On Explosive Loading of Metallic Materials

9:30 **Grégoire Allaire** (Centre de Mathématiques Appliquée, Ecole Polytechnique)
Taking Into Account Manufacturing Constraints In Shape And Topology Optimization Of Structures

10:00 **Michał Nowak** (Poznań University of Technology)
The Structural Optimization Method Based On Assumption About Constant Strain Energy Density

10:30 - 11:00 Coffee Break

11:00 Plenary VIII

11:00 **Jan Sokolowski** (Université de Lorraine, Nancy, France)
Topological Derivatives In Shape And Topology Optimization

11:30 **Wojciech Sumelka** (Poznań University of Technology)
Non-Local Fractional Models For Solids

12:00 **Jerzy Pamin** (Kraków University of Technology)
Consequences Of Softening In Geometrically Nonlinear Thermoplasticity

12:30 - 14:00 Lunch Time

14:00 Plenary IX

14:00 **Marc Bonnet** (POem, ENSTA)
Recent Developments On Topological Expansions Of Objective Functions.

14:30 **G.Dzierżanowski, A.Cherkaev** (Warsaw University of Technology)
Optimal Three-Phase Microstructures In Plane Elasticity.

15:00 **R.Czubacki, J.-F. Ganghoffer, T.Łukasiak** (Warsaw University of Technology)
Comparison Of Free Material Design, Cubic Material Design And Isotropic Material Design Optimization Methods.

15:30 - 16:00 Coffee Break

16:00 Plenary X

16:00 **Katarzyna Kowalczyk-Gajewska, Paweł Hołobut, Michał Majewski, Michał Kurşa** (Institute of Fundamental Technological Research of Polish Academy of Sciences Warsaw, Poland)
Micromechanical modelling of packing and size effects in elastic-plastic particulate random composites.

16:30 **S.Czarnecki, T.Lewiński, P.Wawruch** (Warsaw University of Technology)
On Recent Developments In Free Material Design.

17:00 **T.Sokół** (Warsaw University of Technology)
On Recent Developments In The Ground Structure Method.

17:30 Conference Closing

Jean-François Ganghoffer
Jan Sokolowski