



The 1st IMACS International Conference on Computational Biomechanics and Biology ICCBB 2007

September 10 — 14, 2007
Plzeň, Czech Republic

University of West Bohemia
Czech Society for Biomechanics
International Association for Mathematics and
Computers in Simulation
Institute of Computer Science AS CR
Czech Society for Mechanics



First announcement

We are pleased to invite you for the new IMACS conference being held in Plzeň, Czech Republic in September 2007. The conference will be devoted to certain problems of computational biomechanics and biology. Parallel to the conference, there will be a student seminary focused on homogenization methods and mathematical modelling of the joint replacements. The conference will be held at the University of West Bohemia in Plzeň, Czech Republic. More information will be available soon at the conference pages <http://www.iccbb.zcu.cz>.



Goals

The main goals of this conference are to provide an opportunity for the cross-fertilization among the different fields of applications and to increase the understanding and communication between the mathematicians who build the theory and the scientists who use it. It is expected to draw attention to the biomechanical, biological, medical, mathematical, biophysical and bioengineering sciences and thus provide a strong impetus to new and innovated work in the mentioned field of problems. Suggestions for organization of mini-symposia are welcomed. The selected papers will be published.

Conference chairs

Jiří Nedoma
Josef Rosenberg
Eduard Rohan

Honorary chairs

Robert Beauwens
Robert Vichnevetsky

Scientific topics

The conference, under the auspices by IMACS, will be devoted to certain problems in biomechanical, biological, medical modelling and mathematical methods for their solutions. The conference features a number of invited scientific sessions in the following areas:

- Soft tissue and muscular mechanics
- Bone and dental mechanics
- Cardiovascular mechanics
- Micro-circular and respiratory systems
- Cellular and molecular mechanics
- Tissue engineering, biomaterials
- Biotransport and multi-field problems
- Organ biomechanics and fluid-structure interaction
- Impact and injury biomechanics, sport biomechanics
- Orthopedics and implant modelling
- Muscle-skeletal systems and performance
- Computational biomechanics and large simulations
- Imaging and computer assisted surgery
- Biological, biomechanical and medical modelling:
 - Numerical methods for solutions
 - Contact problems in visco-elasticity and plasticity
 - Composites, homogenization methods and multi-scale modelling
 - Mathematical simulation of nonlinear materials and structures, materials with memory