

ANNONCEMENT

IUTAM SYMPOSIUM ON INTELLIGENT MULTIBODY SYSTEMS –  
DYNAMICS, CONTROL, SIMULATION

September 11–15, 2017, Duni Royal Resort, Sozopol, Bulgaria

[www.imbm.bas.bg/iutam](http://www.imbm.bas.bg/iutam)

Multibody dynamics as independent branch of mechanics was agreed to and established in 1977 at an IUTAM Symposium held in Munich. Recently the multibody system methodology experienced huge progress including real time simulation, contact and impact problems, extension to electronics and mechatronics, dynamic strength analysis, optimization of design and control devices, integration codes in particular for differential algebraic systems, challenging applications in biomechanics, robotics and vehicle dynamics, manufacturing science and molecular dynamics and etc.

Example of such mechatronic (intelligent) multibody systems are autonomous vehicles, space structures, structures imposed on external and seismic excitations, large flexible structures and wind generators, robots and bio-robots, manufacturing systems, application in molecular dynamics and fluids, and etc.

Solution of these tasks requires up-to-date methods for dynamics analysis and simulation, novel methods for numerical solution of ODE and DAE, real time simulation, passive, semi-passive and active control algorithms. The topics of the colloquium are (but not limited):

- Novel methods in multibody system dynamics
- Real time dynamics
- Dynamic models of passive and active mechatronic devices
- Vehicle dynamics and control
- Dynamically controlled systems
- Biomechanics and Biomechatronics
- Structural dynamics
- Deflection and vibration suppression
- Numerical integration of ODE and DAE for large scale and stiff multibody system
- Model reduction of large scale flexible systems

**Main Organizers :**

*Institute of Mechanics, Bulgarian Academy of Sciences*

*IFTToMM*

*GAMM*

*Faculty of Industrial Technology, TU Sofia*