

# Multibody systems

## Session organizers

1. Alberto Cardona, CIMEC – INTEC, Universidad Nacional del Litoral, Santa Fe, Argentina.
2. Martín Pucheta, CIMEC – INTEC, Universidad Nacional del Litoral, Santa Fe, Argentina.

## Description

The field of computational mechanics applied to the simulation of multibody systems has advanced considerably in recent years, contributing to the development of optimal designs and new products to improve the quality of life. The development of new digital techniques has enabled accurate simulations of practical complex systems, subjected to various load conditions, to small or large displacements and or deformations bodies. Many of these problems are not tractable experimentally. Contributions from diverse areas are expected. Aerospace, automotive, agro machinery, industrial machinery and transport, microelectro mechanical systems (MEMS ), biomechanics, robotics, mechatronics, etc. , not limited to the following topics:

Computational design of mechanisms and machines, complex applications.

Theory of mechanisms and machines ( linkages , cams , gears , transmissions, etc. . ).

Synthesis of rigid and flexible mechanisms.

Computational Kinematics . Algorithms and solvers ( numerical integration ) for dynamic analysis , sensitivity analysis and combination with optimization techniques.

Problems of contact, impact and wear. Dynamic computational and experimental vehicle.

Education undergraduate and graduate subjects multibody systems simulation.