

5th International Multibody System Dynamics Workshop & Summer School

Lake Como School of Advanced Studies - 11-15 September 2023

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Home

Multibody Dynamics Workshop 2023

5th International Multibody System Dynamics Workshop & Summer School, 11-15 September 2023

Aims and scope

Methods of multibody system dynamics represent a widespread, versatile and reliable approach to the simulation of engineering problems that involve the dynamics of complex mechanisms. Applications of these methods can be found in many fields, for instance in aerospace, automotive, biomechanics, robotics and automation, to name a few. Participants to this workshop will have the opportunity to interact with people from a diverse range of backgrounds: other students, researchers, professionals from industries and faculty staff. Lecturers are experts in their chosen fields and committed to teaching with academic rigour and contemporary relevance.

This Summer School is part of the curriculum of the PhD Programmes in [Mechanical Engineering](#) and [Aerospace Engineering](#) of [Politecnico di Milano](#).

Jointly organized by



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Topics

Various topics related to multibody dynamics will be covered, including (but not limited to):

- Basic theory
- Dynamics and kinematics
- Numerical methods for time integration
- Flexible multibody and finite elements
- Contacts, collisions, and non-smooth problems
- Control, robotics, cosimulation
- Optimization
- Software development

Together with experts in the field, applications to various fields will be discussed:

- aerospace
- automotive
- biomechanics
- trains, railways
- artificial intelligence and deep learning
- virtual reality and videogames
- robotics, etc.

Target

The workshop is mainly intended for Ph.D. students in engineering but it is open to industry researchers and enthusiasts.

A basic knowledge of mechanics, programming and numerical methods is expected. Previous editions created a stimulating international context, with students coming from many countries.



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Directors

- [Alessandro Tasora](#), Università di Parma
- [Pierangelo Masarati](#), Politecnico di Milano

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- Pier Paolo Valentini**, Università di Roma Tor Vergata
- Michele Vignati**, Politecnico di Milano
- Andrea Zanoni**, Politecnico di Milano

Keynote speakers

- Olivier Bruls**, University of Liège
- Johannes Gerstmayr**, Universität Innsbruck
- Radu Serban**, University of Wisconsin, Madison

Organizing committee

- Alessandro Tasora**, Università di Parma
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Program

The workshop provides five days of lectures (in the morning) and tutorials/hands-on sessions (in the afternoon). Half day will be dedicated to a mini-conference, where attendees will have the opportunity to showcase their research with short presentations.

For an updated and detailed program check the page: <http://www.multibodysummerschool.eu/program.html>

Lessons will be articulated in open lectures, teamwork and hands-on sessions.
Various experts from Italy and abroad will be invited to give lectures on topics revolving around multibody system dynamics at large.

The Workshop provides for the recognition of **5 ECTS**.





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Contact us

For enquiries about the venue of the school, travel, and accommodation please contact

Alessandra Cazzaniga (alessandra.cazzaniga@fondazionealessandrovolta.it)

Also visit: <http://www.multibodysummerschool.eu/>

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