

Theoretical and Applied Biomechanics, GBMA

Organizers:

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Theoretical and applied mechanics plays a fundamental role in understanding the behavior of biological structures in health and disease. Recent advancements, which acknowledge the essential link between mechanics and chemo-biological mechanisms in physiopathological responses, have allowed developing novel technologies to support diagnostic assessments and to optimize medical devices for improving clinical approaches. Nevertheless, advances in experimental approaches, modelling techniques and computational technologies have to be continuously pursued, in order to build up suitable modern tools for facing the renewed challenges launched by Biomechanics.

The AIMETA Group of Biomechanics – GBMA – organizes this mini-symposium in order to gather the most recent developments in theoretical and applied Biomechanics. A debate among complementary expertise is fostered, for highlighting advantages, drawbacks, potentialities and limitations of methodologies at the cutting edge of Biomechanics. The mini-symposium is open to:

- all areas of Biomechanics, from cardiovascular through musculoskeletal to respiratory and gastrointestinal systems;
- biological structures across all scales, from cells through tissues to organs;
- different methodological approaches, including experimental and computational structural mechanics, experimental and computational fluid dynamics, fluid-structure interaction problems, multiphysics and multiscale coupling;
- conception, design and analysis of medical devices for diagnosis and treatments.