

Dear Friends and Colleagues,

You are cordially invited to submit your contribution and participate in the session '**Geometric Mechanics**' that will be organized within the conference '*GSI'23 6th International Conference on Geometric Science of Information*' that will be held in Saint-Malo, France, 30th Aug.- 1st Sept. 2023.

GSI'23 will bring together pure/applied mathematicians and engineers, with common interest for Geometric tools and their applications for Information analysis and Learning. The conference proceedings will be published by Springer LNCS and Call for Papers is attached.

For up-to-date information and abstract submission, please visit the conference website:

<https://gsi2023.org/>

**Session organizers :**

Géry de Saxcé  
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**Session description:**

The foundations of Geometric Mechanics are rooted in Lagrange's work, which - by implementing variational principle applied to the system's action - introduced the abstract notion of configuration space. Subsequently, the developments of Differential Geometry in the 19th and 20th century gave a powerful and rigorous framework for the formulation of Continuum Mechanics and related fields such as Fluid Mechanics, 'Multi-Physics' (coupling of different media) and Discrete Mechanics (including Multibody Systems). This generated a renewed interest in Geometric Mechanics from modelling and computational point of view.

This session welcomes contributions in the fundamentals of Continuum Mechanics and related fields, including geometric formulations, as well as novel aspects of Geometric Mechanics, with the aim of stimulating discussion and exchange of ideas.

Topics include, but are not limited to:

- Theory of invariants in constitutive laws (elasticity, viscoelasticity, etc)
- Non-linear elasticity
- Fluid mechanics
- Plasma physics
- Contact problems, Non-smooth discrete dynamics
- Multibody systems (kinematics, dynamics, control)
- Anelastic processes (plasticity, viscoelasticity, growth-remodelling, etc)
- Electro-magneto-dynamics of continua
- Geometric and variational integrators
- Discrete exterior calculus
- Coupled problems (mechanics of different media, 'multi-physics')