

## **1-1 - Mechanics of fibrous materials and textiles**

Organisers : Stepan Lomov (KU Leuven) and Dmytro Vasiukov (IMT Nord Europe)

*Fibrous materials including gels, biological tissue, paper and cellulose networks, nonwovens, fiber composites and textiles are ubiquitous in biology and engineering. These materials display a complex mechanical response governed by strong nonlinearities associated with large deformations, contacts between fibers, fiber reorganization during loading, strong anisotropy in the presence of preferential fiber alignment, the presence of a non-linear matrix, presence of embedded active components, etc. In composites, quasi-inextensibility in the fiber direction is coupled with a relatively small stiffness in the fiber orthogonal direction. Significant progress has been made towards understanding and modeling the mechanics of these materials. This symposium addresses experimental, theoretical and computational aspects of the mechanics of fibrous materials and brings together researchers working on diverse applications of these materials.*