Mini-symposium 8.6: Tactile and Perception

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Tactile is the sense that keeps us in touch with our environment, through the direct interaction between our skin and surrounding surfaces. Its understanding is, however, still at a fairly primitive stage in comparison to eg vision. Tactile perception is the result of a complex physical and biological chain where the field of tribology lies at the heart of the process: the mechanical stimuli originated at the contact interface between the skin and the explored surface. Transient strain and stress fields, related to friction forces and induced vibrations, are transduced and processed by the brain; they are heavily influenced both by the environment and our health.

Specific attention will be placed on the reproduction, analysis and rendering of tactile stimuli from the skin deformation in quasi-static and dynamic regimes during friction on different surfaces or tactile stimulators. This will enable a more detailed understanding of the tactile sense, the ability to tune a tactile interaction using topographic and materials choices, or to reproduce a tactile experience using a digital route.

This symposium plans to bring together experts in all aspects of this exciting and expanding new field, to provide an interdisciplinary forum.

Topics to be covered in the mini-symposium, but not limited to, include: Psychotribology; Experimental technics for tactile analysis and processing; Development and exploitation of devices for tactile rendering; Numerical and theoretical approaches aimed to support the understanding of underlying physics; Multidisciplinary works aimed at deciphering the different links of the perception chain, …