

Seminar - 15:00-16:00, Thu 15 Oct 2026

Aula 317, Dipartimento di Ingegneria

Configurational Mechanics of Muscle Contraction

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The molecular mechanism of muscle contraction is based on the interaction between the actin and myosin molecules. At the continuum level, it can be interpreted as a remodelling process, which leads to an anelastic deformation. This anelastic deformation is precisely the active part of the deformation: a kinematical variable describing an additional degree of freedom. The force acting on this additional kinematical variable is called a configurational force and, in the context of muscle contraction, it takes the physical meaning of muscle activation. In turn, muscle activation can be related constitutively to electrochemical variables.

