

## MS 03

### Computational biomechanics and biomedical engineering of active biological systems – from methods to clinical application

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Active mechanisms are found across multiple scales in biological systems and are responsible for a variety of basic functions of living organisms, such as the simulation-driven conversion of chemical to mechanical energy in muscle tissue, metabolic processes, growth and remodeling, or adaptive movements of plants. In this minisymposium, we aim to generate a fruitful interdisciplinary exchange as well as to synergize various aspects related to the modeling of active biomechanical systems and interfaces between model and clinical application. Therefore, we welcome contributions from all topics in the context of biomechanics having any type of active component. These may range from material models for biological tissues, the simulation of biological systems of any type, and biomechanical models for various applications in biomimetics, biomedicine, or others—from the microscale to the organ scale. The minisymposium is intended to span a wide range from basic methods to clinical applications and thus provides an insight into the state of the art across the entire spectrum of active biological systems modeling. We welcome contributions on modeling methodologies of active materials as well as those that—possibly as a first step towards a longer-term goal—specialize in passive properties of active materials.