

## **COUPLED PROBLEMS IN HARD TISSUE BIOMECHANICS**

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### **ABSTRACT**

The newly introduced Phase Field Model (PFM) for failure initiation and the increasing amount of digital personalized data, particularly CT visualization, holds great promises when combined with computational hard-tissue biomechanics for diagnosis and treatment at the patient level. Computational mechanics (CM) combined with PFM or based on the available digital data allows for providing patient-specific information which may be directly translated to clinical applications. This information, when fused with artificial intelligence has the potential to be used very successfully in clinical practice.

This mini-symposium is devoted to recent developments in CM of hard tissues when combined with PFMs or with CT scans, with a focus on human bones. Presentations that combine CM methods based on CT with PFMs or/and artificial intelligence algorithms are encouraged.

Also, personalized treatment strategies that are guided by clinical needs and implemented into clinical practice are of particular interest.