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MULTIPHYSICS MODELLING OF POROUS MEDIA: GEOMATERIALS, BIOMATERIALS AND OTHERS

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ABSTRACT

The mini-symposium will provide a forum for presentation and discussion of the state-of-the-art in multi-physics modelling and solutions to problems in porous materials like soils, rocks, bone, cartilage, concrete, foams, ceramics and films. The emphasis will be on fundamentals, problem solutions, and simulation of mechanisms of inter-phenomenon coupling at all scales.

Topics include mechanical and poromechanical constitutive modelling for multiphase porous materials and their numerical implementation, coupled thermo-hydro-chemical-mechanical field processes and the development of computational methods for modelling pre and post-failure behaviour under quasi-static, dynamic or cycling loading conditions.

Furthermore the description of phase transition processes like erosion and sedimentation is also of interest.

In addition industrial and geoenvironmental applications are welcomed.