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BIOMECHANICS OF ORGANS AND TISSUES CONNECTED TO THE VASCULAR SYSTEM - COMPUTATIONAL MODELING AND EXPERIMENTAL VALIDATION

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ABSTRACT

The vascular system is the central unit connecting all relevant organs in the body. It supplies nutrients, oxygen and other crucial components via the blood circulation. In a healthy state, the so established stable interaction between all organs guarantees the functionality of the body. In contrast, an incident in one of the connected organs will affect also all other components. Following this, it is essential to consider this interactive behaviour in order to make computational based assessments, predictions or therapy suggestions.

Central organs in the vascular system are e.g. the

heart, lung, liver, kidney, urinary bladder, and the vascular system

itself beside others. The mini symposium aims to bring together researchers dealing on computational models of organs of aforementioned type. We want to share the organ modeling experience in view of the used approaches as e.g.

multi-field, multi-scale, multi-phase, and, coupled problems techniques.

Moreover, knowledge in the field of experimental techniques for biological systems to validate model approaches will be exchanged. Thus, experimentalists are highly welcome. Moreover, possibilities will be discuss to connect existing organ models to each other to develop a holistic view on the vascular connected organ system in the body.

Consequently, it is the aim of this mini symposium to bring together experts in biomechanical organ modeling on several scales and types.

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