GROWTH AND REMODELING IN BIOLOGICAL TISSUE

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TIM RICKEN[*], ARNDT WAGNER[†] AND LENA LAMBERS[*]

[*] Stuttgart University, Institute of Mechanics, Structural Analysis and Dynamics of Aerospace Structures
Pfaffenwaldring 27, 70569 Stuttgart, Germany
tim.ricken@isd.uni-stuttgart.de, http://www.isd.uni-stuttgart.de/
lena.lambers@isd.uni-stuttgart.de

[†] Stuttgart University, Institute of Applied Mechanics – Chair of Continuum Mechanics
Pfaffenwaldring 7, 70569 Stuttgart, Germany
arndt.wagner@mechbau.uni-stuttgart.de, http://www.mechbau.uni-stuttgart.de/

Key words Tissue Mechanics, Tissue Growth, Remodeling, Multi-field, Multi-scale, Coupled Problems, Experimental Validation

ABSTRACT

Various diseases effect growth or remodeling processes in biological tissue. These changes in structure have a significant impact on tissue behaviour as well as metabolic processes. Furthermore, the blood perfusion with its nutrient supply is affected by tissue growth and the harmed organ impairs the functionality of the whole body. Computational modelling of growth and remodeling processes in biological tissue allows a more detailed, patient-specific assessment, prediction and therapy of individual diseases.

Central organs in which growth and remodeling can develop are besides others e.g. the
brain, lung, liver, kidney, urinary bladder, and the vascular system
The mini symposium aims to bring together researchers dealing on computational models of the organs mentioned above. We want to share the organ modeling experience in view of the used approaches such as e.g.
multi-field, multi-scale, multi-phase and coupled problems techniques.
Also knowledge in the field of experimental techniques for biological systems on validating model approaches will be exchanged. Thus, experimentalists are highly welcome. Moreover, possibilities will be discussed to connect existing organ models in order to develop a holistic view on the 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 of various types.

REFERENCES

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