

HEART VALVE MODELLING

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PROPOSAL

Heart valves play an essential role in the pump-function of the heart. Malfunction of these valves has an immediate effect on the health of the patient. Studying valves from a (solid and/or fluid) mechanics perspective can provide additional insight in their behaviour. Hence, this mini-symposium invites those who work in the area of structural valve modelling or fluid-structure interaction of valves.

There are various native or prosthetic valves, each with its own typical features. The bileaflet mitral valves have the chordae attached, the trileaflet aortic valves are subject to high pressure gradients and mechanical valves have a separation of the flow field inducing high shear. From an engineering point of view this translates into another geometry, set of boundary conditions and material behaviour for every valve, each requiring its own computational approach. Therefore, in this mini-symposium any developments regarding the methodologies, computational models or clinical applications related to heart valves are of interest.