

Institut für Angewandte Mathematik

Vortrag

Donnerstag, 15.11.2018, 17:00 Uhr

TU Graz, Hörsaal HS E3.1, Petersgasse 10-12, EG, 8010 Graz

**Why I am so crazy about mathematical modelling - the
importance of details in clinical environment**

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Abstract: In my talk I would like to put a little footbridge between clinical environment and mathematical modelling society in the topic of aortic mechanics. The biggest artery of our organism has its own life. It may not be treated as a viscoelastic tube but we may have to take into account some physiological considerations. Aorta by itself is a living organ with internal metabolism and high level of protein production and turnover. In modelling perspective it may be quite difficult to bridge the scale between molecular level and cellular level. I propose to avoid that by organising model into subdomains representing basic structural unit of the aorta. By degenerating properties of single components of the subunit we may simulate the pathology on the level of whole organ. It may also help in explanation of the ageing processes of the aorta and accompanying changes of mechanical properties.

O. Steinbach