

International workshop Mathematical Modeling in Hemodynamics

Inverse problems in hemodynamics from MRI

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In this talk we will present recent advances and future challenges in the field of mathematical modeling and data-based numerical analysis of blood flows, in particular with data coming from Magnetic Resonance Imaging. Then, we will overview some results concerning inverse problems in blood flows based on medical imaging data, namely: (a) data-driven problems (pressure maps estimation from flow velocities) and (b) model-driven problems (parameter estimation, state-estimation, reducing geometrical uncertainties) (c) inverse problems from raw MRI data allowing accelerated MRI scans.

This work is in collaboration with Universidad de Chile, Universidad Catolica de Chile, King's College London, and Academic Medical Center Amsterdam.

For more details visit: www.math.rug.nl/~bertoglio