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Integrated Visualization and Analysis of a Pig's Cardiovascular System

Joerg Meyer

Thomas Wischgoll
Wright State University - Main Campus, thomas.wischgoll@wright.edu

Elke Moritz

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Coronary heart disease is the most common cause of deaths in most Westernized countries, outnumbering the next four causes in the statistics. Consequently, there is a need for a better understanding of the cardiovascular system of the heart. This system of macroscopic to microscopic (capillary) blood vessels provides a continuous supply of oxygenated blood to the myocardium.

We present an integrated visualization method that facilitates both a topological analysis with interactive navigation of the coronary vascular system combined with a blood flow simulation. The software will serve as a simulation tool for pathological conditions in animal and human hearts.