Seminar

Validation of an open source framework for the simulation of blood flow in rigid and deformable vessels

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Abstract: We discuss the validation of an open source framework for the solution of problems arising in hemodynamics. The framework is assessed through experimental data for fluid flow in an idealized medical device with rigid boundaries and a numerical benchmark for flow in compliant vessels. The core of the framework is an open source parallel finite element library that features several algorithms for fluid and fluid-structure interaction problems. A detailed account of the methods is provided.

Wednesday, April 2, 2014, 4:00 pm
Mathematics and Science Center: W302

Mathematics and Computer Science
Emory University