

Computational Fluid Dynamics Round Robin Study

Welcome to the FDA's "Critical Path" Computational Fluid Dynamics (CFD)/Blood Damage Project.

Data on CFD and blood damage validation studies sponsored by the U.S. Food & Drug Administration, and funded by the FDA's Critical Path Initiative is available here.

Benchmark 1:

Computational Round Robin #1 was an international effort to assess the state of the art in biomedical computational fluid dynamics. We devised a benchmark standard model of a generic medical device, consisting of a nozzle with a conical change in diameter at one end of the throat, and a sudden change at the other end. We asked the CFD community in 2008-2009 to run a set of simulations under given flow conditions. We also performed experimental validations of flow in the nozzle for comparison. This website provides information on the study, the nozzle specifications, validation data from experiments, as well as reports as they are generated. .

[Click here](#) for data from **Benchmark 1**



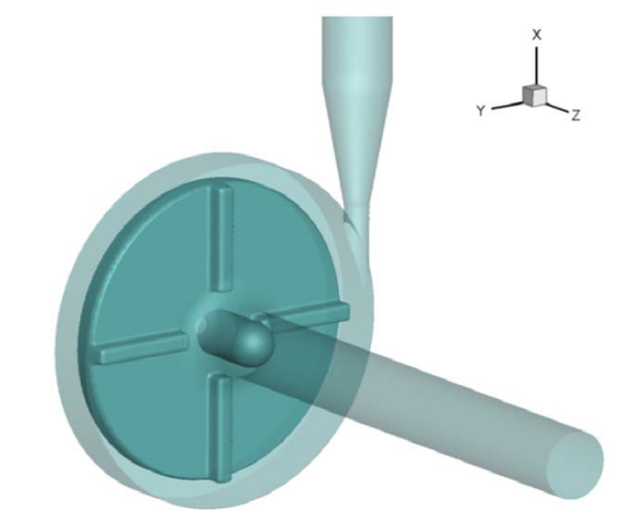
Benchmark 1: Nozzle

Benchmark 2

Computational Round Robin #2 is an international effort to assess the state of the art in biomedical computational fluid dynamics. We devised a benchmark standard model of a model centrifugal blood pump. We are asking the CFD community to run a set of simulations under given flow rates and pump speeds. We are also performing experimental validations of flow in the pump for comparison. This website provides information on the study, the pump

specifications as well as the raw data and reports as they are generated. All the data will eventually be provided in this website. Click on “Documentation” below to get to the instructions.

[Click here](#) for data from **Benchmark 2**



Benchmark 2: Blood Pump

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