

Time: Tuesday May 3rd, 2011 10:00am
Location: Buchanan A202

Simulating complicated fluid-solid mixtures

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In this talk I will discuss the challenges of performing direct numerical simulations of fluid flows containing lots (millions) of solid objects. Instead of approximating this problem statistically, I am trying to track and resolve each object. This is hard because both large and small features need to be resolved, and the mixture of solid and liquid in the domain is a complicated moving boundary problem. An efficient massively parallel algorithm is required to be able to calculate the multitude of forces between all of these million objects involved in the flow.