

**E298 Fluid Mechanics Seminar**  
**Tuesday, May 16, 2006 at 4:15 pm**  
**Building 300, Room 300**

## **Engineering Design and Analysis of the Speedo FSII Swimsuit**

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**ABSTRACT:** The design of fullbody swimsuits, first introduced to the world by Speedo, has continued to evolve using advanced engineering test and analysis methods. This talk presents the techniques used to develop the Speedo FSII swimsuit, the most successful swimsuit of last summer's Greece Olympics. The FSII swimsuit was developed using technology from the Hollywood movie industry, from aerospace Computational Fluid Dynamics Analysis tools (CFD), and from a significant amount of experimental testing in a water flume. Laser scans of two Olympic swimmers were used to make accurate full-scale submersible mannequins in the shape of their bodies, and also to create CFD models of the same swimmers. The CFD models were analyzed for passive drag, and the swimmers and their corresponding mannequins were then tested in a water flume where drag was measured. Testing and analysis drag values compared very well. Details of the analysis and test results will be presented, and swimsuit models will be demonstrating some of the design features of the suit. One of the suits

modeled actually has the skin friction contours from the CFD analysis embedded into the fabric.

Refreshments served at 4:00 pm