



The
University
Of
Sheffield.

Department of Mechanical
Engineering

Mechanical Engineering Departmental Seminar

Tuesday 8th April 2008

**1.00 pm – 2.00 pm, St Georges Lecture Theatre 15
Sir Frederick Mappin Building**

“Analysis of statistical constraints on sub-grid scale modeling”

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Abstract:

Large eddy simulation has become one of the most popular techniques in simulating complex turbulent flows. Lying at the heart of this technique is the sub-grid scale model. One of the key issues in sub-grid scale modeling is to calibrate the model coefficients. In this talk, two examples are presented to show how statistical constraints can be used to achieve this goal in, respectively, sheared turbulence and helical turbulence. The results show that such analysis can provide valuable information as to the dependence of the coefficients on relevant flow parameters. Implication of the results is briefly discussed.