



The  
University  
Of  
Sheffield.

Department of Mechanical  
Engineering

## **Mechanical Engineering Departmental Seminar**

**Tuesday 29<sup>th</sup> January 2008**

**1.00 pm – 2.00 pm, St Georges Lecture Theatre 14  
Sir Frederick Mappin Building**

### **“Vortice Structure in Turbulence Models”**

**Professor Konrad Bajer  
University of Warsaw, Poland**

#### **Abstract**

In many physical situations the temporal evolution of a fluid flow is governed by the dynamics of individual, isolated vortices by which we understand the regions of concentrated vorticity. Complex flows contain many such vortices in intricate geometrical configurations evolving in time. I will discuss the effect of vortices on the diffusion of scalar quantities and on transport of particulate impurities in their neighbourhood. I will also describe one particular mechanism of vortex-vortex interaction which is relevant for the ubiquitous vortex merger mechanism.