



Post-doctoral Fellow and Doctoral Positions.

One post-doctoral fellowship and one doctoral (Ph. D.) position is available in the general area of separated turbulent bluff body wakes. The objective of the work is the formulation of reduced-order models of quasi-periodic turbulent from experimental data towards the development of closed-loop feedback control systems. The experimental techniques consist mainly of Stereoscopic Particle Image Velocimetry (SPIV) coupled with remote-sensing using surface-mounted pressure sensors. Experiments are to be conducted at moderate Reynolds number either in an open-section wind tunnel or a water tunnel.

Bluff body wakes are highly three-dimensional; giving rise to strongly anisotropic turbulence with energy concentrations at characteristic large scales. Fundamentally, these flows are important diagnostic cases to investigate turbulence dynamics and scale interactions. From our research, the flow dynamics are amenable to reduced-order modelling; thereby laying a cornerstone for flow control strategies for drag reduction and fluid-structure interactions. Our laboratory has a long-standing expertise in bluff body aerodynamics. The research will be conducted in collaboration with the ANR Chair of Excellence in Turbulence Control led by Prof. B. R. Noack (PPRIME, Poitiers, France).

The post-doctoral position is funded for a two year term. Experience in PIV, POD and remote-sensing is required. Knowledge in reduced-order modelling or flow-control is desirable. The doctoral position is funded for up to four years. Experience in turbulent flows, either computational or experimental, is required. The start date for both positions is preferably January 1, 2015, but applications will be accepted until the positions are filled. Interested candidates should provide an academic résumé, including a list of publications, a brief statement of research interests (300 words) and a list of three references. Forward these by email to Prof. Robert J. Martinuzzi (rmartinu@ucalgary.ca) of the University of Calgary, Calgary, Alberta, Canada and Prof. Bernd R. Noack (bernd.noack@univ-poitiers.fr) of the Institut Pprime, Poitiers, France.

