



## CASL Computational Science Seminar

**Title:** Information processing and collective decision making in social agents

**Speaker:** Colin Torney (Princeton)

**Date:** Wed 20th January 2010 at 2:00PM

**Location:** CASL Seminar Room - Belfield Office Park

**Abstract:** In this talk I will present some recent theoretical and experimental work on information processing in social organisms. I will firstly give an overview of ongoing experimental work in areas such as social foraging and predator avoidance which aims to understand how group level behaviour emerges from local interactions and how accurate consensus decisions are made. I will then present some theoretical work on collective search strategies in turbulent or chaotic fluid flows which demonstrates how social aggregates are able to perform complex tasks, such as the location of a food source, which are not possible at the individual level. (Related paper: "Context-dependent interaction leads to emergent search behavior in social aggregates" C. Torney, Z. Neufeld and I.D. Couzin, Proc. Natl. Acad. Sci. USA 106 22055-22060, 2009 )