

Beaufort Marine Research Awards 2007 Project Outline

Name of Principal Investigator: Prof. Alan Smeaton & Dr. Noel O'Connor

Project Title: Visual Sensing of Environmental Conditions

Duration of Project: **From:** October 2007 **To:** January 2011

Project Description:

The core competencies of the AIC/CDVP in DCU are in image/video processing, event detection and visual analysis, and video management and this is applied to both recorded and to live video (movies, TV, CCTV, etc.) in the visible and infra-red spectrums. Visual sensing is now ubiquitous, and it is cheap and with the falling cost in hardware, it is now feasible to build visual sensor networks along the same lines as other sensor networks. There are a variety of applications for these in environmental monitoring, divided into those that use visual sensing to monitor the output of other sensors, and those that use visual sensing to monitor the environment directly. Examples of the latter could be monitoring water surface for turbidity, particles or wave heights. The application we would target and the exact nature of what we propose to monitor, visually, will be worked out through dialogue with the Marine Institute.

Research Outputs:

- Working demonstrator systems

Impact/importance:

- visual sensing is ubiquitous, and cheap, and offers a cost-effective infrastructure for information-gathering;
- visual sensing can be regarded as just another sensing modality, akin to chemical or audio sensing, with similarities in the areas of event detection, yet little work has been done on visual sensing of environment for cost reasons