

Optical Group Student Travel Grant Report

12th International Symposium on Applications of Laser Techniques to Fluid
Mechanics
Glasgow, Scotland, 6th-9th September 2004

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Photon04 is the largest optics conference in the UK and the second in the series which began in Cardiff with Photon02 in September 2002. Photon04 was held on 6th to 9th September 2004 in the Glasgow Caledonian University. The symposia aim is to contribute and to present advanced research in different optical domains.

The program consisted of 4 groups of sessions spread over 4 days: Optics and Photonics Division, Quantum Electronics and Photonics Group, Industry Technology Programme and the Posters sessions. It was necessary to plan my time at the conference carefully, so as to attend those of presentations of particular interest to me. My main objectives from attending the conference were to present my work on Optical coherence tomography (OCT) using a Fizeau interferometer, and find out the latest advance in optics. Also the conference is a good place to learn about the latest developments in other domains, and other techniques that might have similar problems and issues to those with OCT.

My talk “Optical Coherence Tomography based on Fizeau Interferometer” describes the fizeau configuration, providing a comparison with the standard Michelson configuration. The Signal-to-Noise Ratio of the system is further improved using an optical circulator and a Mach-Zehnder receiving interferometer. I presented my paper in the ‘Medicine and Life Sciences 3’ session on the first day of the conference, and was pleased with the way it went.

I met as well Dr. Pablo D. Ruiz who gave a talk entitled “Depth resolved whole-field displacement measurement using wavelength Scanning Electronic Speckle pattern interferometry” and presented interesting results that could have an interesting application for OCT.

In my field, OCT, I attended two interesting presentations from Prof. R. Wang, presenting the advance and extensions on OCT, and Ms L. Zhang, presenting her work on optical clearing of skin tissue, that will be certainly an application for cancer treatment.

I also attended many interesting presentations on varying subjects, of particular interest the Industry Technology Programme sessions presenting talks on advanced optics applied to the industry, with some talks giving information on the domains of applications and developments of companies.

Finally I will thank the organisers of the conference for their reception. I will recommend other students to attend the next Photon conference (Photon06).

I appreciated the broad Scottish accent, really melodic, a bit difficult to get the first hour.