

# Optical Group Travel Grant

## A report on the Conference of Lasers and Electro-Optics (CLEO) 2004, San Francisco, USA

Prepared by

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The travel funds received from the Institute of Physics (IOP) will be mainly used to cover the travel cost of the conference of lasers and electro-optics (CLEO) at San Francisco, USA.

CLEO 2004 is one of the largest conferences in the field of optics and lasers research. This conference provides an overview of the latest research in optics and lasers. There were many topics covered in this conference, ranging from non-linear optics to telecommunications. During this conference, I had the opportunity to give a presentation on the latest results of my research and to find out on the latest developments in various types of lasers, amplifiers and sensors. In addition, I had the opportunity to meet with the leading researchers from all over the world and to ask questions about their work.

The main purpose of this trip is to give a presentation on the recent experimental findings of using Raman amplifiers to enhance the performance of distributed fibre optic sensor. I believe that my talk was well received, as there were many interesting questions from the audience after the presentation. The questions were mainly about the performance of the sensor as a result of optical amplification and the problems that I encountered using such a technique. I was encouraged by the feedback provided by the other fellow researchers.

In a similar day, there was an invited talk on the use of fibre optic sensor in the oil and gas industry. The presentation was very interesting as the focus was on the use of such fibre sensors in various operating environment and also an overview of the instrumentations involved in such a system. This talk gave me a very good insight into practical aspect of this field.

There were a few other interesting presentations on the use of Terahertz technology for imaging and security, for example non-intrusive techniques for the detection of illegal drugs. There were also other presentations on the recent development of Terahertz sources and detectors. These talks led me to believe that there is still a lot of research to be done in generating and also for detecting Terahertz waves more efficiently.

There was an introduction session in the first day organised by the Optical Society of America (OSA) to assist the students in choosing their respective presentations. They have also recommended students to attend a selection of invited talks and tutorials; most of the suggestions were very useful. Many parallel presentations were introduced, in order to accommodate all the various subjects in the conference. To overcome this problem, I study the abstracts earlier and selected the presentation that I am interested in.

Attendance at this conference has given me the opportunity to better understand the future direction of research in the field of optics. I am grateful to IOP for giving me this opportunity to attend this conference.