



National University of Ireland, Galway
Ollscoil na hÉireann, Gaillimh

CENTRE FOR OPTICAL SCIENCE AND LASER ENGINEERING

ATLANTIC LASERS AND OPTICS FORUM

PRACTICAL OPTICS

An Introduction to Optics and Optical Systems

14th and 15th March 2006
National University of Ireland, Galway
Room AO 208, Applied Optics Group, Arts and Sciences Building

Objective

This two-day course is designed to provide an understanding of the basic principles of optics and optical systems for engineers and managers in industry and support agencies who may not have a background in optics. No prior knowledge of optics is required but it is recommended that attendees have a basic training in science or engineering.

Aims of the Course

The course is designed to:

- Explain the basic principles of geometrical and wave optics
- Provide an introduction to the principles of optical design
- Apply these principles to examples of optical systems.

Who Should Attend?

The course is intended for engineers and managers in industry and supporting agencies who require a knowledge of optics, either for their current projects or for future product development. It is also design for those in companies who have to interact with suppliers of components or sub-systems that contain some optical components.

Programme

The course will run from 9:30 a.m. on Tuesday 14th March to 3:30 p.m. on Wednesday 15th March 2006, and consist of a total of 9 one-hour lectures, plus two short laboratory demonstration sessions and a reception at the end of the first day. There will be ample opportunity to interact with the lecturing staff and with other delegates during the course.

Programme

Tuesday 14th March

9:30 Lasers and Other Light Sources
10:30 Basic Geometrical Optics
11:30 Break
12:00 Aberrations of Optics Systems
13:00 Lunch
14:00 Imaging and Diffraction
15:00 Laboratory Demonstrations
15:30 Break
16:00 Interferometry and Testing
17:00 Reception

Wednesday 15th March

- 9:30 Elements of Optical Design
- 10:30 Polarisation of Light
- 11:30 Break
- 12:00 Light Detectors
- 13:00 Lunch
- 14:00 Laboratory Demonstrations
- 14:30 Discussion and Examples (based on interests of attendees)
- 15:30 End of Short Course. A certificate of attendance will be provided to each participant.

Course Lecturers

Prof J C Dainty is Science Foundation Ireland Professor at NUI Galway. He obtained his PhD from Imperial College, London and has 35 years experience in teaching and research in Applied Optics. He has received many awards for his contributions to optics, including the Mees Medal and Prize of the Optical Society of America.

Dr. N. Devaney is a lecturer in the Department of Experimental Physics. He has several years of experience in optical instrumentation projects for large astronomical telescopes, with responsibilities including design, testing and management.

Dr A Goncharov received his PhD from Lund Observatory, Sweden, working on optical design in the Euro50 telescope project. His present field of interest includes optical design and adaptive optics for ophthalmologic and astronomical imaging.

Dr. D Lara obtained his PhD from Imperial College London, introducing a new polarisation sensitive imaging technique. His current work consists of wavefront sensing estimation using maximum likelihood methods, development of a spatial light modulator, high resolution retinal imaging, and polarisation sensitive imaging.

Accommodation

There are many hotels and B&Bs in Galway, ranging from €40 per night upwards. Attendees are strongly recommend to staying overnight on both 13th and 14th March to allow a prompt 9:30am start to the course each day. Details of accommodation and other facilities in Galway can be found at <http://www.galway.net/>.

Location of Short Course

The course will be held in Room AO208, in the Applied Optics Group, Physics Department, NUI Galway. Campus and Galway City maps can be found at: http://optics.nuigalway.ie/visit_us

Parking

There is some "pay and display" car parking available at NUI Galway at a rate of €6 per day. However you are strongly encouraged not to bring your car on campus and to walk to the Campus if at all possible.

Fee and Registration

There is a fee of €500 (€450 for members of ALOF) which includes refreshments, lunches, reception and a paper copy of the lecture slides. Please register in advance by returning the form below to Emer McHugh, Applied Optics Group, Physics Department, National University of Ireland, Galway, Ireland or sending details by email to: emer.mchugh@nuigalway.ie

You are advised to register as soon as possible. Places will be limited in this course to provide the best possible opportunity for the participants and lecturers to interact in a productive and informal way.

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I wish to attend the short course on PRACTICAL OPTICS on 14/15th March 2006.

Name: _____

Organisation: _____

Address: _____

Telephone and Email: _____

Special Dietary Requirement? _____

Payment: Purchase Order No. _____ Cheque for €500 / €450

Cheques should be made payable to "National University of Ireland, Galway"