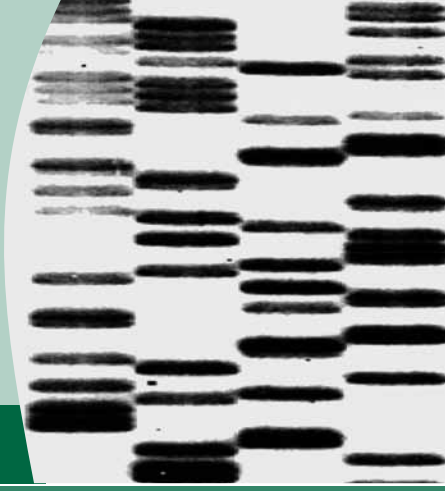
A Course for Medical Practitioners



course dates 12th - 15th July 2010

Techniques and Applications of Molecular Biology

A four day course for those in the medical profession wishing to develop their understanding of the principles and applications of genetic engineering techniques. Optional accreditation leads to a masters level Postgraduate Award.

Comments from previous attendees:

"Very unique course.
Difficult topics tackled in an easy enjoyable way"

"Excellent, well run course.
Relevant and contemporaneous."

"Interesting and informative. Gave extensive knowledge into the background of the techniques."

Course Leader: Dr Prakash Arumugam

THE UNIVERSITY OF WARWICK

Techniques & Applications of Molecular Biology

Application Form: (Closing date for applications: 28th June 2010)
Techniques & Applications of Molecular Biology. July 2010

I wish to (please tick as appropriate):

- ☐ Attend the course without accreditation: £595
- ☐ Attend the course and also register for the University of Warwick Postgraduate Award in Techniques & Applications of Molecular Biology*: £860

*Note: Those wishing to register for the Postgraduate Award must also formally register with the University via Postgraduate Admissions. Please go to **http://go.warwick.ac.uk/pg** to apply online. Hard copy is available on request.

Name:.....

Address: .....

.....

..... Post Code: .....

Work Tel / Fax / Email: .....

Institution: .....

Position Held: .....

To Register: Please return completed form with the full fee or a deposit of £150. Please send either a cheque made payable to "University of Warwick" or an order number and invoicing details. The balance of the course fee is required by 28th June 2010.

A list of local hotels can be provided on request.

Cancellation Charges: The £150 deposit for the course is non-refundable after 28th June 2010. A further cancellation charge of £50 will be levied for bookings withdrawn after this date.

Please return completed application form to:

Dr. Charlotte Moonan (Short Courses), Department of Biological Sciences,
The University of Warwick, Coventry CV4 7AL. UK. Email Charlotte.Moonan@warwick.ac.uk

12th - 15th July 2010

Overview

Few in the medical profession can be unaware of the impact of molecular biology across the field of Medicine. Genetic engineering techniques have found direct clinical applications and opened up new opportunities in medical research, in areas such as clinical genetics, medical microbiology and virology, epidemiology, pathology, endocrinology, neurology and immunology. Many in the medical profession therefore need an understanding of the techniques and terminology of molecular biology to keep abreast of developments in their own field, particularly if they are engaged in research. This course aims to provide such an insight, drawing on the resources of a University department with extensive expertise in this field. Due to its previous success this annually-updated course is being held for the 37th time and can now be taken as an accredited Postgraduate Award.

Participants will have the opportunity to discuss their interets and research with course tutors. A comprehensive course manual will be provided.

Course programme to include:

A short preparatory leaflet will be sent in advance of the course. The course will commence with a brief review of gene structure and function, covering DNA, RNA and protein synthesis and the control of gene expression.

Further lectures will outline the principles and scope of the central techniques used in genetic manipulation, including:

- cDNA and genomic cloning
- DNA sequencing and in vivo mutagenesis
- use of restriction enzymes
- plasmid, viral and cosmid vectors
- expression of cloned DNA
- polymerse chain reaction
- characterising the human genome
- raising and using antibodies
- diagnosis of inherited diseases including mutation detection

The application of these techniques will be illustrated by discussion of specific examples relevant to medicine.

Practical Programme

This supporting programme will focus on the practical aspects of recombinant DNA techniques. A series of small group tutorials will be conducted, using graphic displays, computer-based practical illustrations and experimental materials to illustrate;

- preparation of DNA & RNA
- making and using nucleic acid probes, Southern, western and northern blots
- microarray technology
- cell culture techniques
- in situ hybridisation
- bioinformatics

In addition, a laboratory programme will give participants 'hands on' experience of:

- isolation of plasmid DNA
- transformation of *E.coli* with plasmid DNA
- restriction digestion and agarose gel electrophoresis
- DNA amplification (PCR)

Techniques & Applications of Molecular Biology

Course Venue

The University of Warwick ranks in the top ten of the country's one hundred universities. The Department of Biological Sciences has an international reputation in fundamental and strategic research. Housed on an integrated self-contained site the department has well-equipped research and teaching laboratories, support facilities, and modern teaching rooms.

The University is situated in a country setting 3 miles from Coventry on a large, scenic campus. There is easy access by road, rail (London - 75 minutes; Birmingham - 17 minutes) and air (Birmingham International Airport - 12 miles).

University of Warwick Postgraduate Award in Techniques and Applications of Molecular Biology

Participants attending the course can apply to register for the University of Warwick Postgraduate Award (PGA) in Techniques & Applications of Molecular Biology. Those registered for the award will be additionally required to successfully complete the following within six months of attending the course;

- Oral presentation (undertaken during the course)
- Home learning based on suggested reading material
- Submission of an essay (4,000 words) as coursework based on home learning

The Warwick Postgraduate Award in Techniques & Applications of Molecular Biology is approved at Masters level under the Credit Accumulation and Transfer Scheme (CATS) and carries 20 CATS points at M-level.

Please note that those wishing to register for the award must be graduates in an appropriate science discipline or show evidence of longstanding vocational experience.

Enquiries to:

Dr. Charlotte Moonan (Short Courses)
Department of Biological Sciences, The University of Warwick, Coventry CV4 7AL. UK
Tel: 024 7652 3540 Fax: 024 7652 3701 Email: Charlotte.Moonan@warwick.ac.uk
Web: www.warwick.ac.uk/go/bioscienceshortcourses

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