Application Of DNA Sequencing

Introduction

The Center of Excellence in Genomic Medicine Research (CEGMR) at King Abdul Aziz University is pleased to announce the international workshop on 'Application of DNA sequencing'.

This workshop is organized by continuous education and outreach program at CEGMR as part of its mission in education, research and service to the community.

CEGMR is an established platform that provides cutting edge research and professional education. CEGMR strives to provide training courses, workshops, and conferences of scientific importance to provide an opportunity to scientists interested in the field.

Objectives

- Understand how dideoxynucleotides can be used to obtain DNA sequence information in a chain termination assay.
- Understand how sequence reading can be automated using fluorescent ddNTPs
- Be able to read sequence from a polyacrylamide gel chromatogram
- Understand that errors occur in sequence reads and how these errors can be detected by comparison to a consensus sequence.
- Applications of sequencing in certain diseases.

Dates, Location & Duration

The course will be held in the laboratories of CEGMR, King Fahd Medical Research Center based at King Abdul Aziz University. Lectures and practical sessions will be held daily from 8:00 a.m. to 4:00 p.m, from Saturday until Tuesday.

Documents and Certificates

Participants who successfully complete the theoretical and practical parts will be awarded a certificate of completion.

The workshop is accredited by the Saudi Council for Health Specialities and is awarded CME hours.

Fees and Registration

3000 SR will be charged. Fees will include break refreshments, lunch, all workshop materials and documentation. Registration is on the basis of first come first serve, therefore early registration is highly recommended.

Program schedule

1st Day

Time	Topic
08:00 am-09:00 am	Registration
09:00 am-10:00 am	Introduction to the workshop
10:00 am-10:20 am	Coffee break
10:20 am-11:20 am	Overview on DNA sequencing
11:20 am-12:20 pm	Applications of sequencing
12:20 pm-01:00 pm	Lunch time
01:00 pm-04:00 pm	**Lab work**: Isolation of DNA from whole blood

2 nd Day

Time	Topic
08:00 am-10:00 am	**Lab work** : PCR amplification of DNA using fragment specific PCR Primers
10:00 am-10:20 am	Coffee break
10:20 am-11:20 am	Gel electrophoresis
11:20 am-12:20 pm	Types of mutations and other applications of genetic analyzer
12:20 pm-01:00 pm	Lunch time
01:00 pm-04:00 pm	UV Trans illumination using gel documentation

3st Day

Time	Topic
08:00 am-09.00 am	Purification of products to be sequenced
09:00 am-10:00 am	**Lab work**: Initial purification procedure
10:00 am-10:20 am	Coffee break
10:20 am-12:20 am	**Lab work**: Gel electrophoresis for purified products
12:20 pm-01:00 pm	Lunch time
01:00 pm-02:00 pm	Cycle sequencing using big dye termination
02:00 pm-04:00 pm	**Lab work**: Cycle sequencing

4st Day

Time	Topic
08:00 am-09.00 am	Various methods 2nd purification of sequencing product
09:00 am-10:00 am	Lab work: 2nd purification of labelled product
10:00 am-10:20 am	Coffee break
10:20am-12:20 am	Sample loading followed by automated sequencing
12:20 pm-01:00 pm	Lunch time
01:00 pm-02:00 pm	Data analysis of sequenced fragments, differentiating homozygotes from heterozygotes
02:00 pm-04:00 pm	Lab work: Sequencing data analysis and storage