Beginner´s Course in Molecular Diagnostics

Committee-Clinical Molecular Biology Curriculum
C-CMBC
Department of Pathology,
Stellenbosch University and National Health
Tygerberg Hospital
Tygerberg, South Africa

22nd – 27th July 2013

IFCC
International Federation
of Clinical Chemistry
and Laboratory Medicine

The C-CMBC of the International Federation for Clinical Chemistry will run a course for **Beginners in Molecular Diagnostics** in the basic techniques and procedures of *designing, setting-up, performing and validating of molecular genetic tests (MGT), their application in Health care and quality assessments*.
The course comprises lectures, lab work and seminars; participation is limited

COURSE PROGRAMME

July 22, 2013 : Pre-Course
09.00–10.00: Basic concepts on PCR
10.00–13.00: PCR optimization, anti-contamination procedures
14.00–18.00: Development of specific protocols for amplification tests. Exercises.

July 23, 2013 : Day 1
09.00–10.00: Introduction to IFCC-EMD, C-CMBC and course issues - primary and secondary objectives of course
10.00–13.00: Lab set-up, technical requirements, preparation & storage of wetware
14.00–18.30: Systematic approaches to MGT; OECD guidelines for "Good Molecular Practice in MGT"; Quality Assurance, internal and external EQA programs; Accreditation; ELSI; C53

July 24, 2013 : Day 2
09.00–10.00: Seminar on DNA isolation and analysis techniques
10.00–13.00: DNA isolation from different tissues; analysis of DNA quality, integrity and yield; DNA separation;
14.00–18.30: Evaluation of experiments in technical seminar; Lectures on nucleic acid testing

July 25, 2013 : Day3
09.00–09.30: Seminar on PCR and amplification protocols
09.30–13.30: PCR; allele-specific amplification; restriction; RFLP method; read-out
14.30–18.30: practical work; seminars on result achieved; Lectures on Genetic Diseases and Bioinformatics

July 26, 2013 : Day 4
09.00–09.30: Technical seminar on specific detection methods;
09.30–13.00: allele-specific hybridization technique; setting up a hybridization assay for genotyping; HPV PCR set-up;
14.00–18.30: Evaluation of experimental results; lectures on Molecular Oncology, Bioinformatics (excersises)

July 27, 2013 : Day 5
09.00–10.00: Introduction to assay design tools;
10.00-13.00: using primer design softwares; assay design software; optimising assay performance and trouble shooting; use of databases for result interpretation (web-based or offline); in-silico set up of a genotyping assay
14.00-18.30: technical seminar and discussion of results; Lectures on Pharmacogenetics and State-of-the-Art Lecture (Arrays, NGS)

Beginners in Molecular Diagnostics should register via email by contacting **Professor Rajiv T Erasmus**
email: **rte@sun.ac.za**
Registration Fee: .... (includes costs for the course, and lunches).
Please note that costs of travel are not included

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