



Beginner's Course in Molecular Diagnostics

Committee-Clinical Molecular Biology Curriculum
C-CMBC, IFCC and the Romanian Association of
Laboratory Medicine (ALMR)
CCAMF of UNIVERSITY of Medicine and Pharmacy
Tirgu Mures

4th - 9th December 2016



The C-CMBC of the International Federation for Clinical Chemistry (IFCC) in collaboration with the Romanian Association of Laboratory Medicine (ALMR) and the Center for Advanced Medical and Pharmaceutical Research 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 to 20 participants**

COURSE PROGRAMME

December 4, 2016 : 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.

December 5, 2016 : 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

December 6, 2016 : 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

December 7, 2016 : Day 3

- 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

December 8, 2016 : 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; quantitative PCR
- 14.00–18.30:** Evaluation of experimental results; lectures on Molecular Oncology, Bioinformatics (exercises)

December 9, 2016 : 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 State-of-the-Art Lecture (Arrays, NGS)

Prospective applicants should contact the course co-ordinator,

MD, PhD student Valeriu Moldovan, email: valeriu.moldovan@umftgm.ro

Registration Fee: 400 RON (includes costs for lunches & teas)

Please note that costs of travel and accommodation are not included

Lecturers

Prof. Evi LIANIDOU (University of Athens, Greece),
Andrea FERREIRA-GONZALEZ, PhD (VCU Medical Center, US),
Atsushi WATANABE, PhD (Nippon Medical School Hospital, Japan)
Prof. Parviz AHMAD-NEJAD (University of Wiitten Herdecke, Germany),
Verena HASELMANN, MD (University of Mannheim/Heidelberg, Germany)
Liucija Bikauskaitė, Vilnius University Hospital Lithuania
Local organisation support: Valeriu Moldovan, PhD student

Supported by:



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