

Hands on technique

MOLECULAR BIOLOGY WORKSHOP

**With special focus on setting up different types of PCR protocols
and applications to Pharmacogenomic studies
“Theory and Wet lab practice”**

Presented by

Associate Professor/Ahmed Wahid

Biochemistry department
Faculty of Pharmacy
Alexandria University

PhD-Faculty of Life Sciences-Manchester University-United Kingdom

Postdoctoral fellowship-Pasteur institute-France

Visiting Researcher, Centre for Virus Research (CVR), The University of Glasgow-Scotland

Day 1	
9:00-9:30	Registration
9:30-10:00	Introduction to DNA manipulation history until PCR discovery
10:00-11:00	Theoretical background for DNA/RNA extraction methodologies
11:00-12:00	Practical session for DNA extraction for PCR use
12:00-12:30	Coffee break
12:30-1:00	PCR background
1:00-2:00	Types of PCR (RT-PCR, Nested PCR, PCR based Site-directed mutagenesis reactions)
2:00-2:30	Designing a PCR protocol
2:30-3:00	Coffee break
3:00-4:00	Practical set up reaction for PCR reaction

Day 2	
9:00-9:30	Registration
9:30-11:30	Designing PCR primers for Conventional PCR, RT-PCR, Nested PCR, Sequencing, and Site directed mutagenesis.
	Practical session for primer design using online bioinformatic tools
11:30-12:00	Coffee break
12:00-12:45	Theoretical background for agarose gel electrophoresis for PCR qualitative detection

	Lab safety
12:45-1:45	Practical session for agarose gel electrophoresis for PCR qualitative detection
1:45-2:00	Theoretical background for quantitative detection for PCR products
2:00-2:30	Practical session for quantitative detection for PCR products
2:30-3:00	Coffee break
3:00-3:30	PCR purification
3:30-4:00	General overview to applications of PCR

Day 3	
9:00-9:30	Registration
9:30-10:00	Trouble shooting
10:00-10:30	PCR in diagnostic use
10:30-11:30	Analysis of sequencing results Practical session for sequence analysis
11:30-12:30	PCR as a tool in Pharmacogenomic studies with the use of RFLP (Restriction Fragment Length Polymorphism) technique
12:30-1:00	End of workshop and certificates