Bringing Scientific & Technical Resources to the African Continent

Chrom Africa Instrumentation Services Limited
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CURRENT AND EMERGING MOLECULAR APPROACHES FOR IDENTIFICATION AND CHARACTERIZATION OF MICROBES AND PATHOGENS IN FOOD.

15th -19th APRIL 2024

Course overview

This course covers theoretical and practical aspects of various molecular techniques used for detecting,speciating,typing,classifying and/or characterizing microbes and pathogens of great significance to humans

Suitability

This course is suitable for researchers, scientists, laboratory analysts, people working in the water and food industry who require knowledge on techniques for the microbiological analysis of water and food as well as the interpretation of results,graduate students and postgraduate students who have a background in molecular biology,microbiology or biochemistry.

Course duration

The course will run over a period of five days. Specific requirements of the laboratory with regards to selection of methods to be demonstrated will be included.

DAY 1 (09.00-10.00)	● Registration and Orientation ● Introduction to microbial taxonomy
10.00-10.30	***Tea Break***
11.00-12.30	● Overview of molecular identification strategies: including quantitative PCR, electrophorensis and sequencing
12.30-14.00	***Lunch Break***
14.00 -16.30	● Polymerase Chain Reaction and its variants: Laboratory set up, instruments, reagents and consumables, software and controls,
DAY 2 (9.00-10.30)	● RT-qPCR: Data analysis, CQ values, melting curve analysis and data reporting
10.30-11.00	***Tea Break***
11.00-12.30	● Standard reagents, media preparation to test for *Escherichia coli, Clostridium botulinum* and *Vibrio cholerae*
12.30-14.00	***Lunch Break***
14.00-16.30	● RT-qPCR assay design and programing ● Sample preparation, DNA extraction and Real-Time amplification

DAY 3 (9.00-10.30)	● Making sense of microbial gene expression levels and associated quantification models
10.30-11.00	***Tea Break***
11.00-12.30	● Information on GMO Reference material, standards, reagents and media preparation for microbial testing
12.30-14.00	***Lunch Break***
14.00-15.30	● Fluorescently labeled primers: types and applications
DAY 4 (9.00-10.30)	● Computational approaches for design and validation of qPCR primers ● Visualization and interpretation of RT-qPCR amplification data
10.30-11.00	***Tea Break***
11.00-12.30	● Electrophoretic examination and interpretation of microbial DNA amplicons
12.30-14.00	***Lunch Break***
14.00-15.30	● Quality Control such as Limit of detection and blind sample analysis
DAY 5 (9.00-10.30)	● Conventional phenotype-based, biochemical and genotypic methods
10.30-11.00	***Tea Break***
11.00-12.30	● Recap of the course
	12.30-14.00
14.00 – 15.00	● Closing ceremony and issuance of certificates

Dates: 15th – 19th April,2024 **Deadline 9th April,2024**	**Cost Kes. 92,800.00 or USD 928.00**	**KISUMU**