AMITY UNIVERSITY
MUMBAI

WORKSHOP FOR

MEDICAL PRACTITIONERS ON

MOLECULAR DIAGNOSTIC TECHNIQUES

(MDT-2019)

Organized by:

AMITY INSTITUTE OF BIOTECHNOLOGY

In association with:

Thyrocare®

Think Thyroid. Think Thyrocare.

ABOUT AMITY UNIVERSITY:

Amity University Mumbai has been established under Maharashtra Govt. Act of 2014 of Government of Maharashtra and is recognized as per Section 2(f) of the UGC Act with the rights to confer degrees. Amity University Mumbai with its future-ready, sprawling campus, a world - class learning infrastructure and over a kilometre long frontage on the Mumbai-Pune Expressway offers a 360 degree career transformational set-up. With its state of the art infrastructure, the campus facilitates all-round growth of students. At Amity University Mumbai, carefully conceived and well-designed features provide you with the right launching pad to embark on a highly rewarding career. A state-of-the-art Centre for Interdisciplinary Research (CIDR), which works in synergy with the academic curriculum and enriches it with innovative inputs from research has been set up at the Mumbai campus. Visit our website for more information: **http://www.amity.edu/mumbai/**

ABOUT AMITY INSTITUTE OF BIOTECHNOLOGY

Amity Institute of Biotechnology (AIB), Amity University, Mumbai (AUM) was established in 2014. The Institute offers UG and PG programs in Biotechnology. The faculty members have substantial financial support for their research activities from both state and central government funding agencies. The Department offers vibrant atmosphere to scholar to nurture the spirit of scientific inquiry and to pursue cutting edge re-search in highly encouraging environment. The active field of research includes co-ordination in plant and animal tissue culture, phyto-chemistry, biochemistry, molecular biology, microbiology, bioinformatics, molecular modelling, drug design, genetic engineering, nanotechnology, stem cells and regenerative medicine. Visit our website for more information: **http://www.amity.edu/mumbai/ug-biotech-courses**

ABOUT THYROCARE INDIA:

Thyrocare is India's first fully automated diagnostic laboratory with a focus on providing quality at affordable costs to laboratories and hospitals in India and other countries. Thyrocare operates with a Centralized Processing Laboratory (CPL) in Mumbai - India for esoteric tests; and Regional Processing Laboratory in major metro cities of India and other parts of Asia. We have focus on strong technologies, strong brands and strong systems that enable all laboratories to give their clients the best of science and technology at an affordable cost. With a belief that 'Quality' is the heart of any intelligent management, Thyrocare became one of the first Indian diagnostic laboratories to obtain internationally renowned quality accreditations like ISO 9001-2000 rating as early as 2001, which is now escalated to ISO 9001:2008 and CAP (College of American Pathologists) certification in 2007. Many laboratories and hospital brands in India, Middle East and South East Asian countries, use Thyrocare to complete their menu and deliver quality at an affordable cost.

ABOUT WORKSHOP

Molecular diagnosis has recently gained immense importance as it has applications in early diagnosis in ailments such as cancer, neurological disorders, genetic disorders, life style diseases and many more. This workshop is intended for Medical Practitioners and Postgraduates to gain a strong foundation on molecular diagnostic techniques. This five-day workshop will include wet-lab activities as well as lectures and group discussions. Objectives of this Five-Day workshop

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- To identify scenarios when a molecular test is appropriate
- To describe the benefits of using a molecular test for diagnosis of pathogens and screening of disorders
- To describe a PCR-based assay to detect a single or small number of mutations
- Conduct DNA extraction, DNA quantification, PCR amplification, gel electrophoresis, and mutation detection methods
- Conduct RNA extraction, RNA quantification and pathogen detection methods
- Understand quality control procedures and requirements specific for molecular testing/diagnosis
- Understand data reporting and interpretation as it relates to molecular testing

The above mention objectives will be achieved through practical and lecture sessions which will be conducted by Diagnosis Industry Experts and Subject Experts.

HIGHLIGHTS OF THE WORKSHOP

- Lectures sessions by industry experts
- Extensive laboratory session for complete understanding of Molecular Diagnostic techniques
- DNA and RNA extraction procedures
- DNA amplification-based detection systems (PCR and Real-Time PCR)
- Molecular Detection of infectious diseases and common oncogenic mutations
- Karyotyping for detection of chromosomal aberrations
- Next Gen DNA sequencing based genotyping
- Interpretation of test results and report making

MODULE DESCRIPTION

This module is designed to review the impact of molecular diagnostics in the detection of infectious diseases and mutations. The module will explore key concepts in assay design and validation in molecular diagnosis. The module will review the application of amplification-based technology and automated test platforms in the detection and epidemiological investigation of acquired infections and known mutations.

INDICATIVE MODULE OF THE WORKSHOP LECTURE PROGRAMME

Review common community-acquired, Healthcare-acquired infections and diseases occurring due to genetic disorders under the following headings:

Clinical significance

- Conventional laboratory processing and procedures for pathogen isolation and identification
- Principles, procedures and application of current and emerging molecular detection methods
- Nucleic Acid Amplification Test systems in Molecular Diagnosis- Advantages and Limitations
- Platforms- commercial kit-based and open in-house assay
- Molecular detection assay - design strategy, optimisation and validation
- Trouble shooting and Interpretation of results obtained from detection assays

PRACTICAL PROGRAMME

- DNA and RNA extraction from human fluids
- End-point PCR for the identification of common pathogens
- Real-time PCR assay for the investigation of infection
- Karyotyping for Chromosomal Aberrations

TENTATIVE TECHNICAL SCHEDULE:

	Lecture Session	Practical Session
Day 1: 17/06/2019	Inauguration and Key Note Lecture: Molecular Diagnostics: Past, Present and Future	DNA and RNA Extraction Procedures
Day 2: 18/06/2019	Polymerase Chain Reaction (PCR): Principle, Procedures and Applications	Setting up PCR reactions, Detection of parasite DNA using end-point PCR
Day 3: 19/06/2019	Diagnosis of Infectious Diseases: Challenges, Limitations, Report Generation and Interpretation	Detection of viral DNA using real-time PCR
Day 4: 20/06/2019	Detection of Mutations: Assay Design and Interpretation	Mutation Detection System/Allelic Determination
Day 5: 21/06/2019	Key Note: Genomics in Diagnosis and Medicine	Karyotyping and NGS for detection of chromosomal aberrations and genotyping (Thyrocare Mumbai Facility.) Valedictory Ceremony

*Detailed schedule will be available by 5th June 2019 for registered participants.

IMPORTANT DATES

Workshop Date

Monday 17th June 2019 to Friday 21th June 2019

Last Date for Registration

05th June, 2019

VENUE

Seminar Hall, Ground Floor, D-Block, Amity University Mumbai Campus, Mumbai-Pune Expressway, Bhatan, Panvel, Navi Mumbai.

REGISTRATION DETAILS

- Registration fees: For Medical Practitioner/Medical Postgraduate Students: Rs. 3,000/-
- Register Early. Seats are limited to 20 numbers only (Based on first come first basis)
- The registration amount will cover conference kit, tea, lunch & snacks.
- In Campus Accommodation will be provided on chargeable basis (on request). Limited availability (only 4 persons).
- Assistance provided for accommodation outside campus. Kindly put a request mail on **aibaum@mum.amity.edu** well in advance for accommodation related queries.

CHIEF PATRON

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