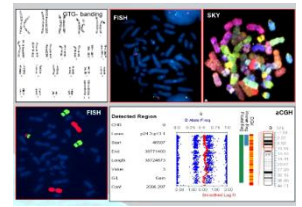




Department of Health Research  
Ministry of Health and Family Welfare  
Government of India



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**University of Madras**

**Hands on workshop announcement on  
“Genomic Techniques in Clinical Diagnostics”**

**17<sup>th</sup> - 27<sup>th</sup> April 2023**

Cytogenetics is a gold standard technique to identify the structural and chromosomal number abnormalities. Hands on training on clinical applications of molecular cytogenetics a powerful diagnostics tool in the identification of genomic rearrangements which are difficult to be diagnosed by conventional cytogenetics. Especially, Fluorescence in situ hybridization (FISH) and microarray CGH is extensively used in the diagnosis of both pre/postnatal cases as well as for diagnosis of certain cancers, microdeletion syndromes. Further, this workshop will provide method for the analysis of key non-coding RNAs like microRNAs (miRNA), long non-coding RNAs (lncRNA), mRNA expression and Single Nucleotide Polymorphism and their importance in using as biomarker in diagnosis of cancer, cardiovascular diseases, autism and neuropsychiatric disorders. This workshop aims to introduce methods and hands on experience for diagnosis of chromosomal disorders using cytogenetics, FISH and SNP analyses.

**Lectures:** Chromosomal abnormalities, Principle of FISH and its applications in human disorders, Types of probes involved in the detection of microdeletion syndromes and structural rearrangements, Introduction to DNA isolation, Principle of PCR and its application in diagnosis of gene disorders, Primer designing and Real time PCR, Single nucleotide polymorphism and Sequencing technique.

**Laboratory:** Hands on training in Cytogenetics, FISH, DNA, RNA isolation, Quality and quantity check of DNA using gel electrophoresis and spectrophotometer, Primer designing using Primer3 and BLAST, Standardization of PCR followed by agarose gel electrophoresis, Genotyping, Sequencing technique for Mutation analysis, RFLP and Conventional and Realtime PCR.

**Participants:** Minimum qualification is MSc/ MBBS. Young Scientists, medical professionals, students with some knowledge of cytogenetics are encouraged to apply with CV by email.

**Selection process:** 24 participants would be selected based on screening of applications by a committee.

**Last date for application:** 31<sup>st</sup> March 2023

**Registration details:** Participation fee Rs 6000/- for Scientists/ Doctors and Rs. 4000/- for students

**\*Students to enclose the letter of student status**

Participation fee includes Accommodation and Food for 10 days (17.04.2023 to 27.04.2023)

**Only shortlisted candidates have to pay Participation fee which should be paid as Demand Draft in the name of The Registrar, University of Madras**

**Contact Information:**

Prof. A.K. Munirajan, Department of Genetics, University of madras, Taramani Campus, Chennai-113. Email: [akmunirajan@gmail.com](mailto:akmunirajan@gmail.com), Tel: 9444460136

A.K. Munirajan

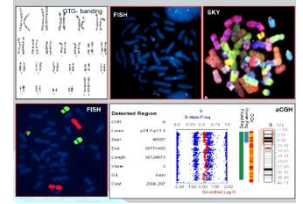
Dr. A.K. MUNIRAJAN  
Professor & Head  
Department of Genetics  
University of Madras  
Taramani Campus, Chennai - 600 113.



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**Registration Form**

**Name:** \_\_\_\_\_

**Designation:** \_\_\_\_\_

**Affiliation:** \_\_\_\_\_

**Age:** \_\_\_\_\_ **Sex:** \_\_\_\_\_

**E-mail:** \_\_\_\_\_ **Tel** \_\_\_\_\_

**Delegate:** \_\_\_\_\_ **Student:** \_\_\_\_\_

**Accommodation required:** \_\_\_\_\_

**Registration Link:** <https://forms.gle/cSeZCNDqByUAffKe6>

\*Students to enclose the letter of student status.

# Apply with your CV and one-page letter stating your interest in the workshop by e-mail.

Also send one hard copy of registration documents including registration fee to the below address:

**Prof. A.K. Munirajan,**

Department of Genetics, DHR-MRU

Dr. ALM Post Graduate Institute of Basic Medical Sciences,

University of Madras

Taramani Campus,

Chennai - 113

E-mail: [akmunirajan@gmail.com](mailto:akmunirajan@gmail.com)

Ph: 9444460136

Sign:

Date: