



DR. MITESH SHETTY

HOD & Consultant - Medical Genetics

Qualification

MBBS from the University of Mumbai | MSc (Medical Genetics) from the University Of Glasgow, UK | Ph.D (Medical Genetics) from MAHE, Manipal | European Board Certified Clinical Laboratory Geneticist

Overview

Dr. Mitesh Shetty is a highly distinguished clinician with extensive laboratory expertise in the field of Medical Genetics, with over 22 years of sustained excellence spanning clinical service, counseling, laboratory governance, academic leadership, and transcribes genomics to regular medicine. He is currently serving as the Head of the Department and Consultant – Medical Genetics at Manipal Hospital Old Airport Road, Bangalore. His unique distinction lies in his rare dual role as both a senior clinical geneticist and an actively engaged laboratory leader, who comprehensively oversee a full-spectrum genetic laboratory, encompassing screening investigations, routine diagnostic services, and highly specialised genetic testing. Under his direct supervision, the laboratory delivers services across cytogenetics, biochemical screening, fluorescence in situ hybridisation (FISH), molecular diagnostics, chromosomal microarray analysis, and Next generation sequencing, analysis and reporting, ensuring the highest standards of clinical accuracy, quality assurance, and interpretative excellence. Over the course of his professional career, Dr. Shetty has

rendered more than 15,000 clinical evaluation and genetic counseling and has personally supervised, clinically correlated, validated, and signed over 30,000 new born screening reports, 25,000 first / second trimester prenatal screening reports, 3,100 Next-Generation Sequencing (NGS) reports, 3,000 Chromosomal Microarray Analysis (CMA) reports, 2000 Sanger reports and 5000 FISH and 4000 Karyotyping reports. Clinically, Dr. Shetty is a recognised authority in dysmorphology, skeletal dysplasias, neuromuscular disorders—including Duchenne muscular dystrophy and spinal muscular atrophy—and neurodegenerative disorders such as Huntington's disease. His expertise further extends to the diagnosis and management of chromosomal disorders, genetic haemolytic anaemias, intellectual disability, recurrent pregnancy loss, and prenatal genetic conditions. He is extensively involved in oncogenetic counselling, cancer risk assessment, and pre-marital genetic screening, with particular proficiency in the interpretation of biochemical screening tests, non-invasive prenatal testing (NIPT), CMA, and NGS-based assays. In addition to his clinical leadership, Dr. Shetty has played a pivotal role in establishing and standardising advanced genetic technologies, including exome sequencing integrated with whole-genome CNV backbone analysis, Pre-implantation Genetic Testing (PGT), somatic mutation analysis, sperm aneuploidy testing, and cancer genomic arrays. These initiatives have significantly strengthened the institution's precision medicine and personalised healthcare capabilities. Dr. Shetty's academic credentials include an MBBS from Padmashree Dr. D.Y. Patil Medical College, Mumbai, an MSc in Medical Genetics from the University of Glasgow, United Kingdom, and a PhD in Medical Genetics from Manipal University. His research experience spans multiple national and international projects, including his role as a Senior Research Fellow in studies on the genetic control of thalassemia, and as a Medical Research Officer in projects related to cancer genomics and proteomics. His recent work covers a broad spectrum of genetic disorders, including developmental and epileptic

encephalopathies, β -thalassemia, and Dravet syndrome. He currently serves as the Course Director for the M.Sc. Genomic Counselling programme and the One-Year Fellowship Programme in Molecular Genetic Pathology, affiliated with Manipal Academy of Higher Education (MAHE). In this capacity, he plays a strategic role in academic leadership, capacity building, and workforce development in the field of medical genetics. His academic contributions further include mentoring PhD and M.Phil. scholars, faculty development initiatives, and curriculum design. Dr. Shetty has an extensive record of publications in peer-reviewed national and international journals and has authored chapters in standard medical textbooks. He has conducted numerous workshops, symposiums, and professional training programmes, including end-to-end hands-on workshops on chromosomal microarray analysis. Notably, he recently conducted a Continuing Medical Education (CME) programme commemorating 25 years of the department, in addition to multiple CMEs organized in association with external committees, aimed at disseminating best practices and advances in clinical genetics. Dr. Shetty has also actively led and conducted in public awareness initiatives focused on Down syndrome, autism, thalassemia, cancer genetics, Prader willi syndrome (PWS), and other rare genetic disorders, reinforcing the institution's commitment to community engagement and preventive genetics. Fluent in English, Hindi, Kannada, and Tulu, Dr. Mitesh Shetty exemplifies a rare combination of clinical acumen, laboratory governance, academic leadership, and strategic vision, making him an invaluable institutional asset and a national leader in the field of Medical Genetics.

Fellowship & Membership

- Short-term Fellowship-Medical Genetics, York Hill Hospital, Glasgow, U.K.
- European Board of Medical Genetics (EBMG).

- Indian Society of Human Genetics (ISHG).
- Indian Academy of Paediatrics-Genetics Specialty Chapter.
- Bangalore Society of Obstetrics & Gynaecology.
- Indian Society of Inborn Errors of Metabolism.
- Indian Society of Prenatal Diagnosis & Therapy.
- Molecular Pathology Association of India.

Field of Expertise

- More than 22 years of extensive experience in the field of Medical Genetics Prenatal diagnosis & Genetic counseling
- Genetic diagnosis of Down syndrome, Autism, β -Thalassemia, Haemophilia, Duchenne muscular dystrophy (DMD) & Spinal muscular atrophy (SMA) etc.
- Genetic counseling in consanguinity, recurrent abortions, Infertility, Pre- implantation Genetic Screening Test (PGT), Non-Invasive Prenatal Screening (NIPT/NIPS)
- Expertise in Karyotyping, FISH study, Double/Quadruple study, Chromosomal Microarray & Next Generation Sequencing (NGS)
- Risk assessment in hereditary cancer disorders like Breast & Ovarian cancer

Languages Spoken

- English
- Hindi
- Kannada
- Tulu

Awards & Achievements

- Course Director for the M.Sc. Genomic Counselling programme and the One-Year Fellowship Programme in Molecular Genetic Pathology, affiliated with Manipal Academy of Higher Education (MAHE)
- Recognized Guide for Ph.D. in Manipal Academy of Higher Education (MAHE).
- Guided Ph.D., M.Phil & MSc students & trained students for Genetic counseling.
- Received IBM Sponsorship of CAS Project expenses towards clinical research.
- Conducted a public awareness program on Rare disease day (Feb 28), World Cancer day (Feb 4), National Cancer Awareness Day (Nov 7), World Thalassaemia Day (May 18) & World Down syndrome day (Mar 19).
- Organized CME on “Integrating Genomics into Clinical Practice” (Jul 18) & “Autism awareness day” (Apr 19).
- Organized end-to-end hands-on workshops on chromosomal microarray analysis on November 26, 2022.
- Organized CME on "New Horizons in Medicine Through Genomics" on 10th November 2024 at Hotel LaLit Ashok, Bengaluru.
- Organized CME for Indian Society of Prenatal Diagnosis & Therapy (ISPAT) in association with Indian Academy Of Pediatrics-Bangalore & Bangalore Society of Obstetrics & Gynecology (BSOG) on 15th March 2025

Talks & Publications

- “Epigenetics in Personalized Medicine” held at PES university on 2nd Jan 2026
- Gnanavarsha 2025 - Controversies to Consensus held by Bangalore Society of Obstetrics and Gynaecology on 29th

December, 2025.

- “Genetic counselling in Mosaic embryo & Panel Discussion in RPL in Gunasheela Coclave-2025-Pushing the Frontiers in Infertility in Hotel Conrad on 12th Sep 2025
- “Future of Genomics Research in India-A clinician’s Perspective” Group Discussion in the Genomics and Translational Conference (GATC) 2025, co-organized by IISER Pune, on April 5th 2025.
- “CMA in Prenatal diagnosis” in Advanced Genomic research: International Conference & Workshop on the application of Microarray Technology Organized by MRU, Institute of Medical Sciences, BHU, Varanasi on 5th-7th Mar 2025
- Chairperson: Applications of Genomics in Rare Disorders in 12th Annual Conference of the Molecular Pathology Association of India (MPAICON 2025) at the Christian Medical College, Vellore on 14th February 2025.
- “Do I know the basic of Genetics?” Organized at Akash Institute of Medical Sciences & Research Centre, Devanahalli on 7th Feb 2025
- “Genomics in IEM” in Treatable Inborn Errors of Metabolism at Sterling Mac, Bangalore on 21st Nov 2024
- Case Discussion: Beating the Odds: Managing the Cardiac condition in the viable fetus” in Cutting Edge Perinatology at Lalit Ashok, Bangalore on 17th Nov 2024
- “Autism: Must Know for All physicians” Organized by MedFlix on 20th June 2024