

09th February 2025 to 16th February 2025

Jointly Organized by
Dept. of Biomedical Sciences,
School of Bio-Sciences and Technology, VIT Vellore
and

Instituto de Investigaciones Biológicas Clemente Estable (IIBCE), Uruguay

Beneficiaries:
UG / PG/ Research

ABOUT VIT:

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr. G. Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives. Ranking & Accreditation Vellore Institute of Technology (VIT) has emerged as one of the best institutes in India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique. Engineering and Technology subject areas of VIT are the 212th best in the World and the 9th best in India, and Ten subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2024) The 8th best University, the 11th best research institution and the 11th best engineering institution in India (NIRF Ranking, Govt. of India 2023) Ranked among the top 601-800 universities of the world (THE World University Ranking 2024) NAAC Accreditation with A++ grade (3.66 out of 4) The 163rd-best Institution in Asia (QS - Asia University Rankings 2024)

ABOUT SBST:

The School of Bio Sciences and Technology consists of four departments namely Biotechnology, Integrative Biology, Bio-Sciences and Bio-Medical Sciences headed by well-trained professors. The school offers an undergraduate (B.Tech. Biotechnology) and six Postgraduate (M.Sc. and M. Tech.) programme. It also offers Integrated Ph.D. and Ph.D. programme. The priority of the SBST is developing entrepreneurship skills and mentoring students to become future scientists for the improvement of humanity. Our efforts are strengthened by collaboration with national, international Universities and multinational companies. Consultancy research and commercialization of products at the University are undertaken as a part of the program. The school houses excellent infrastructure and well-trained faculty members which makes SBST one among the top ten Bio School in the country.

ABOUT THE DEPARTMENT OF BIO-MEDICAL SCIENCES:

The Department of Bio-Medical Sciences under The School of Bio-Sciences and Technology commits to the Academia and research. It offers 2 Postgraduate courses namely M.Sc. Applied Microbiology and M.Sc. Biomedical Genetics. The course of Biomedical Genetics aides the students with the basic understanding and trailing till the present day advancements in the field. It adds on the skillset for Clinical and laboratories needed in this field. It fosters strong collaborations with national and international institutions, multinational companies, and visiting scientists, enhancing interactions between academia and the biotech industry. The two-year M.Sc. in Biomedical Genetics provides a comprehensive understanding of disease genetics and develops clinical and laboratory skills. Students can choose a specialization in Genetic Counselling, which includes clinical rotations in hospitals

Chairperson
Dr. Suneetha V
Dean, SBST

Convenor
Dr. Radha Saraswathy
Professor HAG,
Dept. of Biomedical Sciences, SBST

RESOURCE PERSONS:

- Dr. Wilner Martínez-López, MD, PhD
Epigenetics and Genomics Instability
Laboratory, Instituto de Investigaciones
Biológicas Clemente Estable, Montevideo –
Uruguay
- Dr. Radha Saraswathy
Dept of Biomedical Sciences,
SBST, VIT

COURSE OBJECTIVES:

- To relate the importance of genotoxicity and Epigenetic toxicity to environmental monitoring and human health.
- An opportunity to obtain extensive, basic theoretical knowledge and insights in this field.
- To interpret the action of mutagenic substances and carcinogens with long-term irreparable consequences.
- To illustrate the fundamental and advanced techniques for genotoxic testing and assessment.

COURSE OUTCOMES:

- Have competence in the practical skills in handling basic laboratory processes for analysis and genotoxicity testing.
- Understand various aspects of environmental monitoring techniques.
- Design/develop an idea for identifying the cause or solution for protecting Human health.

THEMES/TOPICS:

1. Genotoxicity and Epigenetic toxicity
2. Human health
3. Genotoxicity biomarkers
4. Epidemiological studies
5. Recommendations and implementation

Total course duration: 30 hours

LIST OF CHALLENGING EXPERIMENTS:

- EXPT 1 Comet assay in human peripheral blood mononuclear cells
- EXPT 2 Comet assay in human cell lines
- EXPT 3 Cytokinesis block micronucleus assay in human peripheral blood mononuclear cells
- EXPT 4 Lymphocyte culture for chromosomal aberrations
- EXPT 5 Sister chromatid exchanges
- EXPT 6 Determining cell survival with different dyes
- EXPT 7 Cytokinesis block micronucleus assay in exfoliated buccal cells
- EXPT 8 γ H2AX immunofluorescence staining

DATE: 09 February 2025 to 16 February 2025
VENUE: 120TT, Biomedical Genetics Research Laboratory
REGISTRATION FEE DETAILS: Rs.500/- (Inclusive of GST)
REGISTRATION LINK: <https://events.vit.ac.in/>

Course Material will be provided to all. Students with 75% attendance and 50% Marks in the evaluation will receive the certificate.