

Report on Value Added Certificate Course on "Molecular Biology Recombinant DNA Technology Functional Genomics"

With the aim of boosting practical research skills among students, the School of Biotechnology at DAVV, Indore, hosted an engaging and intensive seven-day hands-on training certificate course titled "Molecular Biology Recombinant DNA Technology Functional Genomics" from May 15-21, 2024. The registrations were done through Google form and total 60 students attended the course.

Day 1 (15 May 2024):

The inaugural day commenced with an auspicious address by **Dr. Anjana Jajoo**, the esteemed Head of the Department, setting the tone for an intellectually enriching experience. It was told that all participants should prepare an assignment based on the protocols and tips to carry out experimental work. Dr. Hamendra Singh Parmar gave an outline of the training programme. After a brief inaugural session, the training started from day 1 itself. Participants engaged fervently in foundational practices, including Western blotting, plasmid isolation, and RNA isolation from cancer cells.

Day 2 (16 May 2024):

Building upon the foundational knowledge acquired, participants delved into the intricacies of cDNA formation, a pivotal step in molecular biology, followed by practical demonstrations and hands-on experience with quantitative polymerase chain reaction (qPCR) methodologies.

Day 3 (17 May 2024):

The third day of the program focused on Southern hybridization techniques, providing participants with a nuanced understanding of DNA hybridization principles and their application in molecular biology research.

Day 4 (18 May 2024):

Continuing the trajectory of experiential learning, participants immersed themselves in enzyme-linked immunosorbent assay (ELISA) procedures, a cornerstone technique in molecular diagnostics and protein analysis, further enhancing their practical competencies.

Day 5 (19 May 2024):

Participants embarked on an exploration of Amplified Fragment Length Polymorphism (AFLP) methodologies, gaining insights into high-throughput genomic fingerprinting techniques essential for genetic diversity studies and evolutionary biology research.

Day 6 (20 May 2024):

The penultimate day of the program centered on Single Nucleotide Polymorphism (SNP) analysis, elucidating the significance of genetic variations at the single nucleotide level and their implications in disease susceptibility and population genetics.

Day 7 (21 May 2024):

Culminating the week-long immersion, participants delved into the intricacies of in vitro transcription, gaining practical exposure to the synthesis of RNA molecules from DNA templates, a fundamental technique in molecular biology research.

Over the course of the program's more than 60 hours of intense training, the instructional framework included a triple-action approach, combining theory lectures with participant-led, hands-on practical sessions. Towards the end of the program, **Dr. Hem Chandra Jha**, an Associate Professor at IIT Indore, provided valuable knowledge and motivation and led an engaging Q&A session, encouraging lively discussions and a dynamic exchange of ideas. This enhanced the overall learning experience for all participant. A heartfelt thank you to **Dr. Hamendra Singh Parmar** for his dedication and hard work in guiding us through practical sessions each day. In appreciation of enthusiastic participation and commitment to academic success, participants were given certificates of completion.

Reported by

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