

**THE BISHOP'S CO-ED SCHOOL, UNDRI
JUNIOR COLLEGE**



Report on Molecular Biology Workshop at IISER Pune

The Bishop's Co-Ed School, Undri arranged a Workshop for the students of Junior College to the revered Indian Institute of Science Education and Research, Pune on 12th September 2023 for an edifying Molecular Biology Workshop.

The 'Microbial Investigator' workshop was attended by the biology students of Class XII from 8.00 a.m. to 5.00 p.m. A brief introduction to the workshop was provided following which the students were made familiar with the equipment, like the various micropipettes. After giving out the basic instructions and undertaking of basic safety measures like gloves, the students began with the step-by-step procedure of Agarose gel electrophoresis (AGE). There was a total of 3 experiments to be covered: AGE, Polymerase Chain Reaction (PCR) and Basic Local Alignment Search Tool (BLAST). A culture of *Escherichia coli* which was grown the previous evening in broth was provided to the students as samples from which DNA had to be extracted.

A comprehensive explanation of each step was provided before performing it. Each student grasped the opportunity to ask questions. The entire 4-hour duration of the experiment was monitored and supervised, especially while handling harmful chemicals. At the end of the procedure, the successfully extracted DNA samples were viewed under a UV light ray transilluminators and the students obtained beautiful visible orange bands.

After an hour's break the students went forward with the next experiment which was PCR. Pre-extracted DNA samples were provided and with the help of the sophisticated equipment at the institution, another successful experiment was conducted with the students obtaining positive results.

Finally, the knowledge obtained from these two experiments was enhanced by the process of BLAST which is a computer tool used to compare nucleotide. The workshop was made interactive with an on-point PowerPoint Presentation and short clips/videos of the related topics. The workshop provided the students with an opportunity and a medium to have a hands-on practical experience on topics related to their current ISC curriculum. It also created more critical appreciation for the link between the theory and practice of the subject.

Beyond academic enrichment, the workshop provided a remarkable platform for networking and collaboration among like-minded individuals. Participants formed perdurable associations with peers who shared their curiosity and enthusiasm for molecular biology, fostering a sense of camaraderie that extended throughout and beyond the workshop's duration.

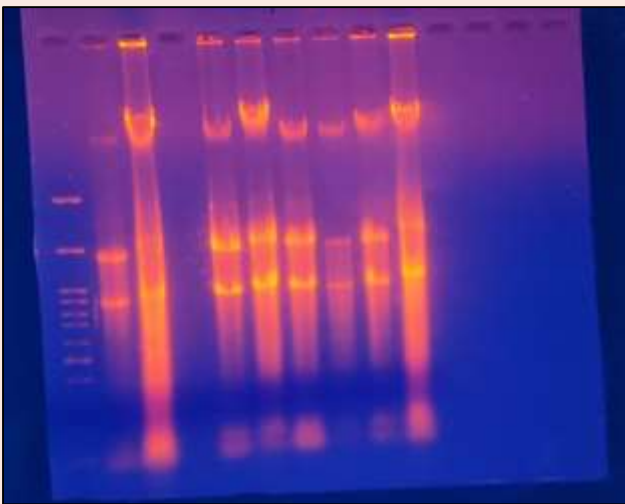
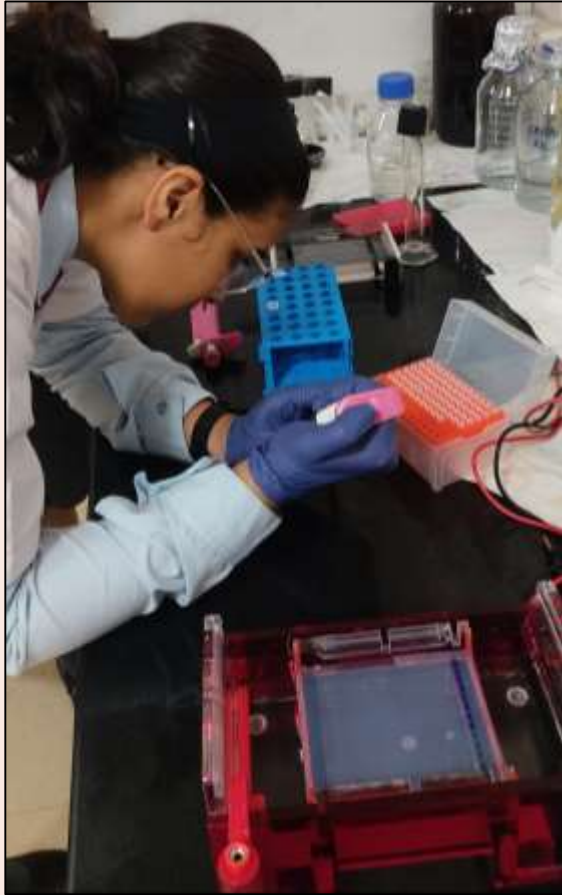


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Molecular Biology Workshop: Hands – on Training







DNA BANDS IN AGAROSE GEL ELECTROPHORESIS

