“PROTEOMICS DAY” AT INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY.

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On 18th March 2015, --“ Proteomics Day” the proteomics lab at IIT Bombay under the guidance of Dr.Sanjeeva Srivastava (Assoc.Prof, Biosciences & Bioengineering, IITB) introduced the students from NMIMS School of Science, Mumbai , the techniques and potential of various proteomics technologies. The students were given live demostration for techniques like 2D-DIGE, Protein Microarray, Mass Spectrometry and SPR with an intention of helping them appreciate their importance in science.

The day began with a lecture by Dr. Srivastava where the students were introduced to the different proteomics techniques which have revolutionized the field over the last two decades. This lecture was followed by sessions from Dr. Veenita Gover Shah and Ms. Tumpa Das who explained the principle, applications and advantages of Surface Plasmon Resonance (SPR) and Matrix-assisted laser desorption ionisation (MALDI) in the field of proteomics.

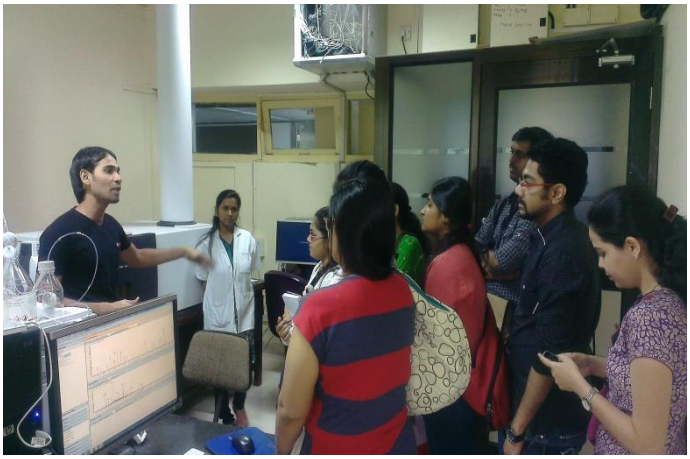
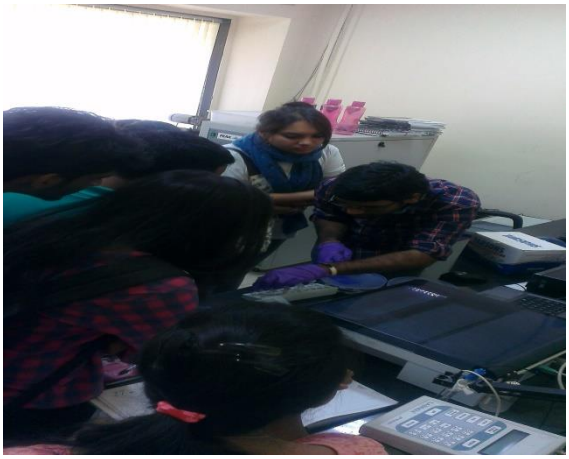
Dr. Srivastava introducing the different proteomics techniques to students


Dr. Veenita (left) and Ms. Tumpa (right) explaining SPR and MALDI.

The 2D-DIGE demo introduced the students labelling of proteins with CyDyes, isoelectric focussing, gel electrophoresis and Scanning. Demos at the SPR and MALDI facility managed further increased the interest among the students who had by then familar with three different techniques. When the students were introduced to the protein microarray technology, a relatively new technique among the Indian scientific community, they could not help but marvel at the robustness and the amount of data this technique was able to generate in a single experiment alone.


Interactive demos for MALDI (left) and Microarray (right) techniques

The LC-MS/MS facility at CRNTS, IIT Bombay introduced the students to the dynamic ability of mass spectrometry. The students were given demos for in-gel digestion, off-gel fractionation, instrumentation and analysis of the obtained mass spectrometric data.

Interactive demos at the LC-MS/MS facility, CRNTS IIT Bombay.

The students were finally introduced to the Remote Triggered Virtual Laboratory (RT-Vlab) developed by IIT Bombay. This unique effort showed the students how the experiments could be performed at a click of the mouse.


Students observing the RT-Vlab demo for remotely monitoring proteomics experiments.

The interactive sessions between students and the instructors during the demo sessions were able to get the best out of the students who by the end of the day carried home concepts of different proteomics techniques, their applications and their usefulness in understanding and development of science.

The success of the whole exercise was evident from the words of Dr. Purvi Bhatt, Assistant professor NMIMS School of science who had accompanied the students for each of the above mentioned sessions.

"We had a fruitful learning experience and we gained a lot of knowledge regarding the use of various techniques in the field of Proteomics. In fact the theoretical knowledge complemented the instrument demonstration. Your team of students and the scientific staff were very dynamic and explained every instrument clearly. Our students were happy to visit on the 'India Proteomics Day' and everyone received both practical and theoretical knowledge"

All in all the Proteomics Day workshop was a huge success and the lab looks forward to educating and spreading awareness on proteomics to young students, researchers and faculty alike in the years to come and help India become a major force in Proteomics research.