



## Accelerate Vigyan – “karyashala”

### A High End Workshop on

## Emerging Technologies in Point of Care Diagnostics for Disease Monitoring

17<sup>th</sup>-23<sup>rd</sup> July 2023

Organized by

Department of Biotechnology, Motilal Nehru National Institute of Technology Allahabad, India

### About the Institute

Motilal Nehru National Institute of Technology Allahabad, is an institute with total commitment to quality and excellence in academic pursuits. The institute has been granted the status of Institution of National Importance on AUGUST 2007. It was established as Motilal Nehru Regional Engineering College (MNREC) in the year 1961 as a joint enterprise of Government of India and Government of Uttar Pradesh. MNREC was transformed into National Institute of Technology fully funded by Ministry of Human Resource Development, Gov. of India on JUNE 2002. The institute offers B.Tech, M.Tech, Ph.D, M.C.A, M.B.A., (Mathematics and Scientific Computing) degrees in various disciplines of sciences, engineering, Technology and humanities.

### About the Department

The Department of Biotechnology at MNNIT Allahabad was established as a new academic unit under Applied Mechanics in 2006, and gained shape as an independent administrative ‘Department of Biotechnology’ in April, 2012. The Department comprises of expert faculty members from diverse areas, state-of-art modular laboratories to perform experiments and hosts extramural research projects from various government agencies viz. DST, DBT, UGC, MNRE etc. Department runs B.Tech, M.Tech and PhD programmes in Biotechnology.

### Course Overview and Objective

Sensing technology offers immense potential for innovating newer tools in medical diagnostics. This technology lies at the intersection of biotechnology, information technology, electronics and fluidics. Now-a-days the focus of sensing technology is towards Point of care diagnostics (POCD). It involves detection of disease near to the subject and facilitates improved disease diagnosis, prognosis, and management. It enables swift medical decisions, as the diseases can be diagnosed at a basic stage, leading to better health outcomes for patients by enabling a timely treatment. A point of care testing (POCT) device can be used by doctors, healthcare professionals, patients or their families because of their ease to use. The global POCT market is expected to reach a value USD 73.9 Billion in 2028 from USD 41.5 Billion in 2021 at a CAGR of 10.1% (<https://www.globenewswire.com>). POCD could play pivotal role in Indian healthcare systems with limited resource settings and hence it warrants to organize hand-on-training and awareness programmes on POC technology considering it as the need of hour.

The objective of the course is to provide knowledge, awareness and training to the participants with diverse technologies used in POCT for disease detection. Participants will be given exposure to novel biomarkers, capture reagents, signal probes, end-point readout systems and diverse POCD platforms that could strengthen their skills and knowledge in this area. The expected outcome of the course is to generate curiosity, inclination and technical skills in the participants towards pursuing research in diagnostics and contribute by bringing innovative solutions to the emerging problems in Regional and National scenario. With this course, the organizers also wish to transmit and share their own experience in this area with the participants and discuss the global trends in this domain.

### Course Details:

- **Speakers:** Faculty and Scientists from reputed institutions like IITs, IISc, IISERs, NITs, and research laboratories of eminence will deliver talks.
- **Practical demonstrations:** For effective outcomes, laboratory demonstration of various point of care diagnostic methods developed in the host Department will be done.
- **Number of seats:** 25

### Eligibility Criteria:

- PG and Ph.D. level students primarily from universities, Institutes, colleges, private academic institutions preferably in the area of applied biological sciences are welcomed to submit their registration forms.
- The selection of the eligible students will be done based on the recommendations of the Selection Committee constituted for this purpose.
- **Course Pre-requisite:** Knowledge of Immunology-antigen-antibody interactions, protein structure, enzyme kinetics, Nanotechnology, Molecular biology principles and techniques.

### Registration Procedure

Interested Participants can register themselves through given link <https://forms.gle/AX9cFQtGpyRohKpf7>

- There is no registration fee for this course.
- **No Objection Certificate:** Participants have to produce a letter of authentication from their supervisor/head of Department/institute indicating their association with institution and No objection certificate for allowing the student to undergo training in workshop upon selection.
- Relevant reference material will be provided to all participants. The certificates shall be issued to all participants after successful completion of the course
- Accommodation: May be provided on request subjected to availability in the institute

### Important dates

Last date of registration	<b>10<sup>th</sup> July 2023</b>
Intimation to selected participants	<b>12<sup>th</sup> July 2023</b>
Duration	<b>17<sup>th</sup> July- 23<sup>th</sup> July 2023</b>

### Organizing Team:

**Patron:** Prof. R. S. Verma  
*Director, MNNIT Allahabad*

#### Event organizers/Convener (s) :

Dr. Manisha Sachan and Dr. Seema Nara,  
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