



AMITY UNIVERSITY

MADHYA PRADESH

(Established by Ritnand Balved Education Foundation)

Amity Institute of Biotechnology

National Workshop

Advanced Techniques in Molecular Biology, Medical Biotechnology, Industrial Microbiology and Bioinformatics

21-27 October 2021

Seven days National Workshop cum Hands on Training on “Advanced Techniques in Molecular Biology, Medical Biotechnology, Industrial Microbiology and Bioinformatics” was organized at Amity Institute of Biotechnology, Amity University Madhya Pradesh Gwalior from 21 to 27 October 2021.

DAY 1: On the first day 21 October 2021, workshop was inaugurated by lighting the lamp and Saraswati Vandana in the presence of chief guest Prof. (Dr.) Sarman Singh, Director, AIIMS, Bhopal, speaker of the session Prof. (Dr.) Vikas Jain, IISER, Bhopal, Hon'ble Vice Chancellor, AUMP, Lt Gen VK Sharma, Pro-Vice Chancellor, Prof. (Dr.) M.P. Kaushik and workshop convener Prof. (Dr.) R.S. Tomar along with all the participants and students.

During the session, Chief Guest Prof. (Dr.) Sarman Singh, Director, AIIMS, Bhopal explained the paradigm shift in molecular biology and tools along with the latest developments due to automation. Afterwards, the laboratory manual of the National Workshop was released online by the distinguished guests and dignitaries. The speaker of the inaugural session, Prof. (Dr.) Vikas Jain, IISER, Bhopal delivered a lecture on "Molecular Biology: Methods and tools". On this occasion, the convener of the National Workshop Prof. (Dr.) Rajesh Singh Tomar, Director-Amity Institute of Biotechnology and Dean (Academics) Amity University Madhya Pradesh informed about the contents of the workshop and workshop program. Furthermore, he proposed vote of thanks for the inaugural session.

On the first day of the program, participants learnt about Molecular Biology based techniques along with theoretical and practical aspects. The hands-on- training session was live-streamed and coordinated by Dr. Raghvendra Kumar Mishra, Dr. Raghvendra Saxena and Dr. Anurag Jyoti.

DAY 2: On the second day of the workshop 22nd October 2021, an expert lecture was delivered by Dr. Jyoti Priyadarshini Shrivastava, GRMC, Gwalior in the session of Medical Biotechnology. Dr. Jyoti delivered an expert lecture on 'Laboratory diagnosis of COVID-19'. Afterwards, The participants were given hands-on-training on Dot ELISA and Immuno-electrophoresis besides optimization of PCR conditions using Gradient PCR. During post lunch session online demonstration of optimization of PCR conditions using Gradient PCR was done.

The hands-on- training session was coordinated by Dr. Neha Shrama, Dr. Anurag Jyoti and Dr. Asha Singh.

DAY 3: On the third day of the workshop 23rd October 2021, an expert lecture was delivered by Prof. (Dr.) Vikas Shrivastava, Amity Institute of Biotechnology, Amity University Madhya Pradesh, Gwalior in the session of Medical Biotechnology. In his deleberation, Dr. Vikas emphasised on the utilization of industrially important microbes along with the recovery of valuable products from them.

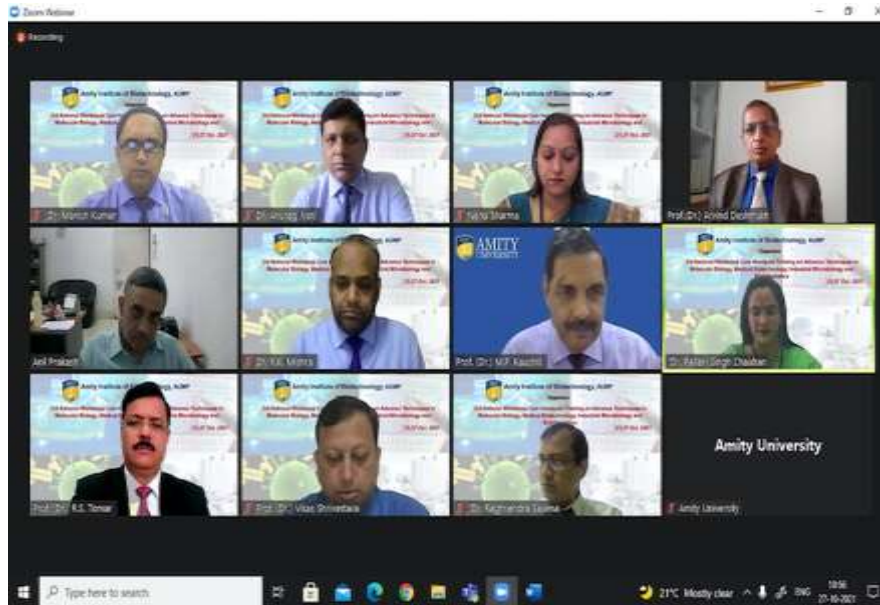
Another expert guest lecture was conducted in afternoon session by Dr. Pratishta Dwivedi, Assistant Professor, Govt. Nehru College, Sabalgarh, Morena, M.P. on the topic ' Reverse vaccinology: bridging the gaps in vaccine design and development'.

DAY 5: On the fifth day of the workshop 25th October 2021, an expert lecture was delivered by Dr. Mithilesh Jaiswal, Tropilite foods pvt ltd, Gwalior in the session of Industrial Biotechnology. Dr. Jaiswal delivered an expert lecture on 'Role of probiotics and symbiotic in health and career build up'. Afterwards, another lecture was delivered by Dr. Manish Kumar, Assistant Professor, Amity Institute of Biotechnology on the topic 'Isolation and characterization of industrially important microbes'. During this lecture, the characterization and identification of microbes was elaborated and online videos prepared in AIB lab for isolation and purification experiments were displayed.

In the post lunch session, the online demonstration of upstreaming and downstreaming processes involved in the industries were elaborated by Prof. Vikas Shrivastava, Amity Institute of Biotechnology. The session of industrial biotechnology was conducted by Prof. Vikas Shrivastava, Dr. Manish Kumar and Dr. Pallavi Singh Chauhan.

Day 6: On the sixth day of the workshop 26th October 2021, an expert lecture was delivered by Dr. Rajesh Patel, Bioinformatics lab and supercomputing facility, Department of Biosciences, Veer Narmada University, Gujarat in the session of Bioinformatics. Dr. Patel delivered an expert lecture on the topic 'Concepts, tools and techniques for in-silico drug discovery'. Furthermore, in this session the online demonstration of bioinformatics tools for phylogenetic analysis, protein homology modeling and protein-ligand docking was conducted by Dr. Manish Kumar, Assistant Professor, Amity Institute of Biotechnology. Afterwards, the protein-ligand docking by iGEM software along with immunoinformatics was described by Dr. Neha Sharma.

Day 7: On 7th day, an MCQ based test was conducted at 10:00-10:40 AM followed by Valedictory session at 11:00 AM. The chief guest of the session, Prof. A.M. Deshmukh, President, Microbiologists Society, India, suggested participants to utilize the techniques taught during workshop for the betterment of mankind. Furthermore, Dr. Manish Kumar, Assistant Professor, AIB has given brief introduction of Microbiologists Society, India as MP state President, Microbiologists Society, India (MSI). Student unit of Microbiologists Society, India was inaugurated in the presence of Pro-Vice Chancellor, AUMP, chief guest Prof. Deshmukh and Special guest Prof. (Dr.) Anil Prakash and Prof. (Dr.) R.S. Tomar, convener of the workshop. During valedictory session, convener of the national workshop Prof. (Dr.) R.S. Tomar, has given concluding remarks and summarize the activities of all days. Afterwards, Prof (Dr.) Vikas Shrivastava proposed formal vote of thanks.



Director AIB

**Prof. (Dr.) Devendra Kumar Pandey
Director-Outcome**

Prof. (Dr.) M. P. Kaushik Pro –Vice Chancellor

Hon'ble Vice Chancellor