

# Skill Development Workshop on Leveraging Artificial Intelligence (AI) in Research

11<sup>th</sup> - 12<sup>th</sup> Dec 2025



Organized by Business Development Group (BDG)  
CSIR – Institute of Microbial Technology (IMTECH)  
Sector 39A Chandigarh 160036



## **Dr. Anuja Shukla**

**Associate Professor**

**Jaipuria Institute of Management &**

**United Nations (UN) Speaker on Responsible AI in Education**



### **Expected Outcomes from the Workshop**

- Understand the fundamentals and scope of AI in the academic domain.
- Explore cutting-edge AI tools for teaching, learning, assessment, and research.
- Learn to use AI for literature reviews, data analysis, plagiarism detection, and paper writing which is the future of laying foundation for research.
- Discuss ethical considerations, data privacy, and responsible AI usage in education to avoid any unethical means in publication and research.
- Gain insights into the future of AI-enhanced education and research ecosystems.

### **Workshop Objectives:**

Artificial Intelligence (AI) is revolutionizing the way we teach, learn, and conduct research. From personalized learning platforms to intelligent research assistants, AI tools are enhancing productivity, improving access to knowledge, and enabling data-driven academic innovations. This hands-on workshop is designed and has an objective to equip students, researchers, and future academic leaders with practical knowledge on integrating AI in pedagogical and research environments.

***\* Participants must compulsorily bring their own laptop for hands-on training.***

***Please note that CSIR-IMTECH shall not arrange for any lodging and boarding.***

***Seat availability for the workshop shall be confirmed on first come first serve basis.***

## **Registration Details: (Last date of Registration is 30<sup>th</sup> November 2025)**

Student/Project Associate/Post Doc. : Rs.2000/-(Inclusive GST)

Academics (Faculty/Staff/Scientist) : RS.4000/-(Inclusive GST)

Industry : Rs.8000/-(Inclusive GST)

Payment Detail UPI ID : CSIRIMTECH@SBI

**Certificates will be provided to all the participants**

**Link for Registration :**

**[https://docs.google.com/forms/d/e/1FAIpQLScxupCCEi9hdDioijv3c\\_hsuGb0kCVSR6SZCqiuJIL3wo0UMiA/viewform?usp=header](https://docs.google.com/forms/d/e/1FAIpQLScxupCCEi9hdDioijv3c_hsuGb0kCVSR6SZCqiuJIL3wo0UMiA/viewform?usp=header)**

|                  |                                                                                      |
|------------------|--------------------------------------------------------------------------------------|
| Beneficiary Name | Director Institute of Microbial Technology                                           |
| Bank Name        | State Bank of India                                                                  |
| Account No.      | 30267007362                                                                          |
| Account Type     | SBCHQ-GEN-PUB-IND-NONRURAL-INR                                                       |
| Bank Address     | State Bank of India (01443), S.C.O. 64 & 65,<br>sector-30C, Chandigarh-160030, INDIA |
| MICR Code        | 160002017                                                                            |
| IFSC Code        | SBIN0001443                                                                          |
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### **Patron**

Dr. Sanjeev Khosla  
Director, CSIR-IMTECH

### **Organising Chairperson**

Dr. Neeraj Khatri  
Chief Scientist & Coordinator,  
Skill Development Program

### **Team**

Dr. Vinod Chaudhari,  
Senior Principal Scientist & Head  
BDG

### **Convenor**

Sh. Manuj Tripathi  
Principal Scientist, BDG

| Date       | Topic/Themes to be discussed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.12.2025 | AI as a Research Partner <ul style="list-style-type: none"> <li>What is AI and how it's changing research</li> <li>Generative AI vs Analytical AI</li> <li>Overview of top AI tools across research stages</li> <li>AI for finding good papers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|            | AI for Literature Review and Topic Exploration <ul style="list-style-type: none"> <li>Keyword generation and search strategy</li> <li>Using AI to summarize and cluster literature</li> <li>Extracting themes from large corporations Hands-on:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                |
|            | AI in Research Design and Theoretical Framing <ul style="list-style-type: none"> <li>Generating research questions and hypotheses</li> <li>Building conceptual frameworks with AI</li> <li>AI for gap identification</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|            | Ethical and Responsible AI Use in Research <ul style="list-style-type: none"> <li>Academic integrity and plagiarism detection</li> <li>Limitations and biases in AI models</li> <li>Journal guidelines on AI use - Case study: Springer &amp; Elsevier's AI policy</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12.12.2025 | AI for Data Analysis, Writing, and Publication <ul style="list-style-type: none"> <li>AI in Data Analysis (Quantitative)</li> <li>Using AI for data cleaning and visualization</li> <li>Statistical analysis with AI assistants</li> <li>AI in Qualitative Research <ul style="list-style-type: none"> <li>Thematic coding with AI</li> <li>Save Interview Transcripts</li> <li>Sentiment and topic modeling</li> <li>Using LLMs for interview analysis</li> </ul> </li> <li>AI in Academic Writing and Publishing Writing abstracts, introductions, and discussions</li> <li>AI for proofreading and citation formatting</li> <li>Using AI for visualization and presentation</li> </ul> |

## ABOUT CSIR-IMTECH

CSIR-Institute of Microbial Technology (CSIR-IMTECH) Chandigarh established in 1984 is a constituent laboratory of Council of Scientific and Industrial Research (CSIR), Ministry of Science & Technology, Govt. of India. The institute was conceptualized to meet the microbiological demands of the industry. Pioneering the future of microbial science, CSIR-IMTECH focuses on innovation and technology-driven research.

**For More Information please contact:-**

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