



One Week
PHARMACEUTICS SUMMER SCHOOL 2026
on
**Advanced Formulation Development and
Characterization with AI & Generative AI Tools**

Organized by

Department of Pharmaceutics & Department of Quality Assurance

6th July to 10th July 2026

Topics covered

- AI & Generative AI Tools in Pharmaceutical Science
- Advanced Novel Drug Delivery System (NDDS) Formulations
- QbD optimization, and translational nanotechnology concepts
- Exposure to Advanced Pharmaceutical Characterization Techniques
- Practical Demonstration of High-End Analytical Instruments
- Training on SEM, Particle Size Analyzer, HPLC and LC-MS/MS

Outcomes

- Understand AI-driven approaches in pharmaceutical formulation and drug delivery research
- Apply QbD and DoE principles for formulation optimization
- Design and develop nano drug delivery systems
- Analyze pharmaceutical data using AI tools and advanced analytical techniques
- Evaluate formulation performance through characterization and analytical studies

Objectives

- To provide comprehensive knowledge on AI-driven approaches in pharmaceutical formulation and novel drug delivery systems
- To train participants in Quality by Design (QbD), Design of Experiments (DoE), and predictive formulation development strategies
- To impart practical hands-on experience the preparation and characterization of nano drug delivery systems
- To enhance understanding of advanced analytical techniques including HPLC and LC-MS/MS

Organizers

Convener Dr. Jagannath Sahoo, Dean, SPPSPTM

Faculty Coordinators

Dr. Khushwant Yadav, HOD Pharmaceutics

Dr. Sanjay Sharma, HOD Quality Assurance

Venue: SPPSPTM, SVKM's NMIMS Deemed to be University, V.L. Mehta Road, Vile Parle (W), Mumbai-400056

For any queries, please contact:

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DAY-1

- Inauguration
- Introduction to AI-driven pharmaceutical research and emerging trends in novel drug delivery systems
- Insights into Python, Artificial Intelligence, and their applications in pharmaceutical innovation
- Hands-on exposure to Quality by Design (QbD), Design of Experiments (DoE), and Design Expert software for predictive formulation optimization
- Interactive Q&A session, participant reflections

DAY-2

- Comprehensive overview of Artificial Intelligence, Machine Learning, and Generative AI in pharmaceutical sciences
- Understanding of different AI Tools
- Understanding ethical considerations, responsible AI usage, and AI-assisted pharmaceutical product development case studies
- Interactive Q&A session, participant reflections

DAY-3

- Hands-on training for preparation of polymeric nanoparticles, nanofibers, nanosuspensions, and liposomes
- Understanding excipient selection, stabilizer optimization, and process variables in nanoformulations
- Exposure to scale-up strategies and troubleshooting approaches during formulation development
- Interactive Q&A session, participant reflections

DAY-4

- Hands on training on particle size analyzer and Scanning Electron Microscope
- Understanding entrapment efficiency, drug loading, *in vitro* release studies, and stability assessment
- Analytical method development, validation and applications in NDDS research
- Interactive Q&A session, participant reflections

DAY-5

- Fundamentals and practical applications of LC-MS/MS in pharmaceutical analysis and bioanalysis
- Group presentations on AI-assisted formulation design, QbD optimization, and translational nanotechnology
- Expert interaction on innovation strategies, formulation planning, and commercialization perspectives in NDDS research
- Valedictory function

Eligibility

- B.Pharm, M.Pharm and Pharm.D Students
- Ph.D. Scholars
- Faculty
- Scientists and Professionals from Pharmaceutical Industry

Registration

Registration Fee:

Faculty / Students -Rs. 2000/-
Students (NMIMS) -Rs. 1500/-

Link for Registration:

<https://forms.gle/zPRkCMWxhxLoBrpT6>

Limited 30 seats (On a first come, first serve basis)

Last Date to Register: 25th June 2026



Scan for Registration