LipidVerse 2025 Highlights Transformative Potential of Lipid Nanomedicine

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LipidVerse 2025, a landmark one-day conference dedicated to exploring cutting-edge advancements in lipid-based technologies for pharmaceutical applications, successfully concluded at the Indian Institute of Technology Bombay (IIT Bombay). The event brought together leading experts from academia, industry professionals, and regulatory bodies to discuss the future of lipid nanomedicine and drug delivery systems.

The LipidVerse 2025 team strikes a pose after an insightful conference

Hosted by IIT Bombay with VAV Lipids as a platinum industry expert and sponsor, the conference served as a vital platform for knowledge exchange and collaboration in the rapidly evolving field of lipid nanotechnology.

Key themes and discussions at LipidVerse 2025 included:

- Lipid Nanoparticles (LNPs) in mRNA and Gene Delivery: Emphasizing their critical role in next-generation therapeutics.
- Lipid Nanotechnology in Cancer Therapy: Showcasing innovative approaches to targeted drug delivery.
- Synthetic vs. Natural Lipids: A comprehensive discussion on the advantages and disadvantages of different lipid types in nanomedicine.
- Toxicological and Regulatory Aspects: Addressing the

crucial safety and compliance standards for novel lipid nanocarriers.

- Advances in Dermatology and Nutraceuticals: Exploring diverse applications beyond traditional therapeutics.
- The insightful sessions and dynamic panel discussions underscored the current state of the art and the immense potential of lipid-based medical interventions.

The eloquent speakers highlighted how industry partners and start-ups are increasingly benefitting from academic research, particularly through student-led collaboration initiatives at IIT Bombay that help translate laboratory innovations into real-world applications. They also addressed challenges surrounding intellectual property rights (IPR), emphasizing the need for more streamlined frameworks that support joint development while safeguarding innovation. In addition, the speakers noted that sponsors today expect not only high-quality publications but also clear visibility into how many innovations have progressed to products or real-world applications. In an insightful panel discussion, the panelists further called for stronger, structured engagement models, earlier industry involvement, and shared risk–reward mechanisms to accelerate the translation of lipid nanotechnology breakthroughs.

“*LipidVerse 2025 provided an invaluable forum for researchers and industry leaders to converge and share breakthroughs that will undoubtedly shape the future of medicine. VAV Lipids is happy to extend support to academia and collaborate with organizations interested in pushing the boundaries of lipid science*,” said **Arun Kedia, Managing Director, VAV Lipids**.

Prof Sameer Jadhav, Core Faculty, Department of Chemical Engineering, IIT Bombay, said, "*The enthusiasm and expertise on display highlight a collective commitment to advancing health solutions through innovative lipid-based systems. IIT Bombay extends its sincere gratitude to all speakers, sponsors, participants, and students for making the inaugural LipidVerse conference a resounding success*."

LipidVerse 2025 was a one-day conference held at the Indian Institute of Technology Bombay on November 8, 2025, focused on exploring innovations in lipid-based nanomedicine and drug delivery. The event aimed to bridge the gap between academic research and industrial application, fostering dialogue and collaboration among global experts.

About IIT Bombay

The Indian Institute of Technology Bombay, set up in 1958 as the second IIT, is recognised worldwide as a leader in the field of science and engineering education and research. The Institute was granted the status of 'Institution of Eminence' by the Ministry of Education (the then Ministry of Human Resources Development) on July 9, 2018. IIT Bombay is reputed for the quality of its faculty and the outstanding calibre of students graduating from its undergraduate and postgraduate programmes. The Institute has 17 academic departments, 31 Centres/ Programmes/Academic facilities and three schools. Over the last six decades, more than 70,000 engineers and scientists have graduated from the Institute. It is served by more than 756 faculty members, with121 women faculty, considered not only amongst the best within the country but also highly recognised in the world for achievements in the field of education and research. In June 2025, IIT Bombay was

ranked 2nd in India and 129th in the world in the Quacquarelli Symonds (QS) World University Rankings for 2026. In March 2025, IIT Bombay was ranked 28th in Engineering and Technology in the Quacquarelli Symonds (QS) World University Rankings by Subject for 2025.

About VAV Lipids

VAV Lipids is headquartered in Mumbai, India and is among the world's leading manufacturers of phospholipids and lecithin. The biopharmaceutical company manufactures plant phospholipids (LECIVA), egg phospholipids (LIPOVA), synthetic, and neutral lipids. The other products include APIs and specialty proteins. VAV's high-grade phospholipids and lecithin are functional ingredients in developing novel drugs and biologics delivery systems (NDDS). Pharmaceutical companies use its high-quality lipids and lecithin to create multiple drug and biologics delivery projects. These include applications of lipids in developing vaccines, anaesthesia and formulations, cancer therapy based on liposomes, and novel drug delivery systems for treating several diseases. The products are also used in skincare, personal care and hair care products.