4th Industrial Expert Lecture on “Report on Nanomedicine: From Lab to Startup” in the Department of Biotechnology NIT Raipur.

By.

Prof. Pradip Paik (Coordinator IPR cell, IIT BHU), Funding Director of TRIPHAN HEALTH CARE Pvt. Ltd

Lecture mode: Online (Date- 08/02/2025)

Key Points:

• Discovery and Preclinical Development

Professor Pradip Paik developed nanoparticle-based antibiotics and drug delivery systems for inflammatory diseases, cancer, and cardiovascular conditions. The antibiotics, 10-15 nanometers in size, effectively target antibiotic-resistant pathogens. Extensive preclinical studies, including animal trials, demonstrated up to 95% efficacy, sustained drug release, and macrophage activation, confirming their therapeutic potential.

• Clinical Development

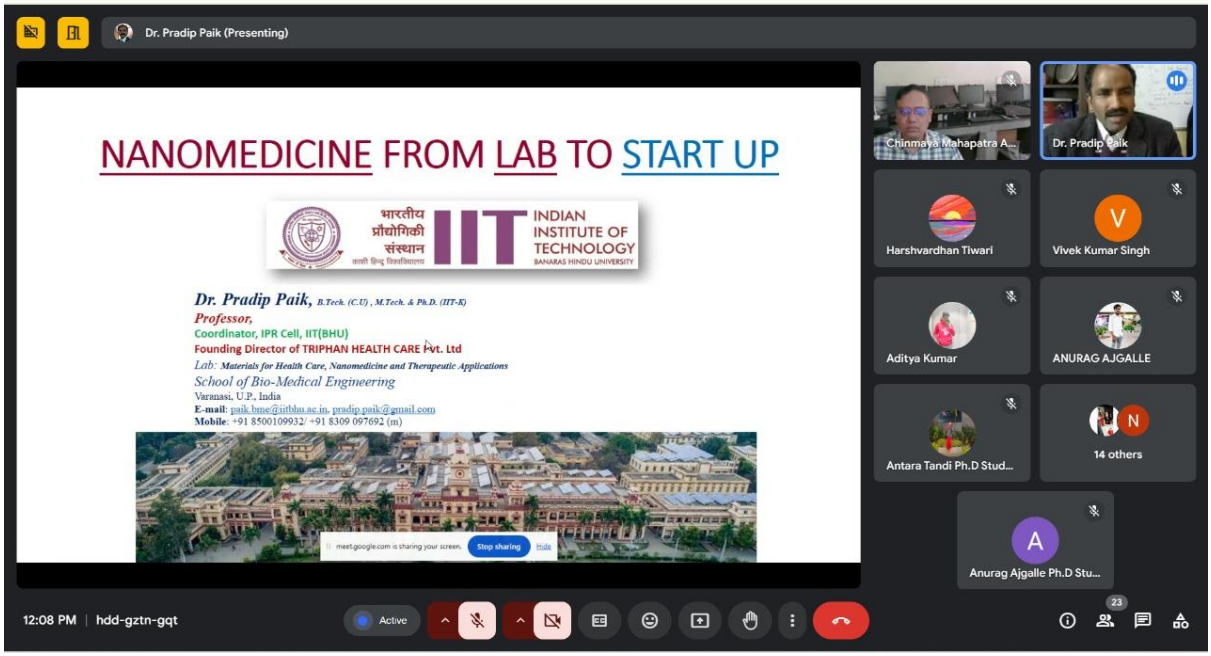
The nanoparticle-based antibiotics and therapeutic nanoparticles are ready for clinical trials. They have demonstrated significant success in preclinical studies, including deep tissue penetration, immune response modulation, and inflammation reduction. The antibiotics were effective against 36 out of 50 pathogens, while arthritis and cancer treatments showed improved healing rates. Clinical trials will validate safety and efficacy for widespread application.

• Regulatory Approval

The novel nanoparticle-based antibiotic has secured four patents and is undergoing regulatory approvals. The research team is preparing for clinical certification and compliance with global health regulations. Stability tests indicate high thermal resistance (up to 200°C). The cost-effectiveness and scalability (₹100 per 1000 doses) enhance its potential for rapid approval and commercialization in multiple medical applications.

• Challenges and Considerations

Challenges include regulatory hurdles, large-scale production, and commercialization. Ensuring consistency in nanoparticle synthesis, minimizing immunological side effects, and addressing long-term stability remain key concerns. Securing funding for clinical trials and industry collaborations is crucial. Market acceptance and integration into healthcare systems depend on competitive pricing, real-world efficacy, and widespread clinical adoption of nanomedicine-based treatments.


Dr. Pradip Paik (Presenting)
NANOMEDICINE FROM LAB TO START UP
भारतीय प्रौद्योगिकी संस्थान
IIT
INDIAN INSTITUTE OF TECHNOLOGY
BANARAS HINDU UNIVERSITY
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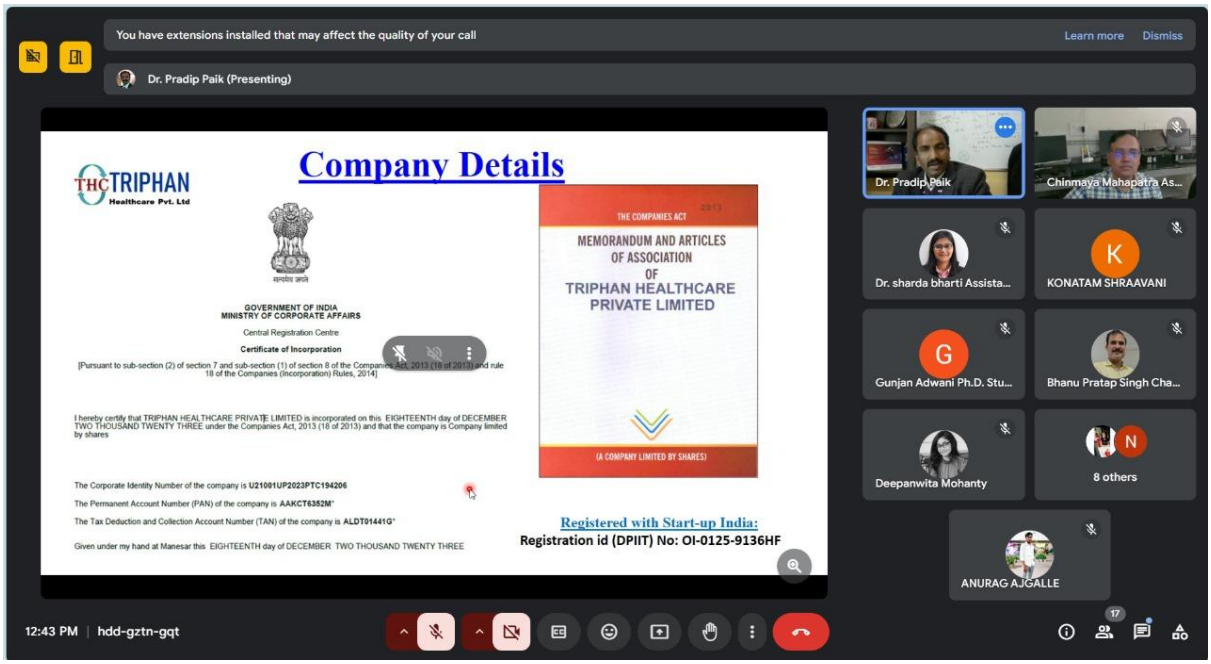
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THC TRIPHAN Healthcare Pvt. Ltd
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Certificate of Incorporation
[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]
I hereby certify that TRIPHAN HEALTHCARE PRIVATE LIMITED is incorporated on this EIGHTEENTH day of DECEMBER TWO THOUSAND TWENTY THREE under the Companies Act, 2013 (18 of 2013) and that the company is Company limited by shares
The Corporate Identity Number of the company is U21001UP2023PTC194206
The Permanent Account Number (PAN) of the company is AAKCT6352M*
The Tax Deduction and Collection Account Number (TAN) of the company is ALDT01441G*
Given under my hand at Manesar this EIGHTEENTH day of DECEMBER TWO THOUSAND TWENTY THREE
THE COMPANIES ACT
MEMORANDUM AND ARTICLES OF ASSOCIATION OF TRIPHAN HEALTHCARE PRIVATE LIMITED
(A COMPANY LIMITED BY SHARES)
Registered with Start-up India:
Registration id (DPIIT) No: OI-0125-9136HF
Dr. Pradip Paik
Chinmaya Mahapatra As...
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KONATAM SHRAAVANI
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8 others
ANURAG AJGALLE
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