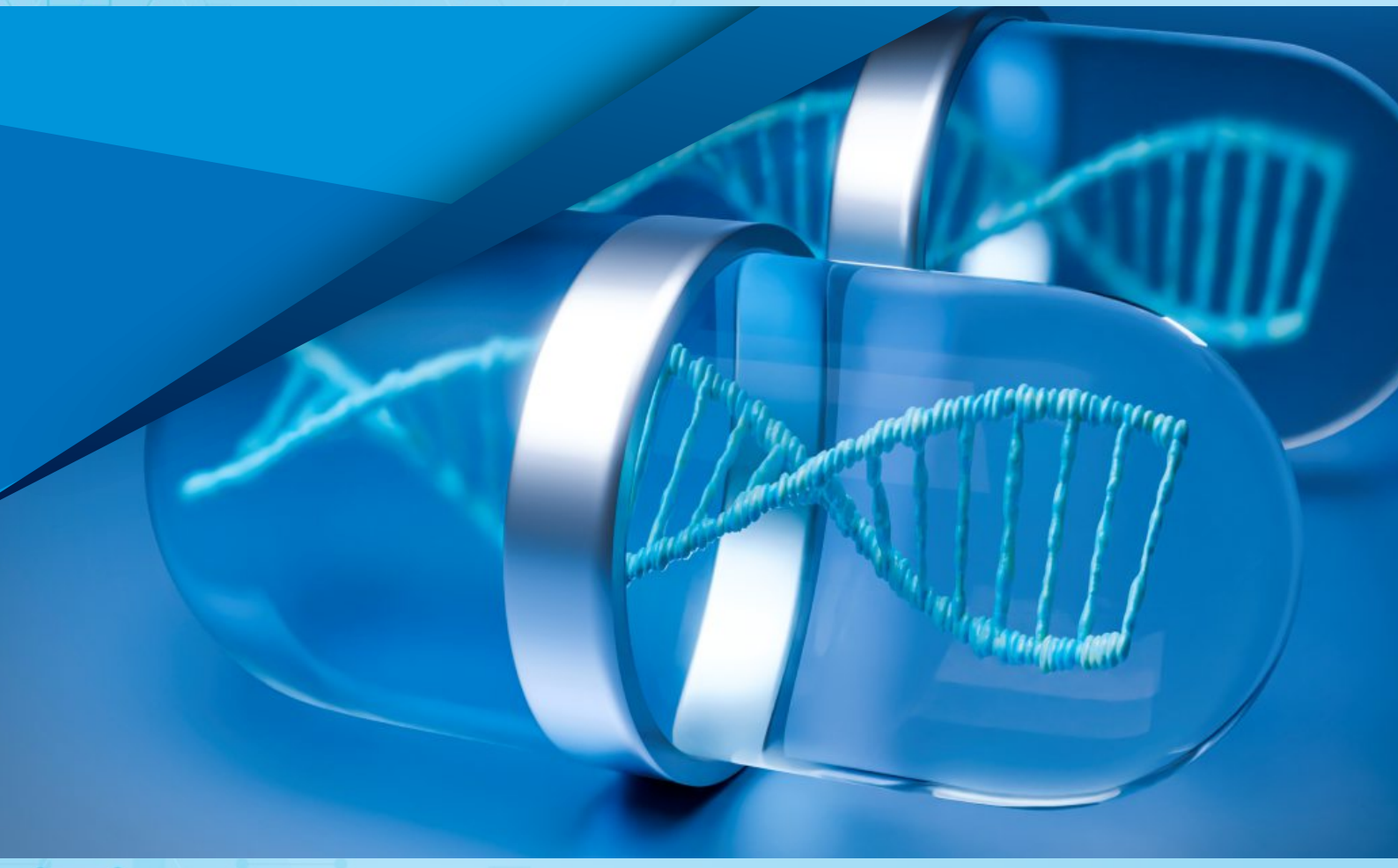
NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

# NIPiCON 2026

8th Nirma Institute of Pharmacy International Conference

**January 29-31, 2026**

## *Transforming Healthcare: New Horizons in Pharmaceutical Sciences for Viksit Bharat*



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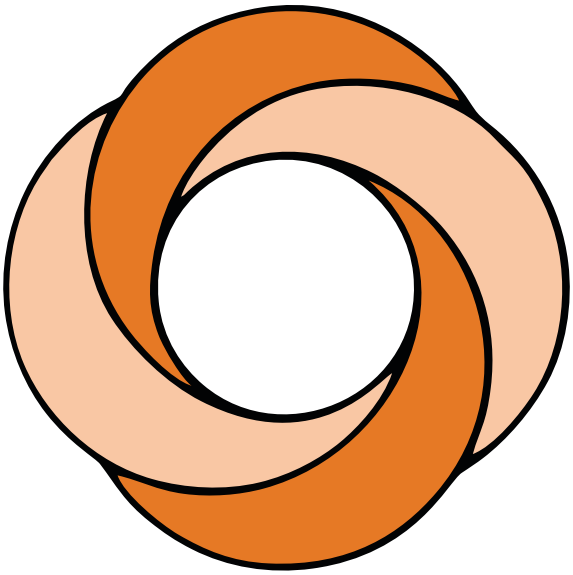

SUN

PHARMA CEUTICAL
INDUSTRIES LTD.


**2002**
Inception of Amneal

**280+**
Total products

**8,000+**
Total employees

**$2.79B**
Net Revenue in FY 2024

Amneal Pharmaceuticals, Inc. (Nasdaq: AMRX), headquartered in Bridgewater, NJ, is a global pharmaceuticals company.

We make high quality medicines accessible through the development, manufacturing and distribution of a diverse portfolio of over **280 affordable medicines and specialty pharmaceuticals.**

Brookhaven, New York, USA

## CAPABILITIES THAT DRIVE ACCESS AND IMPACT

### NEXT GENERATION

Leader in complex biologics and biosimilars (U.S. & India) with multiple programs with advanced delivery

### R&D STRENGTH

**350+** approvals, **800+** technical experts globally

### DIGITAL & GENAI

Automation, formulation optimization, faster tech transfer

### BIOSIMILARS

Pipeline expansion to enable affordability

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Amneal

## OUR MANUFACTURING CAPABILITIES

Amneal India operates seven state-of-the-art plants across Gujarat, Telangana and Andhra Pradesh. We manufacture oral solids, injectables, APIs and oncology products. Our operations bring together scale, quality and innovation, giving our teams exposure to cutting-edge pharmaceutical technologies.

## A NEW GREENFIELD PROJECT IS TAKING SHAPE AT BAVLA, STRENGTHENING OUR MANUFACTURING FOOTPRINT


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Data on this page is as of May 2025

**TOGETHER, OUR SITES CAN DELIVER AT SCALE***

**9+ BILLION**
oral solid dosage (OSD) doses

**>40 MILLION**
injectable doses

**>180 TONS**
of active pharmaceutical ingredients (APIs)

*Based on internal data

## HOW WE NURTURE OUR TALENT

### Young Women Leadership Development Program (YWLDP)
A program designed to build confidence and capability through training and real-world exercises

### AmNeev
Supporting young women with on-the-job training, followed by opportunities to join Amneal

### Amneal Leadership Lab (ALL)
A hands-on program that develops core leadership skills including psychological safety and team management for future leaders

### Capability Academies
Injectable Academy & Digital Academy for fresh graduate engineers for on-the-job training, followed by opportunities to join Amneal

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# Message from President

NIRMA UNIVERSITY
NAAC ACCREDITED 'A+' GRADE

**Dr. Karsanbhai K. Patel**
President

It gives me immense pleasure to learn about the organization of the **8th Nirma Institute of Pharmacy International Conference (NIPiCON 2026)** on the theme *"Transforming Healthcare: New Horizons in Pharmaceutical Sciences for Viksit Bharat",* being hosted by the Institute of Pharmacy, Nirma University, Ahmedabad, during **January 29–31, 2026.**

The theme of the conference is both timely and visionary, reflecting the evolving landscape of pharmaceutical sciences and their pivotal role in advancing healthcare delivery in alignment with the national vision of Viksit Bharat. By emphasizing innovation, translational research, and interdisciplinary collaboration, the conference promises to catalyse meaningful dialogue among academicians, researchers, clinicians, industry experts, and policymakers.

I am confident that **NIPiCON 2026** will provide an outstanding global platform for the dissemination of cutting-edge research, the exchange of ideas, and the exploration of emerging trends and technologies poised to redefine drug discovery, development, and regulatory sciences. Such scholarly interactions will undoubtedly contribute to capacity building, knowledge enrichment, and the nurturing of future-ready pharmaceutical professionals.

I wholeheartedly appreciate the dedication, foresight, and meticulous efforts of the Institute of Pharmacy, Nirma University, in organising this prestigious international conference. I extend my warmest congratulations to the organising committee and convey my best wishes for the resounding success of **NIPiCON 2026,** with the hope that it will leave a lasting impact on the advancement of pharmaceutical sciences and healthcare innovation.

**Dr. Karsanbhai K. Patel**

# Message from Vice-president

NIRMA UNIVERSITY
NAAC ACCREDITED 'A+' GRADE

**Shri K. K. Patel**
Vice President

I am delighted to know that the Institute of Pharmacy, Nirma University, is organising the **8th Nirma Institute of Pharmacy International Conference (NIPiCON 2026)** on the theme *"Transforming Healthcare: New Horizons in Pharmaceutical Sciences for Viksit Bharat"*, scheduled to be held at the Ahmedabad campus during **January 29–31, 2026.**

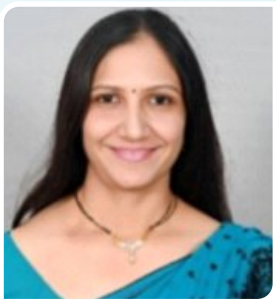
The theme of the conference is highly pertinent in the present global context, where the convergence of pharmaceutical sciences with allied disciplines is essential to drive meaningful and sustainable innovation. By promoting cross-disciplinary engagement, the conference is poised to stimulate novel perspectives that can streamline drug discovery and development while simultaneously addressing critical issues such as environmental sustainability, efficient resource utilization, and responsible advancement of healthcare.

I am confident that this international forum will provide a vibrant intellectual environment for researchers, academicians, industry professionals, and students to engage in constructive dialogue, share contemporary scientific developments, and inspire transformative ideas that can translate into real-world healthcare solutions.

I sincerely applaud the efforts of the Institute of Pharmacy, Nirma University, for taking this commendable initiative and extend my heartfelt best wishes for the smooth conduct and grand success of **NIPiCON 2026.**

**Shri K. K. Patel**

# Message from Convener and Organising Secretary



It is our great privilege and pleasure to extend a warm and heartfelt welcome to all delegates, distinguished speakers, researchers, industry experts, academicians, clinicians, and young professionals to the 8th Nirma Institute of Pharmacy International Conference (NIPiCON 2026), being held from January 29–31, 2026, at the Institute of Pharmacy, Nirma University, Ahmedabad.

Since its inception in 2013, NIPiCON has steadily evolved into a premier international forum for the exchange of scientific ideas, interdisciplinary dialogue, and collaborative innovation in pharmaceutical sciences. Over the years, the conference has successfully fostered meaningful interactions among academia, industry, and healthcare professionals, contributing to scientific advancement and capacity building at both national and global levels.

The theme of NIPiCON 2026, "Transforming Healthcare: New Horizons in Pharmaceutical Sciences for Viksit Bharat," reflects India's ambitious journey toward becoming a knowledge-driven, innovation-led global leader by 2047. Gujarat, recognized as the Pharmaceutical Capital of India, exemplifies this transformation through its robust manufacturing base, strong R&D ecosystem, and rapid adoption of emerging technologies such as Pharma 4.0, digital health, and advanced biopharmaceuticals. Hosting NIPiCON 2026 in this dynamic environment provides an ideal platform to deliberate on the future of healthcare and pharmaceutical sciences.

Healthcare innovation lies at the heart of national development and is closely aligned with the United Nations Sustainable Development Goals, particularly Good Health and Well-being, Industry and Innovation, and Global Partnerships. The scientific program of NIPiCON 2026 is thoughtfully designed to span the entire continuum from molecule discovery to clinical translation, encompassing biotechnology, vaccines, nanoscience, artificial intelligence, smart drug delivery systems, regulatory sciences, precision medicine, and sustainable research practices. Special emphasis has been placed on academia–industry–startup collaboration to accelerate translational research and societal impact.

The conference will feature plenary and keynote lectures by eminent global experts, engaging panel discussions, and opportunities for researchers and students to showcase their work. The introduction of the Pharma Innovator Award aims to recognize and encourage young researchers whose work demonstrates strong potential to contribute toward the vision of Viksit Bharat 2047.

We express our sincere gratitude to all speakers, delegates, sponsors, collaborators, organising committee members, and volunteers whose dedicated efforts have made this conference possible. We are confident that NIPiCON 2026 will be an enriching and memorable experience, fostering insightful discussions, lasting collaborations, and innovative ideas that shape the future of healthcare.

We wish all participants a rewarding and successful conference.

Welcome to NIPiCON 2026.

**Prof Dr Gopal Natesan**
Convener, NIPiCON 2026 &
Director, Institute of Pharmacy, Nirma University

**Dr Shital Butani**
Organising Secretary, NIPiCON 2026
& Area Coordinator, Pharmaceutics,
Institute of Pharmacy, Nirma University

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# About Nirma University

Nirma University, Ahmedabad has been established in the year 2003 as a statutory university under the Gujarat State Act by the initiative of the Nirma Education & Research Foundation (NERF). The University is a value-driven, research-oriented and student-centered not-for-profit institution. Nirma University has been re-accredited with an 'A+' grade by the National Assessment and Accreditation Council (NAAC) in the third cycle on April 5, 2022. Nirma University is committed to Quality Teaching-Learning and Research and is accomplishing the promise by making it the first private university of Gujarat to achieve such honour. Dr. Karsanbhai K. Patel, Chairman, Nirma Group of Companies and Chairman, NERF is the President of the University.

It is spread across the sprawling lush green 115-acres campus, the University has a host of institutes, departments and centers, including Institute of Technology, Institute of Management, Institute of Pharmacy, Institute of Science, Institute of Law, Institute of Architecture and Planning, Institute of Commerce, Institute of Design, Institute of International Study, Faculty of Doctoral Studies and Research, Directorate of Research and Innovation, Centre for Continuing Education, Centre for Entrepreneurship, Centre for Advanced Instrumentation, Centre for Robotics and Automation and Centre of Excellence in Data Science. All the institutions offer undergraduate, postgraduate, doctoral and post-doctoral programs which are rated high by industry, business magazines and by the students. Today the campus vibrates with not only world class curricular activities but also with myriad activities like international conventions symposia, conferences, student competitions, conclaves, short-term industry relevant programs, cultural activities, etc. The facility helps them to carry out cutting edge interdisciplinary research of national and international importance.

# About Institute of Pharmacy

Institute of Pharmacy was established in the year 2003 under Nirma University with the aim of developing able professionals in the field of pharmaceutical sciences. In a short span of time, it has become one of the leading institutions in the country, offering pharmaceutical education at the undergraduate, postgraduate, doctoral and postdoctoral level.

Institute has been ranked 32nd in India Ranking 2025 by Ministry of Human Resource Development, (MHRD), Government of India in its National Institutional Ranking Framework (NIRF). The institute received 1st rank by GSIRF 2024 with Five Star Rating. The Institute offers B. Pharm, Pharm. D., Pharm. D. (Post baccalaureate), M. Pharm (Pharmaceutics, Pharmacology, Pharmaceutical Analysis and Regulatory Affairs), Full time and Part time Ph.D. and Post-doctoral programs. The B. Pharm. program has been re-accredited by National Board of Accreditation (NBA) for three and a half years from 2025. The Institute has a two-storied animal house facility registered with the Committee for Control and Supervision of Experiments on Animals (CCSEA), Government of India. Besides, there is also a medicinal plant garden "Nirma Herbal Wealth", having an area of 3356.5 sqm with around 150 genera and 500 plants The Institute has adopted Outcome Based Education (OBE) to further advance the development of professional knowledge, inculcate employability skills in addition to development of character and social responsibility. To achieve the same objective, vision and mission of the institute was also defined in line with University's vision and mission.

The Institute has also framed its programme educational objectives and programme outcomes. The Institute had received more than 6.5 crore rupees grants from government agencies and also in collaboration with various research centers and industries. The Institute houses state-of the-art instrument facilities like supercritical fluid extractor and chromatogram, HPTLC, HPLC, MPLC, GC, Fluorescence Spectrometer, Raman Spectrometer, UV-VIS-NIR Spectrophotometer, FTIR, DSC, ELISA, PCR, Electrophoresis, Texture Analyser, Automated Dissolution Apparatus, Extruder-Spheronizer, Multiple diffusion Assembly, High Pressure Homogenizer, Particle Size Analyser, Microwave synthesizer, Stereotaxic apparatus with Micro dialysis as well as softwares, like Gold Suit, eCTD, Design Expert, Lipid Extruder, E-Spin etc. Institute is also equipped with Cell Culture Laboratory and Aseptic Laboratory (Class 1000) facilities for advanced research.

# NIPiCON 2026

8th Nirma Institute of Pharmacy International Conference

Since its inception in 2013, the Nirma Institute of Pharmacy International Conference (NIPiCON) has been a premier platform bringing together academicians, researchers, industry leaders, clinicians, and young professionals to exchange knowledge, foster innovation, and inspire transformative solutions in pharmaceutical sciences. Over the years, it has evolved into a premier global forum that not only disseminates scientific insights but also catalyzes interdisciplinary partnerships and inspires transformative solutions for healthcare.

Healthcare and pharmaceutical sciences are pivotal to this vision, directly advancing the United Nations Sustainable Development Goals (SDGs) such as Good Health and Well-being (SDG 3), Industry, Innovation, and Infrastructure (SDG 9), and Partnerships for the Goals (SDG 17). By integrating biotechnology, nanoscience, artificial intelligence, digital health, precision medicine, and regulatory sciences, India is working toward an inclusive, resilient, and sustainable healthcare system that is affordable and accessible to all.

The 8th International Conference - NIPiCON 2026, on the theme of "Transforming Healthcare: New Horizons in Pharmaceutical Sciences for Viksit Bharat", will be held from January 29-31, 2026, at the Institute of Pharmacy, Nirma University. The scientific program will span a broad spectrum of disciplines, covering the journey from molecule to clinical translation-from the use of digital technologies in drug discovery, to advances in biotechnology and vaccines, to smart drug delivery systems, regulatory transformation, clinical practice innovations, and models of academia–industry–startup synergy. Special emphasis will be placed on sustainable research and innovation, ensuring that scientific advancements align with both national priorities and global commitments to sustainable development.

Gujarat, the Pharmaceutical Capital of India, contributes nearly one-third of the nation's drug production and exports, supported by world-class facilities and a strong R&D ecosystem.

With the rapid adoption of Pharma 4.0 technologies and large-scale investments across modern and traditional medicine, the state embodies India's shift from a manufacturing-driven economy to a knowledge-powered, global leader, aligned with the vision of Viksit Bharat 2047.

The program will feature plenary talks by eminent global experts, interactive panel discussions, and opportunities for researchers to showcase their work. To encourage and recognize emerging talent, the Pharma Innovator Award will be introduced for research scholars whose contributions demonstrate high potential for creating sustainable impact in achieving the vision of Viksit Bharat 2047.

Through knowledge exchange and collaboration, NIPiCON 2026 aspires to contribute meaningfully toward building an inclusive, innovative, and sustainable healthcare ecosystem for a developed India.

## TRACKS OF THE CONFERENCE

1. **Next-Gen Formulations, Nanotechnology and Biotechnology**
2. **Pharmacology, Clinical Pharmacy & Patient Care**
3. **Pharmaceutical Analysis, Quality & Regulatory Science**
4. **Herbal Medicines & Natural Products**
5. **AI in Drug Discovery & Pharmaceutical Chemistry**

# International Advisory Board

| Name | Affiliation |
|---|---|
| • **Dr. Wong Tin Wui** | Professor and Head, Non-Destructive Biomedical and Pharmaceutical Research Centre, Smart Manufacturing Research Institute/Faculty of Pharmacy, Universiti Teknologi MARA, Malaysia |
| • **Dr. Stephen Kerr** | Associate Provost and Professor of Medicinal Chemistry, Massachusetts College of Pharmacy and Health Sciences, Boston, USA |
| • **Dr. KarenBeth Bohan** | Professor of Pharmacy Practice, School of Pharmacy and Pharmaceutical Sciences, Binghamton University, State University of New York, New York, USA |
| • **Dr. Matthias G Wacker** | Associate Professor, Department of Pharmacy and Pharmaceutical Sciences, National University of Singapore, Singapore |
| • **Dr. Raghuraj Singh** | Chair & Professor of Pharmaceutics, Founder, RE-VANA Therapeutics School of Pharmacy, Queens University Belfast, UK |

# National Advisory Board

| Name | Affiliation |
|---|---|
| • **Dr. Viranchi Shah** | Managing Director, Saga Lifesciences, Ahmedabad |
| • **Dr. A. K. Bansal** | Professor of Pharmaceutics, National Institute of Pharmaceutical Education Research (NIPER), Mohali |
| • **Dr. R. N. Saha** | Chief Scientific Advisor, Biophore Group of Companies, Hyderabad |
| • **Dr. Kiran Marthak** | Non-Executive Director, Veeda Research Centre, Ahmedabad |
| • **Dr. Chaitanya Joshi** | Professor, Department of Veterinary Biotechnology, Anand |
| • **Dr. Gowthamarajan Kuppusamy** | Professor of Pharmaceutics, JSS College of Pharmacy, Ooty |

# Local Organising Committee

**Chief Patron:**

**Shri K. K. Patel**

**Convener:**

**Prof. Gopal Natesan**

**Organising Secretary:**

**Dr. Shital Butani**

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# Scientific Schedule

## Day 1: January 29, 2026 (Thursday)
## Venue: Auditorium, M-Block, Nirma University

| Time (HHMM) | Agenda |
|---|---|
| 0900 - 1000 | **Breakfast and Registration** |
| 1000 - 1045 | **Inaugural Function** |
| 1045 - 1130 | **Keynote Speaker 1**<br>Title: Pharmaceutical research and development: Emerging paradigms for Viksit Bharat<br>**Dr Sohan Chitlange,** *Alard University, Pune, India*<br>Chair: **Dr Tejal A Mehta,** *IPNU*<br>Co-Chair: **Dr Hardik G Bhatt,** *IPNU* |
| 1130 - 1200 | **Plenary Speaker 1**<br>Transforming healthcare through policies: Role of national initiatives in pharmaceutical innovation for Viksit Bharat<br>**Dr Poonam Yadav,** *Department of Science & Technology (DST), Govt. of India, India*<br>Chair: **Dr Charmy S Kothari,** *IPNU*<br>Co-Chair: **Dr Nrupesh R Patel,** *IPNU* |
| 1200 - 1230 | **Invited Speaker 1**<br>Evolving landscape of innovation in healthcare: Innovate in India for Viksit Bharat<br>**Dr Shrinivas S Savale,** *AIC-LMCP Foundation, Ahmedabad, India*<br>Chair: **Dr Charmy S Kothari,** *IPNU*<br>Co-Chair: **Dr Jigar N Shah,** *IPNU* |
| 1230 - 1330 | **Lunch Break, Poster Viewing & Networking**<br>(Venue: Lawn Area, New Building) |
| 1330 - 1415 | **Keynote Speaker 2**<br>Nano-vaccines – The promise for future therapeutics<br>**Dr Stephen Kerr,** *Massachusetts College of Pharmacy and Health Sciences, Boston, USA*<br>Chair: **Dr Priti J Mehta,** *IPNU*<br>Co-Chair: **Dr Vivek K Vyas,** *IPNU* |

| | |
|---|---|
| 1415 - 1445 | **Invited Speaker 2**<br>Title: Strategic design and preclinical evaluation of novel quinazolinone-thiazole hybrids targeting resistant EGFR mutations in non-small cell lung cancer<br>**Dr Audrey Yong Chee,** *MAHSA University, Selangor, Malaysia*<br>Chair: **Dr Snehal S Patel,** *IPNU*<br>Co-Chair: **Dr Udit J Chaube,** *IPNU* |
| 1445 - 1545 | **Panel Discussion:** New Horizons in Pharmaceutical Sciences: Redefining India's Role in Global Healthcare<br>**Chair: Dr Gautam Singhvi,** *BITS Pilani, Pilani Campus, Rajasthan, India*<br>**Panellists:**<br>**Prof Johnson Stanslas,** *Universiti Putra Malaysia, Selangor, Malaysia*<br>**Dr Varsha Gandhi,** *University of Texas, Houston, USA*<br>**Dr Kiran Marthak,** *Veeda Clinical Research Pvt Ltd, Ahmedabad, India*<br>**Mr Sandeep Raktate,** *Amneal Pharmaceuticals, Ahmedabad, India* |
| 1545 - 1600 | **Coffee Break & Networking** |

| 1600 - 1800 | **Oral Presentations – I**<br>Venue:<br>Auditorium, M-Block<br>*Pharmacology, Clinical Pharmacy & Patient Care* | **Oral Presentations – II**<br>Venue:<br>Classroom T1, M-Block<br>*Pharmaceutical Analysis, Quality & Regulatory Science, AI in Drug Discovery & Pharmaceutical Chemistry* | **Poster Presentations – I**<br>Venue:<br>Lawn Area, New Building<br>*Next-Gen Formulations, Nanotechnology and Biotechnology, Herbal Medicines & Natural Products* |
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| | |
|---|---|
| 1800 - 1900 | *Cultural Programme by Institute of Pharmacy, Nirma University Students* |
| 1900 onwards | **Gala Dinner & Networking@ Lawn Area, New Building** |

## Day 2: January 30, 2026 (Friday)
## Venue: Auditorium, M-Block, Nirma University

| Time (HHMM) | Agenda |
|---|---|
| 0830 - 0930 | **Breakfast & Networking** |
| 0930 - 1015 | **Keynote Speaker 3 (Online live-streaming)**<br>Title: Herbal product discovery and development: Modulation of gut-liver axis in hepatic disease management<br>**Dr Wong Tin Wui,** *Universiti Teknologi MARA Selangor, Malaysia*<br>Chair: **Dr Mayur M Patel,** *IPNU*<br>Co-Chair: **Dr Dhaivat C Parikh,** *IPNU* |
| 1015 - 1045 | **Plenary Speaker 2**<br>Title: Digital transformation in pharma R&D: How AI/ML, LLMs and GenAI are transforming the drug discovery<br>**Dr Raghu Rangaswamy,** *Molecular Solutions Software Pvt Ltd, Bengaluru, India*<br>Chair: **Dr Hardik G Bhatt,** *IPNU*<br>Co-Chair: **Dr Tejas M Dhameliya,** *IPNU* |
| 1045 - 1115 | **Invited Speaker 3**<br>Title: Toward personalized cancer therapy through liquid biopsy innovation<br>**Dr Chaithanya Lakshmi,** *Seoul National University, South Korea*<br>Chair: **Dr Shital S Panchal,** *IPNU*<br>Co-Chair: **Dr Bhagawati Saxena,** *IPNU* |
| 1115 - 1130 | **Coffee Break & Networking** |
| 1130 - 1200 | **Plenary Speaker 3**<br>Title: Targeting MET-driven cancers: Insights from preclinical and translational studies of selective c-MET inhibitors<br>**Dr Nirmal Rajasekaran,** *Curacle Co. Ltd, Seoul, Republic of Korea*<br>Chair: **Dr Shital S Panchal,** *IPNU*<br>Co-Chair: **Dr Dipal M Gandhi,** *IPNU* |
| 1200 - 1300 | **Lunch Break, Poster Viewing, Judging & Networking**<br>**Poster Presentation – III** (Venue: Lawn Area, New Building) |

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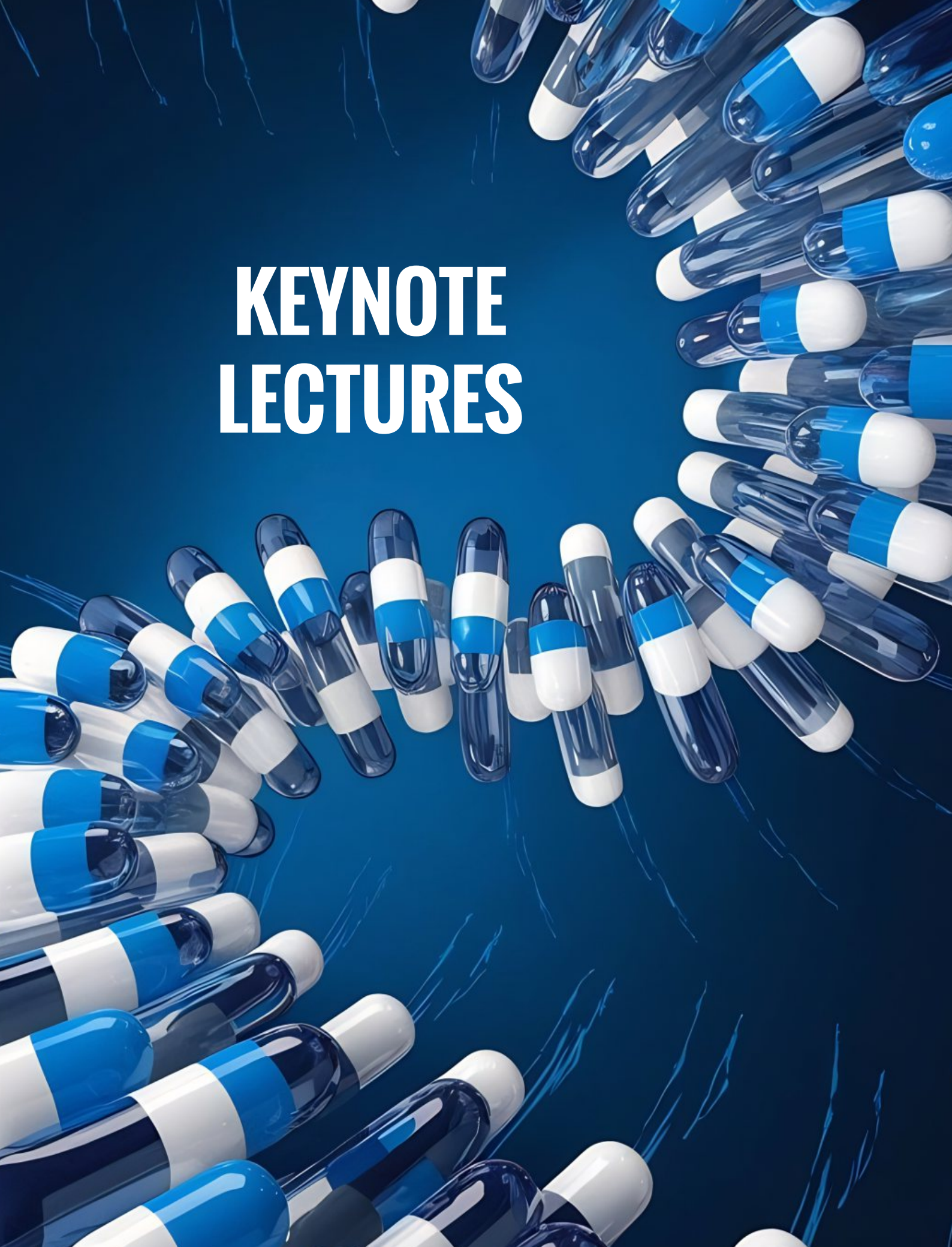
|---|---|---|
| 1300 - 1345 | **Keynote Speaker 4** | |
| | Title: From irrational to rational approaches in cancer drug discovery: A quarter-century journey | |
| | **Dr Johnson Stanslas,** *Universiti Putra Malaysia, Selangor, Malaysia* | |
| | Chair: **Dr Snehal S Patel,** *IPNU* | |
| | Co-Chair: **Dr Bhumika D Patel,** *IPNU* | |
| 1345 - 1415 | **Plenary Speaker 4** | |
| | Title: Precision psychiatry in practice: Bridging polygenic insights and CRISPR diagnostics for personalized antidepressant therapy | |
| | **Dr Sivasankaran Ponnusankar,** *JSS College of Pharmacy, Ooty, India* | |
| | Chair: **Dr Sagar Pamu,** *IPNU* | |
| | Co-Chair: **Dr Anjali A Menon,** *IPNU* | |
| 1415 - 1445 | **Plenary Speaker 5** | |
| | Title: Microneedles as transforming localized drug delivery for improved therapeutic outcome | |
| | **Dr Gautam Singhvi,** *BITS Pilani, Pilani Campus, Rajasthan, India* | |
| | Chair: **Dr Niyati S Acharya,** *IPNU* | |
| | Co-Chair: **Dr Mohit P Shah,** *IPNU* | |
| 1445 - 1500 | **Coffee Break & Networking** | |
| 1500 - 1530 | **Plenary Speaker 6** | |
| | Title: Translational research to transformative medicine in chronic lymphocytic leukaemia | |
| | **Dr Varsha Gandhi,** *University of Texas, Houston, USA* | |
| | Chair: **Dr Niyati S Acharya,** *IPNU* | |
| | Co-Chair: **Dr Richa Gupta,** *IPNU* | |
| 1530 onwards | **Pharma Innovator Award Presentations** | Venue: Auditorium, M-Block |
| | **Parallel Oral Presentations – III** | Venue: Classroom T1, M-Block<br>*Next-Gen Formulations, Nanotechnology Biotechnology* |
| | **Parallel Oral Presentations – IV** | Venue: Classroom T3, M-Block<br>*Herbal Medicines & Natural Products* |
| | **Poster Presentations – II** | Venue: Lawn Area, New Building<br>*Pharmacology, Clinical Pharmacy & Patient Care*<br>*Pharmaceutical Analysis, Quality & Regulatory Science*<br>*AI in Drug Discovery & Pharmaceutical Chemistry* |

## Day 3: January 31, 2026 (Saturday)
## Venue: Auditorium, M-Block, Nirma University

| Time (HHMM) | Agenda |
|---|---|
| 0830 - 0930 | **Breakfast & Networking** |
| 0930 - 1015 | **Keynote Speaker 5** |
| | Title: Drug delivery technologies for value addition and life cycle extension – A case study |
| | **Dr Ajay Khopade,** *Sun Pharma Advanced Research Centre, Vadodara, India* |
| | Chair: **Dr Jigna S Shah,** *IPNU* |
| | Co-Chair: **Dr Nagja V Tripathi,** *IPNU* |
| 1015 - 1045 | **Plenary Speaker 7** |
| | Title: Excipients: The Silent partners to API in drug delivery |
| | **Dr Sunil Jaiswal,** *Akums Drugs & Pharmaceuticals Ltd, Haridwar, India* |
| | Chair: **Dr Shital B Butani,** *IPNU* |
| | Co-Chair: **Dr Misari D Patel,** *IPNU* |
| 1045 - 1115 | **Coffee Break & Networking** |
| 1115 - 1145 | **Invited Speaker 4** |
| | Title: Plasma medicine: Tailoring plasmas for healthier generation in the era of Viksit Bharat |
| | **Dr Akshay Vaid,** *Institute of Plasma Research, Gandhinagar, India* |
| | Chair: **Dr Mayur M Patel,** *IPNU* |
| | Co-Chair: **Dr Anshu Srivastava,** *IPNU* |
| 1145 - 1245 | **Valedictory Function** |
| 1245 - 1345 | **Lunch Break & Networking** |


SCIENTIFIC
SESSIONS

# KEYNOTE LECTURES



# Pharmaceutical Research and Development: Emerging Paradigms for Viksit Bharat

**Dr Sohan Chitlange**
*Vice-Chancellor, Vice-President APTI (West Zone)*
*Alard University, Pune, India*

## ABSTRACT

India is positioned to become a global center of pharmaceutical innovation by harnessing its scientific strength, manufacturing capabilities, and rich knowledge heritage. Advancing pharmaceutical R&D for a Viksit Bharat requires a synergistic model that integrates modern science with the principles of Make in India, promoting indigenous innovation, technology leadership, and self-reliant healthcare systems. Emerging paradigms—including AI/ML-driven drug discovery, targeted protein degradation, advanced biologics, and next-generation delivery systems—are transforming discovery and development across the value chain. These advances are supported by enabling technologies such as high-throughput automation, multi-omics for mechanism-based target validation, and sustainable, green-chemistry-based manufacturing. India's civilizational wisdom and the Indian Knowledge System (IKS) offer an additional foundation for discovery, particularly in phytochemistry, reverse pharmacology, and holistic health models. Scientifically validated traditional leads, standardized extracts, and mechanistic evaluations can expand the therapeutic toolbox while aligning with global demand for natural and integrative solutions. Bridging translational gaps will require robust preclinical models, adaptive clinical trial frameworks, and regulatory science reforms that encourage innovation while ensuring safety and affordability. Public–private partnerships, investment in digital and human capital, advanced manufacturing under Make in India, and strengthened innovation ecosystems will be essential to accelerate translation from laboratory to market. Together, these scientific, regulatory, and heritage-aligned initiatives present a strategic roadmap to position India as a global R&D powerhouse—delivering accessible, high-quality therapeutics, strengthening economic growth, and realizing the vision of a truly Viksit Bharat.

## BIOGRAPHY

Dr Sohan Chitlange is presently working as Vice Chancellor at Alard University, Pune. He has 26 years of professional experience and has more than 125+ research papers, 6 books, 12 monographs in reference books, and 20+ published patents to his credit. He is actively associated with various professional bodies. Presently, he is Vice-President, APTI (National) West Zone. He has served as Chairman BOS, Pharmaceutical Chemistry & Pharm.D. at Savitribai Phule Pune University, Pune, Nominated by His Excellency, Governor of Maharashtra as Member of the Academic council SPPU, Member Research and Recognition committee SPPU and Nanded University, Member BOS @ Amravati University, KLE University, BAMU Aurangabad, DIPSRU New Delhi, MIT World Peace University, PA Inamdar University. He is a recipient of "Best Principal Award 2018" by Oriental University, Indore, "Best Principal Award 2019" by Savitribai Phule Pune University, Pune, and "IPER Best Principal Award 2020" at the National level by the Association of Pharmaceutical Teachers of India. He is an expert in Accreditation and Rankings and has delivered many talks at the National Level.

# Nano-vaccines – The Promise for Future Therapeutics

**Dr Stephen Kerr**
*Associate Provost for Academic and International Affairs,*
*Professor of Medicinal Chemistry, Academic Affairs,*
*Massachusetts College of Pharmacy and Health Sciences, Boston, USA*

## ABSTRACT

The talk will highlight the development of nano-vaccines from the development of ISCOMS in the 1990s to present-day nano-vaccines for the treatment of cancer. Since the early days of developing more powerful immune-stimulating agents for vaccine development using adjuvants and lipid complexes, the field has now reached its full potential for the use of these nanoparticle agents. At present, they have been successfully deployed to prevent/delay viral infections (e.g., Covid-19) and are now being applied for treatment and suppression of multiple cancers. The talk will discuss the mechanisms, successes, and challenges for these promising therapeutic agents.

## BIOGRAPHY

Dr Stephen Kerr is Professor of Medicinal Chemistry and the Associate Provost for Academic and International Affairs at the Massachusetts College of Pharmacy and Health Sciences, Boston, USA. He has co-authored multiple research articles in enzymology, drug design, drug metabolism, cellular toxicology, and formulation development. Since 2001, Dr Kerr has authored the chapter on Drug Design and Enzymes / Catalytic Receptors for the world-renowned textbook "Foye's Principles of Medicinal Chemistry." For the past thirty years, he has been associated with pharmacy and pharmaceutical sciences education and looks forward to continuing to educate and mentor the next generation of pharmacists and pharmaceutical scientists.

# Herbal Product Discovery and Development: Modulation of Gut-Liver Axis In Hepatic Disease Management

**Dr Wong Tin Wui**
*Non-Destructive Biomedical and Pharmaceutical Research Centre, Smart Manufacturing Research Institute/Faculty of Pharmacy, Universiti Teknologi MARA, Malaysia*

## ABSTRACT

Non-alcoholic fatty liver disease (NAFLD) is a chronic metabolic liver disease and a leading cause of cirrhosis and hepatocellular carcinoma. Its global prevalence in 2021 is 32.4 %, with the male prevalence propensity being higher than that of females, and it increases to 50-70 % among obese children. The occurrence and development of NAFLD are mainly governed by genetic and nutritional factors. A high-fat diet can alter the human microbiome, leading to metabolic disorders including insulin resistance, dyslipidemia, and systemic inflammation, ultimately altering hepatic lipid metabolism along the gut-liver axis connected by the portal vein and promoting NAFLD development. Tibetan medicine has a history of more than 3,800 years. It integrates Chinese medicine, ancient Indian medicine, and ancient Arabic medicine into a unique medicinal system. This presentation highlights the pharmacological basis of the therapeutics of selected Tibetan medicines for the prevention and treatment of NAFLD and identifies the choice of excipients and formulation strategies for oral therapeutic delivery, considering gut-liver axis interplay.

## BIOGRAPHY

Professor Dr Wong Tin Wui obtained his PhD degree from the National University of Singapore in 1999. He is presently the lecturer and principal fellow at the Faculty of Pharmacy and Smart Manufacturing Research Institute, Universiti Teknologi MARA. His research areas are primarily focused on precision oral, skin, and pulmonary nanodrug delivery. He has published over 135 peer-reviewed articles. He is the editorial board member of Asian Journal of Pharmaceutical Sciences, Associate Editor of Drug Development and Industrial Pharmacy, Drug Design, Development and Therapy, Frontiers in Pharmacology, Technology in Cancer Research and Treatment, and regional editor of Current Drug Delivery. Professor Wong is the founder of the Non-Destructive Biomedical and Pharmaceutical Research Centre, Malaysia, and the Sino-Malaysia Molecular Oncology and Traditional Chinese Medicine Delivery Joint Research Centre, Medical College, Yangzhou University, China. He is the jury for the Maurice-Marie Janot Award and Lecture, and founder and chief jury for the Malaysia Technology Expo Sustainable Development Goals International Innovation Awards. He serves/served as the visiting/adjunct/lecture professor of UCSI University, Taylor's University, Universiti Malaya, Malaysia; National University of Singapore; Yangzhou University, China; Nirma University, India; Silpakorn University, Thailand, and is a fellow of the Academy of Sciences Malaysia and a postgraduate faculty member of Chulalongkorn University, Thailand. He was the Federation of Asian Pharmaceutical Associations (FAPA) scientific section award winner (2023).

# From Irrational to Rational Approaches in Cancer Drug Discovery: A Quarter-Century Journey

**Dr Johnson Stanslas**
*Professor, Pharmacotherapeutics Unit, Department of Medicine*
*Faculty of Medicine and Health Sciences,*
*Universiti Putra Malaysia, Selangor, Malaysia*

## ABSTRACT

Cancer drug discovery remains a costly, lengthy, and high-risk endeavor, with high attrition rates largely driven by the limited translational predictability of preclinical studies. A major contributing factor has been the historical reliance on target-agnostic, phenotypic screening approaches. This keynote reflects on a quarter century of research, describing the evolution of our program from an initially irrational drug discovery strategy—defined here as screening compounds without prior knowledge of specific molecular targets—to a rational, target-driven approach guided by advances in cancer biology. Early efforts focused on empirical screening of natural products and semisynthetic derivatives, including andrographolide, against diverse cancer cell lines. While this approach identified compounds with anticancer activity, mechanistic understanding and translational relevance were limited. Subsequent advances enabled a strategic shift toward validated oncogenic drivers, particularly KRAS and EGFR, facilitating rational compound selection and optimization. Using andrographolide as a chemical scaffold, this led to the identification of andrographolide-derived KRAS binders SRJ09, SRJ23, and Raspholide, which directly engage oncogenic KRAS, suppress MAPK signalling, and inhibit tumour growth in KRAS-driven preclinical models, including pancreatic cancer. Beyond tumour growth inhibition, our studies highlight the importance of targeting cancer stem cell–associated pathways in pancreatic cancer, which contribute to therapeutic resistance and disease recurrence. In parallel, resistance evolution in EGFR-mutant non-small cell lung cancer was examined using the clinically approved EGFR 2nd-generation tyrosine kinase inhibitor afatinib. Intermittent treatment strategies, combined with drug repurposing supported by molecular docking and in vitro validation, were explored as cost-effective and resistance-aware alternatives to continuous therapy. Collectively, this body of work illustrates how a progressive transition from irrational (target-agnostic) to rational (target-driven) approaches-integrating target biology, appropriate preclinical models, cancer stem cell considerations, drug repurposing, and intermittent therapeutic strategies—can support the development of a more biologically informed and translationally relevant framework for cancer drug discovery.

## BIOGRAPHY

Dr Johnson Stanslas is an internationally recognized cancer pharmacologist and academic leader with over two decades of experience spanning translational oncology, drug discovery and development, and clinical pharmacology. He is a Professor in the Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia (UPM), where he leads high-impact research programs focused on cancer therapeutics, adaptive therapy, natural product–derived anticancer agents, and precision medicine. His expertise encompasses in vitro and in vivo preclinical drug evaluation, molecular pharmacology, pharmacogenomics, therapeutic drug monitoring, and translational strategies to overcome drug resistance in cancer. Dr Stanslas has made significant contributions to anticancer drug development targeting EGFR-mutant non-small cell lung cancer, pancreatic cancer, breast cancer,

neuroinflammation, and immunomodulation. He holds a PhD in Cancer Pharmacology from the University of Nottingham (UK), following earlier training in biochemistry and anticancer research. Professionally, he serves as President of the Malaysian Association for Cancer Research (MACR) and holds numerous leadership roles across editorial boards, ethics committees, strategic research task forces, and international scientific organizations. He is actively involved in postgraduate education, having supervised multiple PhD and Master's candidates and served as an external examiner and academic advisor nationally and internationally. Dr Stanslas has authored over 100 peer-reviewed publications, including journal articles, book chapters, and conference proceedings, and is the author of the book In Search of Innovative Cancer Therapeutics: Is There Light at the End of the Tunnel? His research excellence is supported by substantial national and international grant funding and recognized through multiple awards, patents, and invited keynote and advisory roles. He continues to play a pivotal role in advancing cancer research, regulatory science, and translational medicine in the Asia-Pacific region and beyond.

# Drug Delivery Technologies for Value Addition and Life Cycle Extension – A Case Study

**Dr Ajay Khopade**
*Vice President R&D Formulations (Non-Oral)*
*Sun Pharma Advanced Research Centre, Vadodara, India*

## ABSTRACT

Drug delivery technologies are one of the product life cycle extension tactics used to resist generic competition and maximize product value. It is generally founded on the concepts of increased usage and compliance, safety and efficacy, and indication extension. Sun Pharma's successful examples include Xelpros, Bevetex, Cequa, Bromsite, and others. The talk will include a case study on making of Bevetex, a nanotechnology oncology drug, which overcame all of the developmental, clinical, and regulatory hurdles to eventually hit the market.

## BIOGRAPHY

Dr Ajay Khopade is a Vice President of R&D and Heading non-oral speciality division at Sun Pharmaceutical Industries Ltd (SPIL). With over 25 years of experience in pharmaceutical product development, in his current role as VP-R&D, is responsible for the development of SPILs complex generic and differentiated product development and product life-cycle management. Dr Khopade has extensive end-to-end (ideation-technology development-preclinical POC-clinical-commercial) development experience across multiple therapeutic areas in novel parenteral dosage forms. He has participated as CMC expert in the submission of number of INDs, NDAs and technology evaluation for in-licensing opportunities. He is an inventor of a platform nanotechnology in the field of oncology (Nanotecton®), ophthalmics (GFR®, SMM® Trisurf® and TearAct®), liposome and depot injections protected by various IPs globally with over a dozen patents. Most of these technologies have endured clinical tests to reach into the market. Dr Khopade has been a Humboldt post-doctoral fellow at Max Plank institute of Colloids and Interfaces, Germany. He holds a Ph.D. degree in Pharmaceutical Sciences from the University of Sagar, MP, India. His areas of interest are understanding physical chemistry of drug delivery system design.

# PLENARY LECTURES

# Transforming Healthcare through Policies: Role of National Initiatives in Pharmaceutical Innovation for Viksit Bharat

**Dr Poonam Yadav**
*Scientist 'D', Frontier and Futuristic Technologies (FFT) Division*
*National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)*
*National GLP Compliance Monitoring Authority (NGCMA)*
*Department of Science & Technology (DST),*
*Government of India, New Delhi, India*

## ABSTRACT

India's vision of Viksit Bharat is being advanced through robust science policy and strategic national initiatives led by the Department of Science & Technology (DST), Department of Biotechnology (DBT), Anusandhan National Research Foundation (ANRF), and the Indian Council of Medical Research (ICMR). Together, they are catalyzing a paradigm shift in pharmaceutical sciences and healthcare delivery, positioning India as a global leader in affordable, ethical, and sustainable healthcare innovation. DST's mission-driven programmes and technology development schemes are strengthening translational research, enabling industry–academia collaboration, and fostering innovation ecosystems. DBT's flagship initiatives, including the National Biopharma Mission and the BioE3 Policy, are advancing biopharmaceuticals, vaccine development, genomics, and sustainable bio-manufacturing, supporting India's emergence as a global hub for affordable biologics and precision medicine. The Anusandhan National Research Foundation (ANRF) is reinforcing the national research architecture through enhanced funding mechanisms, mission-mode and interdisciplinary research, and capacity building to accelerate discovery-to-market pathways, including the establishment of a ₹1 lakh crore Research, Development, and Innovation (RDI) Fund. Complementing these efforts, ICMR's nationwide health research networks and expansion of advanced research and diagnostic laboratories are strengthening disease surveillance, clinical research, and regulatory science, ensuring evidence-based interventions and public health preparedness. Collectively, these initiatives have expanded India's R&D infrastructure, nurtured a vibrant startup and innovation ecosystem, and integrated modern science with traditional knowledge systems. Their cumulative impact is reflected in India's improved standing in global innovation indicators, including the Global Innovation Index, and its growing leadership in global healthcare supply chains. This coordinated science policy framework is transforming pharmaceutical sciences into a knowledge-driven innovation powerhouse, ensuring equitable access to life-saving medicines, and contributing decisively to the realization of Viksit Bharat.

## BIOGRAPHY

Dr Poonam Yadav is a seasoned biotechnology expert with over 15 years of distinguished service at the Department of Science & Technology (DST), Government of India. Currently serving as Scientist 'D' in the Frontier and Futuristic Technologies (FFT) Division, she plays a pivotal role in shaping India's innovation ecosystem through the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS). She manages mission-mode R&D projects, fosters academia-industry-government collaborations, and drives the integration of emerging technologies such as AI, ML, and Cyber-Physical Systems into national priorities. Dr Yadav also contributes significantly to regulatory excellence through her role at the National GLP Compliance Monitoring Authority (NGCMA), ensuring Indian laboratories meet global Good Laboratory Practice (GLP) standards. Her academic credentials are backed by a PhD in Biotechnology

and specializations in Functional Genomics, Bio-nanotechnology, Nano & Advanced Materials, Synchrotron Science, and emerging technologies. Her research portfolio includes 15 peer-reviewed publications, 4 co-authored books, a Research Interest Score of 87.9, and over 150 citations. She has represented India in several prestigious international forums, including the India-Japan Joint Committee Meeting on Science & Technology (2020), Sakura Science Exchange Program, Japan (2020), BRICS Working Group Meeting on Nanotechnology & Materials Science (2022), Materials Genome Initiative (MGI), Washington D.C., USA (2024). Dr Yadav exemplifies the synergy of scientific excellence, strategic policy leadership, and international engagement—contributing significantly to India's advancement in cutting-edge science and technology domains.

# Digital Transformation in Pharma R&D: How AI/ML, LLMs, and GenAI are Transforming the Drug Discovery

**Dr Raghu Rangaswamy**
*CEO, Molecular Solutions Software Pvt. Ltd.*
*Bengaluru, India*

## ABSTRACT

Drug discovery is entering a transformative era driven by artificial intelligence (AI), machine learning (ML), and digital innovation, where advanced in silico methodologies are significantly accelerating development timelines, reducing costs, and improving overall success rates. Recent breakthroughs include chemical-space docking, enabling the screening of billions to trillions of compounds with hit rates approaching 40%; free energy perturbation (FEP) methods capable of delivering highly accurate binding affinity predictions for small molecules and peptides within hours; and polymorphism prediction achieving accuracies of up to 98%. In parallel, AI/ML-driven formulation design is addressing long-standing solubility and stability challenges with approximately 85% predictive accuracy, while the computation of 200+ ADMET parameters, high-throughput PBPK simulations, and early pKa predictions are helping prevent late-stage clinical attrition. AI-enabled retrosynthesis and literature-guided synthesis planning are transforming process chemistry, impurity prediction, and route optimization. Furthermore, the integration of large language models (LLMs), generative AI, and AI-driven atomistic simulations is rapidly expanding the scope of digital drug design and development. Collectively, these innovations are reshaping the drug discovery paradigm—enhancing hit identification, lead optimization, and translational outcomes. Despite this progress, many academic and research institutions continue to rely predominantly on traditional approaches, missing critical opportunities to leverage these technologies. This presentation aims to (i) explain the scientific principles and methodologies underlying these emerging tools, (ii) showcase real-world case studies demonstrating measurable impact, and (iii) provide actionable strategies for adopting digital drug discovery frameworks to remain competitive in the evolving R&D landscape.

## BIOGRAPHY

Dr Raghu R is the CEO of Molecular Solutions, a next-generation in silico drug discovery company. Prior to Molecular Solutions, Dr Raghu served for nearly 20 years as Vice President at Schrödinger, where he led scientific collaborations and was instrumental in expanding the company's global footprint across 20+ countries. He has also held research roles in prominent organizations such as Syngene, DSQ Biotech, and Tata Elxsi, specializing in bioinformatics and computational chemistry. A gold medalist in M.Pharm., Dr Raghu holds a Ph.D. in Bioinformatics, along with an MBA and an Advanced Diploma in Bioinformatics. He is a sought-after speaker at many national and international conferences and serves on several academic advisory boards. He is currently a Governing Board Member at PSG College of Pharmacy and Board of Studies Member at Alagappa University, Pondicherry University, VIT University, and other academic institutions, actively contributing to curriculum development and digital research integration. He is also the Vice President and Trustee for Friends of Camphill India and a Global organization for mentally challenged children, and also Vice President of Dasappa Trust, dedicated to the educational development of rural children.

# Targeting MET-Driven Cancers: Insights from Preclinical and Translational Studies of Selective c-MET Inhibitors

**Dr Nirmal Rajasekaran**
*Senior Manager*
*Department of Clinical Development*
*Curacle CO., Seoul, South Korea*

## ABSTRACT

Recent research has focused on the development of selective c-MET inhibitors as precision therapies for cancers driven by MET alterations. These compounds inhibit c-MET signaling, suppress tumor growth, and induce apoptosis in MET-dependent cancer models. Studies in both xenograft and patient-derived models have shown that their antitumor effects closely correlate with MET biomarker status, highlighting the value of biomarker-guided treatment strategies. Pharmacokinetic and formulation analyses have identified factors influencing oral bioavailability and systemic exposure, supporting optimized dosing approaches. In orthotopic models, tumor progression was monitored noninvasively via MRI, providing a clinically relevant context. Daily administration of the inhibitors, both as monotherapy and in combination with EGFR-TKIs, resulted in complete or near-complete tumor regressions, demonstrating robust antitumor activity. These findings highlight the promise of selective c-MET inhibitors, alone or in combination with EGFR-TKIs, as biomarker-informed targeted therapies for patients with MET-driven malignancies, paving the way for translational and clinical applications in precision oncology.

## BIOGRAPHY

Dr Nirmal Rajasekaran is an accomplished pharmaceutical scientist and drug development leader with extensive expertise in oncology research and clinical trial management. He earned his Bachelor's and Master of Pharmacy in Pharmaceutical Chemistry from Dr M.G.R. Medical University and his Ph.D. in Pharmacy from Seoul National University, where his research focused on elucidating resistance mechanisms involving TGF-signaling and developing targeted RNAi-based therapies for cancer. Dr Rajasekaran has played a pivotal role in the preclinical and clinical development of RNAi and small-molecule therapeutics, with a particular focus on c-MET inhibitors and precision oncology approaches. With over a decade of experience spanning academia, biotechnology, and clinical research, he has led multiple Phase I, IIa, and IIb clinical trials, including the global Phase IIa study of Vabametkib (ABN401) in NSCLC patients with MET aberrations. He currently serves as Senior Manager at Curacle Inc., a Kosdaq-listed bio-venture company in Seoul, South Korea, where he oversees translational research, regulatory submissions, and the strategic clinical development of CU-06 for diabetic macular edema, now in Phase 2b. Dr Nirmal's work bridges innovative science with clinical application, advancing targeted therapies for patients with high unmet medical needs.

# Precision Psychiatry in Practice: Bridging Polygenic Insights and CRISPR Diagnostics for Personalized Antidepressant Therapy

**Dr Sivasankaran Ponnusankar**
*Professor and Head*
*Dept of Pharmacy Practice,*
*JSS College of Pharmacy, Ooty, India*

## ABSTRACT

The evolving landscape of clinical pharmacology is rapidly transitioning from traditional 'one-size-fits-all' prescriptions to an era of individualized drug therapy, driven by advances in pharmacogenomics. This seminar explores the transformative potential of integrating polygenic risk scores (PRS) and CRISPR-based diagnostics into routine psychiatric care, with a focus on optimizing antidepressant therapy in Generalized Anxiety Disorder (GAD). Drawing upon the principles of precision medicine, we delve into how multi-gene interactions, when modeled through structured regression frameworks, can forecast therapeutic resistance before the first pill is prescribed. As psychiatric disorders like GAD remain plagued by high rates of treatment failure and trial-and-error prescribing, a shift toward predictive, genotype-informed treatment is both timely and necessary. We will also highlight the role of CRISPR-Cas13a technology as an emerging diagnostic tool—offering rapid, low-cost, and bedside-compatible screening for genetic variants linked to drug metabolism and response. Unlike conventional tests limited by cost and turnaround time, CRISPR-based lateral flow assays enable real-time pharmacogenomic insights, empowering clinicians with data-driven decisions at the point of care. This session is designed to bridge the gap between research and practice. Attendees will gain insight into the clinical utility of PRS-PGx models, the mechanics of CRISPR-based detection platforms, and the broader implications for deprescribing, dose titration, and therapy customization. By the end of the seminar, participants will appreciate how interdisciplinary innovations are reshaping the future of precision psychiatry, paving the way for improved patient outcomes, reduced adverse effects, and sustainable healthcare models—especially in genetically diverse and resource-constrained settings like India.

## BIOGRAPHY

Dr Sivasankaran Ponnusankar completed his Bachelor of Pharmacy in 1994 (B. Pharm) and Master of Pharmacy - 1996 from JSS College of Pharmacy, Ooty. He joined as a Lecturer in the year July 1996 and established the Department of Pharmacy Practice at JSS College of Pharmacy, and was involved in developing clinical pharmacy training and education at the Government. Medical College & Hospital, The Nilgiris (formerly Govt. District Headquarters Hospital, Ooty (first model site in India for clinical pharmacy education and training in a public Hospital). During his service, he also obtained his Clinical Pharmacy Training at Repatriation General Hospital, Adelaide, South Australia, and Austin Health, Melbourne. After his training, he was promoted to Assistant. Professor in the year 2006 and continued his service in the same institution. He completed his Doctor of Philosophy (PhD) in the year 2011 from Jadavpur University, Kolkata, through the Quality Improvement Program for the Pharmacy Teachers program of All India Council for Technical Education (AICTE), New Delhi. After his doctorate, he was promoted to Professor and subsequently to Head of the Department of Pharmacy Practice. His research area(s) of interest include pharmacogenomics; machine learning models for health studies; systematic review and meta-

analysis; and network pharmacology. He has guided 45 PG students, 18 groups of Pharm D students, and 13 PhD students (6 awarded). He has organized several Continuing Education Programs (CEP) for Pharmacists and Pharmacy Teachers, Conferences, Seminars, and Leadership programs, and OUTREACH programs for the public. He has published national and international manuscripts in peer-reviewed journals. He has also obtained funding from ACITE, New Delhi, and Dept. of Biotechnology, New Delhi, for his research projects. He is a very sincere and committed individual. His hobbies are listening to music (Maestro Ilayaraaja) and surfing.

# Microneedles as Transforming Localized Drug Delivery for Improved Therapeutic Outcomes

**Dr Gautam Singhvi**
*Associate Professor,*
*Department of Pharmacy,*
*BITS Pilani, Pilani Campus, Rajasthan, India*

## ABSTRACT

Microneedles are emerging as a transformative and revolutionary approach for the effective delivery of molecules that are challenging to administer via other routes. Microneedles are an amalgamation of hypodermic injections and transdermal patches that provide a painless, localized drug delivery platform with patient-friendly administration. Its applications have been explored in many fields, like oligonucleotide delivery, vaccine delivery, insulin delivery, and even in cosmetics. From both a clinical and economic perspective, the industry is poised for significant growth and broad adoption, particularly in chronic disease management, vaccination, and biologics delivery. MNs also serve as a tool for diagnosis by the bio-sampling of blood and interstitial skin fluid, as well as biosensing various cancer biomarkers. The combined therapy and diagnostics provide theranostic MNs for enhanced and personalized tumor therapy. The microneedle drug delivery systems market is experiencing rapid growth globally, driven by rising technological advancements in materials and manufacturing. The commercial growth for the microneedle-based drug delivery market was valued at approximately USD 6.1 billion in 2023 and expected to reach USD 9.4–11.6 billion by 2030–2032.

## BIOGRAPHY

Dr Gautam Singhvi is an Associate Professor in the Department of Pharmacy, BITS Pilani, with over 18 years of combined industrial and academic research experience. His research focuses on the design of cutaneous drug delivery systems, including microneedles, and industrially feasible nanocarrier-based formulations for diverse therapeutic agents. He has published more than 150 research articles in reputed international peer-reviewed journals and 15 book chapters with international publishers. Dr Singhvi is actively engaged in sponsored research projects funded by industry and government agencies. As an inventor, he has been granted 7 Indian patents, with 8 formulation patents currently under examination. He also serves as a peer reviewer for several international journals and is deeply committed to adopting innovative teaching pedagogies to prepare students for emerging challenges. In recognition of his research impact, he has been listed among the "World's Top 2% Scientists" consecutively from 2021 to 2025. Dr Singhvi is a recipient of the 'Vice Chancellor Technology Development Award' 2024 (Institute-wide) by BITS Pilani.

# Translational Research to Transformative Medicine in Chronic Lymphocytic Leukemia

**Dr Varsha Gandhi**

*Professor and Ki Hong Endowed Distinguished Chair in Translational Oncology,*
*Department of Translational Molecular Pathology*
*Department of Leukemia, MD Anderson Cancer Center, Texas, USA*

## ABSTRACT

The B-cell receptor (BCR) pathway is responsible for the production, proliferation, survival, and migration of B-cells, including chronic lymphocytic leukemia (CLL) cells, which is a B-cell malignancy. Bruton's tyrosine kinase (BTK) is a pivotal enzyme in BCR signaling. Ibrutinib binds to the cysteine 481 residue in BTK and irreversibly inactivates the protein. Single-agent ibrutinib was successful in long-term progression-free survival of patients with CLL but resulted in limited complete remissions (CR). The clinical success of ibrutinib and its limitations suggested that combination strategies will be needed to achieve deeper remissions, which may result in undetectable measurable residual disease (uMRD) status, a desired clinical endpoint that may translate into a cure. Molecular research during clinical trial from my group suggested that the peripheral blood CLL cells after ibrutinib therapy have high levels of Bcl-2 anti-apoptotic proteins, while levels of Mcl-1, another congener protein of the same family, are declined. This observation provided a strong biochemical rationale to combine ibrutinib with the Bcl-2 antagonist, venetoclax. To validate this hypothesis, we performed several in vitro, ex vivo, and in vivo mouse model experiments to establish the utility of this combination. Clinically, it was apparent that ibrutinib targets CLL cells resident in lymph nodes while venetoclax irradicates leukemic lymphocytes from peripheral blood and bone marrow, providing clinical rationale to combine these two drugs. In collaboration with my clinical colleagues, we initiated a clinical protocol and treated 120 treatment-naïve and 80 previously treated high-risk CLL patients. Early results, as well as 3.5-year follow-up studies, suggest high CRs and MRD negativity. This is the first time in CLL we have achieved uMRD with targeted oral therapeutics. This combination was further tested in randomized trials and is approved by the European Medicines Agency (EMA).

## BIOGRAPHY

Varsha Gandhi, is a Professor in the Department of Translational Molecular Pathology at The University of Texas MD Anderson Cancer Center in Houston, Texas, and holds a Waun Ki Hong Distinguished Chair in Translational Oncology endowed position. She is a co-leader of the MD Anderson's CLL Moon Shots Program. Dr Gandhi's research focus is clinical and translational in the development of therapeutics for hematological malignancies. She has published 300 articles and serves on the editorial board of many journals, such as Clinical Cancer Research, Blood Neoplasia, and is Associate Editor for Leukemia and Lymphoma and Editor-in-Chief of Lymphatics. She designed, developed, and established a new graduate program, "Experimental Therapeutics," at the Graduate School of Biomedical Sciences and has supervised many graduate students and fellows. Dr Gandhi has received several awards, including the MD Anderson Faculty Scholar Award, the Aventis Drug Development award, Potu N. Rao Award for Excellence in Basic Science, Gerald P. Bodey Award for Excellence in Education, The William Randolph Hearst Foundations Faculty Achievement Award in Education, Distinguished Research Faculty Mentor Award, UT Regents' Outstanding Teaching Award, and Chamberlain Postdoctoral Mentor Award. She received the Shri R.J. Kinarivala Research Award from Gujarat Cancer Research Institute and Gujarat Cancer Society. She is a Fellow of the American Association for the Advancement of Science (AAAS).

# Excipients: The Silent Partners to API in Drug Delivery

**Dr Sunil Jaiswal**
*Senior Vice President, Research and Development*
*Akums Drugs and Pharma Ltd, Haridwar, India*

## ABSTRACT

Pharmaceutical excipients, although traditionally regarded as inactive ingredients, play a vital role in determining the effectiveness, stability, bioavailability, and overall quality of pharmaceutical dosage forms. Their impact extends well beyond ease of manufacturing to achieving desired drug release profiles, improving bioavailability, and enhancing patient compliance. Numerous examples demonstrate the significant contribution of excipients in improving the solubility and permeability of active pharmaceutical ingredients (APIs), ultimately leading to enhanced bioavailability. Certain excipients, such as Salcaprozate sodium (SNAC), can even facilitate a transformation in drug delivery routes and dosage forms. A notable example is semaglutide, where SNAC enables the conversion of a parenteral formulation into an effective oral delivery system. Excipients also support the conversion of liquid formulations into stable solid dosage forms, improve dissolution characteristics and permeability, and thereby allow dose reduction while maintaining therapeutic efficacy. Improved physical stability helps overcome environmental challenges, further enhancing shelf life and product robustness. In summary, excipients play an active and functional role in novel formulation development. Their ability to improve stability, bioavailability, and overall performance supports the design of patient-friendly, efficient, and cost-effective pharmaceutical products. This talk highlights the role and applications of functionalized excipients in advanced pharmaceutical drug delivery systems.

## BIOGRAPHY

Dr Sunil Jaiswal is an accomplished pharmaceutical professional with over 36 years of rich experience spanning academia and the pharmaceutical industry. He completed his B. Pharm., M. Pharm. (Pharmaceutics), and Ph.D. from Nagpur University, developing deep expertise in pharmaceutical sciences and drug formulation. He has held senior research and development roles in leading pharmaceutical organizations, including Sun Pharma, Macsleods Pharmaceuticals, Novartis, and Inventia Healthcare, contributing significantly to innovative drug product development and advanced formulation research. Currently, Dr Jaiswal serves as Senior Vice President (R&D) at Akums Drugs and Pharmaceuticals Ltd., Haridwar, where he provides strategic leadership to R&D and innovation-driven projects. Dr Jaiswal is a prolific researcher and inventor, with over 100 publications in reputed national and international journals. He has filed more than 50 patent applications, with approximately 10 granted patents, including U.S. patents. He is also the author of the widely respected textbook "Biopharmaceutics and Pharmaceutics – A Treatise," now in its 30th year of publication. His core areas of expertise include drug product development and innovative pharmaceutical formulations.


INVITED
LECTURES

# Evolving Landscape of Innovation in Healthcare: Innovate in India for Viksit Bharat

**Dr Shrinivas S Savale**
*CEO, Atal Incubation Centre*
*L. M. College of Pharmacy (AIC-LMCP Foundation)*
*Ahmedabad, India*

## ABSTRACT

India has been leading its contribution to the global healthcare sector as 'Pharmacy of the World', supplying affordable, high-quality medicines to over 200 countries for several years. However, the global healthcare landscape, as well as India's pharmaceutical and healthcare sector, is rapidly transforming with the emergence of technology-driven drug discovery and development, novel therapeutic modalities including biologics, cell and gene therapy, digital health, medical devices, traditional medicines, integrative medicine, diagnostics, and patient-centric healthcare. Keeping pace with this transformation, India's innovation ecosystem has made significant strides in innovation in the last decade, as evidenced by its significant jump in the Global Innovation Index. The session aims to discuss the evolving trends and innovation ecosystem in India that is shaping it as the 'Innovation Hub' of the world in the Pharmaceutical and Healthcare sector. It will also touch upon how various transformative government policies, digital transformation, strong research capabilities, a young talent pool, and a fast-growing startup culture are conspiring to translate India into an Innovation Hub of the world and realize the vision of Viksit Bharat – India as a developed nation – by 2047.

## BIOGRAPHY

The CEO of AIC-LMCP Foundation—an Atal Incubation Centre focused on the pharmaceutical and healthcare sector, hosted by L. M. College of Pharmacy (LMCP), Ahmedabad, and supported by AIM, NITI Aayog, Government of India—is an acknowledged leader with over 24 years of professional experience spanning pharmaceutical R&D, compliance, CRO environments, consulting, academia, and the innovation ecosystem. The areas of expertise include regulated bioanalysis, biopharmaceutics, and early clinical development, encompassing bioequivalence studies for small molecules and biosimilars/biologicals; GxP (GLP, GCP, GMP) compliance with a strong focus on data integrity, gap analysis, and resolution for electronic data workflows and IT systems in GxP environments; CRO and vendor qualification; deployment of electronic solutions for automation of bioanalytical and clinical laboratory workflows (LIMS, SDMS) and clinical operations (Phase I/BA-BE); and nurturing innovation in pharmaceuticals and healthcare. The educational background includes a Ph.D. in Pharmaceutical Sciences from Gujarat University, Ahmedabad. Professionally, the individual has been actively involved in startup and innovation initiatives at LMCP as a committee member and mentor for SSIP and as the Incubation Centre representative of IIC, has served as an Adjunct Professor of Quality Assurance for M.Pharm. and Pharm.D. programs, and has held senior roles at Torrent Pharmaceuticals Ltd. (General Manager – Bio-Evaluation), Clinigene International Ltd. (now Syngene International Ltd.) as Head of Bioanalytical Research, and Torrent Research Center as Scientist-II in Medicinal Chemistry. Professional associations include serving as President of the Gujarat State Branch of the Indian Pharmaceutical Association (from November 2024), Member of the Board of Advisors at QRL Bioscience Pvt. Ltd., Gandhinagar, and holding several leadership and committee roles with AAPS, including Track Screening Chair positions, Scientific Programming and Steering

Committee memberships, and long-standing abstract screening responsibilities. Additional roles include Founding Chairperson of Regulated Bioanalysis–APA India, Steering Committee member of the Global Bioanalysis Consortium representing the Asia-Pacific region, Organizing Committee member for Regulated Bioanalysis–APA India, and Chair of the Gujarat Chapter of the Society for Pharmaceutical Dissolution Science (SPDS), India. Scientific and professional recognitions include the Biocontribute Award, Best Research Paper Award (IPA), Best Research Award (LAARS), and DST travel support for presenting at the British Pharmaceutical Conference (Manchester, UK), along with extensive contributions as a reviewer and invited speaker at national and international forums. The publication record comprises 27 publications, including two book chapters, along with numerous scientific presentations.

# Strategic Design and Preclinical Evaluation of Novel Quinazolinone-Thiazole Hybrids Targeting Resistant EGFR Mutations in Non-Small Cell Lung Cancer

**Dr Audrey Yong Chee**
*Associate Professor*
*Faculty of Pharmacy and Biomedical Sciences,*
*MAHSA University, Selangor, Malaysia*

## ABSTRACT

The emergence of secondary mutations such as T790M in the Epidermal Growth Factor Receptor (EGFR) remains a critical challenge in treating Non-Small Cell Lung Cancer (NSCLC). Current generation tyrosine kinase inhibitors often face resistance or off-target toxicity. This study aims to design a novel series of hybrid scaffolds that integrate quinazolinone and thiazole pharmacophores to target the ATP-binding pocket of mutant EGFR (L858R/T790M) while maintaining a favorable safety profile. A structure-based drug design (SBDD) approach was utilized, employing molecular docking simulations (AutoDock Vina and Discovery Studio) to screen a virtual library against wild-type (PDB: 1XKK) and mutant EGFR (PDB: 6LUD/5Y9T). Based on binding energy scores and interaction analysis, a series of coded Quinazolinone-Thiazole derivatives (Series QTH) were chemically synthesized. The lead candidates were characterized via NMR and Mass Spectrometry. Antiproliferative efficacy was evaluated against Gefitinib-sensitive (PC-9) and Gefitinib-resistant (H1975) cell lines. Acute oral toxicity was assessed in BALB/c mice following OECD Guideline 423. Computational analysis identified a Lead Candidate (Code: QTH-14) exhibiting superior binding affinity (-11.0 kcal/mol) compared to standard inhibitors, driven by key hydrophobic interactions and hydrogen bonding within the mutant active site. In in-vitro assays, QTH-14 displayed potent inhibition of H1975 resistant cells with an IC50 in the low micromolar range. Crucially, acute toxicity studies revealed a high safety margin; the compound was well-tolerated in animal models with a Maximum Tolerated Dose (MTD) exceeding 2000 mg/kg and no observed mortality. The novel Quinazolinone-Thiazole hybrid QTH-14 demonstrates significant potential as a targeted therapeutic for drug-resistant NSCLC. Its dual capability to inhibit resistant cell lines while maintaining a high safety threshold in in-vivo models warrants further development as a next-generation EGFR inhibitor.

## BIOGRAPHY

Dr Audrey Yong Chee Hui is an accomplished pharmaceutical scientist and academic leader serving at the Faculty of Pharmacy and Biomedical Sciences, MAHSA University, Malaysia, where she focuses on medicinal and pharmaceutical chemistry, pharmacology, and drug discovery. Dr Yong earned her PhD in Pharmacology from Universiti Putra Malaysia, following earlier degrees including a BSc (Hons) in Chemistry and an MSc in Analytical Chemistry and Instrumental Analysis from the University of Malaya, underpinning her strong foundation in chemical and pharmacological sciences. Her research expertise spans preclinical evaluation of small molecules, validation of bioactive compounds for anti-psoriatic and anti-cancer activity, and medicinal chemistry approaches to address drug resistance mechanisms in cancer, including design and evaluation of targeted EGFR inhibitors. Dr Yong has co-authored numerous peer-reviewed publications and contributed to international conferences, reflecting her active involvement in advancing therapeutics research and translational science. In addition to her academic duties, she engages in scientific leadership through committee roles in research symposia and serves as a mentor and supervisor for postgraduate students. Dr Yong's career is marked by a commitment to bridging fundamental pharmacological research with practical therapeutic innovation.

# Toward Personalized Cancer Therapy Through Liquid Biopsy Innovation

**Dr Chaithanya Lakshmi**
*Research Assistant Professor,*
*Molecular Medicine and Biopharmaceutical Sciences,*
*Seoul, National University, South Korea*

## ABSTRACT

Cancer treatment is entering a new era-one where a simple blood draw can illuminate the evolving story of a patient's tumor. Liquid biopsy has rapidly progressed from a conceptual innovation to one of the most promising pillars of modern precision oncology. By enabling real-time access to circulating tumor cells (CTCs), circulating tumor DNA (ctDNA), exosomes, and other tumor-derived biomarkers, liquid biopsy provides a non-invasive and repeatable window into tumor evolution-something traditional tissue biopsy cannot offer. Among the various modalities, CTCs hold a uniquely powerful position. As intact, viable tumor cells circulating in the blood, they offer unprecedented opportunities to study tumor heterogeneity, metastatic potential, treatment response, and mechanisms of resistance at a single-cell level. Advances in microfluidics, high-resolution imaging, and molecular characterization are further enhancing the clinical utility of CTC analysis, allowing deeper insights into cancer biology and enabling biomarker-driven therapeutic decisions. This talk will present a comprehensive overview of the current landscape of liquid biopsy technologies, their clinical applications, and the scientific principles that underpin them. Special emphasis will be placed on CTC-based approaches, emerging multi-modal strategies, and the integration of predictive analytics into real-time cancer monitoring. Ultimately, liquid biopsy has the potential to transform cancer care into a more personalized, adaptive, and patient-centered practice, bringing precision medicine closer to everyday clinical reality and improving outcomes across diverse healthcare settings.

## BIOGRAPHY

Chaithanya Lakshmi, is a Research Assistant Professor at Seoul National University, specializing in liquid biopsy, circulating tumor cell (CTC) biology, and translational oncology. She received her Ph.D. in Integrative Biosciences and Biotechnology from POSTECH, Korea, and completed postdoctoral training in molecular oncology and diagnostic assay development from Seoul National University. Her research focuses on the development of high-sensitivity CTC enrichment platforms and downstream single-cell imaging assays for multiplex biomarker detection. Dr Chelakkot's current work includes the design and validation of CTC assays targeting clinically relevant markers such as MET, HER2, PD-L1, DLL3, and B7H3, with applications in companion diagnostics and therapeutic monitoring. She integrates microfluidics, imaging, and high-content image analysis to characterize tumor heterogeneity, metastatic potential, and treatment response. Her team is also implementing machine-learning frameworks to analyze CTC imaging data for predictive modeling of patient outcomes and therapy resistance. In collaboration with clinical centers in Korea, the USA, and Europe, she conducts multi-site studies to evaluate assay performance and clinical utility in breast, lung, and gastrointestinal cancers. Dr Chelakkot has authored numerous peer-reviewed publications and actively contributes to assay development, biomarker discovery, and the translation of liquid biopsy technologies into clinical practice, aiming to advance precision oncology and enable real-time, adaptive cancer management.

# Plasma Medicine: Tailoring Plasmas for Healthier Generation in the Era of Viksit Bharat

**Dr Akshay Vaid**
*Scientific Officer-F*
*Institute for Plasma Research, Gandhinagar, India*

## ABSTRACT

Plasma, a fourth state of matter, has gathered immense research attention in diverse applications related to biomedical fields, such as blood coagulation, cancer treatment, wound healing, dental, skin disease treatment, sterilization, and so on. The utilization of plasma in the biomedical sector is primarily twofold, one having direct therapeutic impact where the plasma is directly in contact with the biological medium, and another is the indirect treatment where plasma is in non-contact mode, commonly utilized for the development of bio-compatible coatings. In addition, plasma is also explored as a direct source for developing sensors for the early detection of cancers. Hence, due to its versatile usage, plasma has the potential to revolutionize almost every sector in medicine. This presentation will showcase the research for the development of various direct and indirect plasma sources for biomedical applications. During the direct plasma treatment, the applications of Atmospheric Pressure Plasma Jet (APPJ) for cancer treatment, especially gliomas, ITOC-03 cells, and A549 cells, will be discussed. Furthermore, the indirect treatment concerning plasma-activated water for sterilization will be discussed. In parallel, a brief discussion on the development of bio-compatible surface coatings will be highlighted. Overall, this presentation will span the entire spectrum of applications of plasma for healthcare segments. Therefore, plasma research in India can pave the way towards the development of innovations in the field of plasma medicine through which the country's contribution to Made in India and Viksit Bharat program may flourish in the near future.

## BIOGRAPHY

Dr Akshay Vaid is a Scientific Officer-F at the Institute for Plasma Research (IPR), Gandhinagar, with over 16 years of experience in the development of plasma-based systems for societal and industrial applications. His research expertise lies in advancing plasma technologies with translational potential, particularly in emerging domains that bridge fundamental plasma science with real-world impact. He has contributed one book chapter, authored 10 scientific publications and conference proceedings and holds a strong intellectual property portfolio comprising five Indian patents and one US patent. Dr Vaid's work has been recognized through participation and awards across eight national and international conferences, reflecting his sustained contributions to the plasma science and technology ecosystem.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