

**Report
of
International Conference on Trends & Innovations in Science & Engineering: Bridging the
Industry-Academia Interface (TISE CON 2025)
20th – 22nd February**

Organized by the **Department of Bioengineering** and the **Integral Startups Foundation**, in collaboration with esteemed organizations like the **AFSTI Lucknow Chapter**, **Indian National Young Academy of Sciences**, **The Biotech Research Society**, the conference revolved around the theme “**Bridging the Industry-Academia Interface.**” This theme underscored the event’s mission to create a vibrant platform for innovation, collaboration, and knowledge exchange between diverse stakeholders.

Vincent Van so rightly said, “**Great things are done by a series of small things brought together.**” This timeless quote captures the very essence of **TISE CON 2025**, which brought together **5 International partners** from **Uzbekistan, Thailand, Kazakhstan, and Qatar**, alongside **Bundelkhand University** as the academic partner. It also welcomed participation from **10 government organizations** such as **Startin UP, DBT, DST-SERB**, and **CSIR & ICAR** institutes as well as **11 industry leaders** like **Sun Pharma, Novartis, Aurigene Oncology, AMA Herbals, Fruz Pvt Ltd.** Together, these distinguished collaborators infused the conference with their expertise and visionary insights, making this event truly inspiring and impactful.

Day 1

The first day of TISE CON 2025 focused on **Open Discussions and Industry Engagement**

The Inaugural Session commenced with an address by Prof. Alvina Farooqui, followed by Prof. Mohd Haris Siddiqui, Registrar of Integral University, who presented a captivating account of the institution’s journey, highlighting its achievements in research and education through the narrative of *INTEGRAL QARWAN*. Next, Dr. Nida Fatima, Executive Director of the Integral Startups Foundation, introduced ISF as one of Uttar Pradesh’s leading non-profit incubation centers, showcasing its success in nurturing startups like Kosh, NuttyVillage, and Pharmoxa Agri Services.

The session reached a significant moment as the Hon’ble Chancellor and Founder, Prof. S. W. Akhtar, formally declared the conference open. He underscored the importance of global collaborations in driving advancements in science and technology for societal benefit. Prof. S W Akhtar sir also urged students to cultivate not only technical expertise but also moral integrity and strong ethical values to lead responsibly in a rapidly digitalizing world.

The first major session of the day was an **Open Discussion** on the theme “**Building a Skilled Workforce for Viksit Bharat 2047: Education and Training for the Sustainable Tomorrow**” Moderated by **Dr. Amjad Hussain**, Professor at the Cancer Research Institute, Dehradun, the session brought together a distinguished panel of experts including

1. Hon’ble Chancellor, Integral University Lucknow
2. Padmashri Prof. Ganpati D Yadav
3. Hon’ble Pro Chancellor, Integral University Lucknow
4. Hon’ble Vice Chancellor, Integral University Lucknow
5. Prof. Anand Kumar Singh, Hon’ble Vice Chancellor, Chandra Shekhar Azad University of Agriculture & Technology, Kanpur; Former DDG Horticulture, ICAR, New Delhi.
6. Prof. Sunil K Khare, VC Netaji Subash Chandra Bose Institute of Higher Learning & Director, IISER Kolkata
7. CA Rishabh Kumar, CEO, Fruz India Private Limited
8. Dr. Zebo Babakhanova, TICT, Tashkent
9. Prof. Furqan Qamar, Chief Advisor to Hon’ble Chancellor, Integral University
10. Prof. Haris Siddiqui, Registrar, Integral University, Lucknow.

The discussion centered on addressing skill gaps in science and engineering, fostering innovation, and achieving the vision of a sustainable and developed India by 2047. Highlights included calls to modernize curricula, promote apprenticeships, enhance soft skills, curb brain drain through local opportunities, and boost government support for education and research.

The discussion followed a keynote lecture by Padmashri Prof. G.D. Yadav’s “*3P’s: Patent, Publish, and Prosper*” stressing the importance of transforming academic research into impactful innovations.

The afternoon plenary session, “*Nurturing Incubations,*” opened with Dr. Amjad Hussain’s keynote, followed by an engaging panel discussion on “*Transforming Life Sciences Startups: From Lab to Market.*”

Moderated by Major Mohd. Ali Shah and Prof. Rajiv Ranjan, the session explored strategies for translating research into ventures.

Major Shah’s captivating story set the stage, followed by Prof. Smita S. Lele (ICT Mumbai), who emphasized sustainable innovations and the importance of “Vitamin M” as the financial backbone of ventures. Mr. Yawer Ali Shah (AMA Herbs) highlighted the role of startups in solving real-world problems, while Dr. Salman Hashmi (Sun Pharma) shared valuable lessons from the pandemic.

Dr. Saurabh Singh (Novartis) stressed the potential of AI in scalable solutions, and Dr. Parthasarthy (IITR) underscored the critical role of incubation centers in mentorship. Dr. Shozeb

Haider (UCL) provided insights into cancer treatment complexities, while Mr. Nilesh Lele highlighted the importance of Technology Readiness Levels (TRL).

CA Rishabh Kumar (Fruze India) rounded off the discussion by emphasizing the rising significance of quick commerce in today's market.

The session concluded with Dr. Nida Fatima, Executive Director of ISF, providing a thoughtful summary of the discussion, emphasizing the transformative potential of collaboration in turning research into market-ready solutions.

Day 2

The second day of TISE CON 2025 focused on Technical Sessions and Oral Presentations, providing a platform to showcase cutting-edge research and foster interdisciplinary collaboration.

The day began with networking opportunities and a keynote by **Prof. Smita S. Lele** (ICT Mumbai) on “*Sustainable Technologies for Small-Scale Agri Produce Processing.*” She highlighted innovations like converting food waste into nutraceuticals, biopesticides, and coatings, along with market-ready products under the brands JustSip and BigMeal.

Prof. Mohd Jawaid (UAE University) delivered a lecture on “*Waste to Wealth: Biomass Conversion to Sustainable Packaging Materials,*” emphasizing biodegradable packaging from palm waste and biopolymers.

This followed with technical sessions which were divided into three parallel tracks.

In the ***Sustainability and Green Technologies track***, Dr. Jayati Trivedi (Shell Industries) discussed biofuels' role in reducing emissions and enhancing energy security. Prof. Charles Brennan (RMIT, Australia) explored mushrooms' therapeutic benefits, while Dr. Sandeep Sharma (NeatMeatt Biotech) presented cultivated meat innovations for sustainable food systems.

The ***Golden Biotechnology session***, chaired by Dr. Imran Siddiqui (CDRI), featured Prof. Shohaib Haider (UCL) on ML-driven drug resistance predictions and Prof. G. P. S. Raghava (IIIT-Delhi) on bioinformatics tools for molecular farming. Prof. Naidu Subba Rao (JNU) and Prof. Aamir Ahmad (Hamad Medical Corporation) discussed computational drug design and epigenetic signatures for immunotherapy, respectively.

In the ***Food Science and Yellow Biotechnology session***, Prof. R. Mahendran (NIFTEM) highlighted cold plasma technology for food preservation, while Dr. D.D. Wadikar (DRDO) and Dr. Tariq Ahmad Ganaie (IUST, J&K) explored nutritional strategies and AI in food processing.

The day concluded with a Research Showcase, Round Table Talks, and an EcoInfluence Session, leaving participants inspired by innovation and collaboration.

Day 3

The third & final day of TISE CON 2025 centered on Advanced Technical Sessions, starting with an inspiring keynote by Mr. Christoph Sprung (Berlin, Germany) on “*Guiding Energy: Supporting Great Minds to Flourish*,” highlighting the importance of nurturing talent and innovation for progress.

Next, Dr. Sudarsan Dash, a Fulbright Senior Program Officer, delivered an engaging session titled “*Unlocking Opportunities: Fellowships for the Next Generation of Researchers*,” outlining valuable opportunities for aspiring researchers. The morning session concluded with Mr. Pramod Kumar Prasad’s (Scientist at ANRF) insightful talk, “*Anusandhan National Research Foundation: Transforming India’s Research Landscape*,” showcasing how the foundation is revolutionizing research and innovation in the country.

The insightful lectures were followed by **Plenary Session 4 on Healthcare, Diagnostics, and Drug Discovery (Red Biotechnology)**. Dr. Shamim Ahmad (Aurigene Oncology) opened the session with his talk, “*Research to Revenue: Leveraging IPR to Drive Growth*,” emphasizing the role of intellectual property in driving innovation. This was followed by Dr. Vivek Kumar Gaur’s presentation, “*Metabolic Engineering of E. coli for Production of Biochemicals*,” highlighting breakthroughs in microbial engineering for sustainable chemical production.

The session resumed with Dr. Mohammad Hassan Baig , joining online from South Korea, who delivered a transformative talk on “*Redefining Drug Discovery through Targeted Protein Degradation*.” The session concluded with Prof. B. Jayaram (IIT Delhi), presenting on “*Structure-Based Drug Design: Innovations in Molecular Simulations*,” showcasing cutting-edge advancements in drug development.

In a parallel session featuring industry experts, **Dr. Mohammad Khurshed Alam Khan (ITC Hotels)** delivered a talk on “**Managing Food Safety Risks in Business Operations**,” where he highlighted effective strategies for ensuring safety and compliance within the food industry. The session concluded with **Dr. Richa Saxena**, Founder of KOSH – Treasure of Khadi, who presented an engaging talk on **textile innovation** and its intersection with **biotechnology**. The day also featured a **Poster Session**, where researchers showcased their innovations and findings in various fields. This session facilitated knowledge sharing and collaboration among participants, with contributions from a diverse group of researchers.

As TISE CON 2025 drew to a close, it left participants inspired to push the boundaries of innovation and collaboration in science and engineering. The conference served as a reminder of

the fact that **“The future belongs to those who believe in the beauty of their dreams”** (Eleanor Roosevelt), and that **“Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world”** (Louis Pasteur). These three days of knowledge exchange, creativity, and integration reinforced the power of collective efforts to solve global challenges and pave the way for a brighter, more sustainable future.

TISE CON 2025 was not just a conference; it was a celebration of ideas, a convergence of expertise, and a shared commitment to progress. Together, we proved that when academia, industry, and government come together, we can turn challenges into opportunities and create solutions for a better tomorrow.

Thank you to everyone who contributed to making this event a grand success. Let us continue this journey of innovation and collaboration. Thank you.