TCABSE-J Meeting Minutes
ISSN: 2583- 2557, *Volume 2, Issue 1, pp6-8. 2025.*

The 5th annual Visakha Life Sciences & Entrepreneurship (VLSE) Symposium 2025.

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In brief: The fifth annual Visakha Life Sciences & Entrepreneurship (VLSE) Symposium-2025 was organized by The Center for Advanced-Applied Biological Sciences & Entrepreneurship (TCABS-E) Laboratories on the 24th and 25th of October, 2025. The VLSE-2025 was held in the Ratan Tata Innovation Hub located on the 5th floor of the Deck building in the city of Visakhapatnam, A.P. India. The first day started with the inaugural ceremony preceded by two startup founders/CEOs and an eminent Scientist followed by 8 oral and 15 poster presentations by students from TCABS-E and other institutions. The first day concluded with prize distribution to the winners of the oral and poster presentations. The second day started with an interactive session by the newly appointed CEO of RTIH followed by a handson workshop on Bioinformatics.

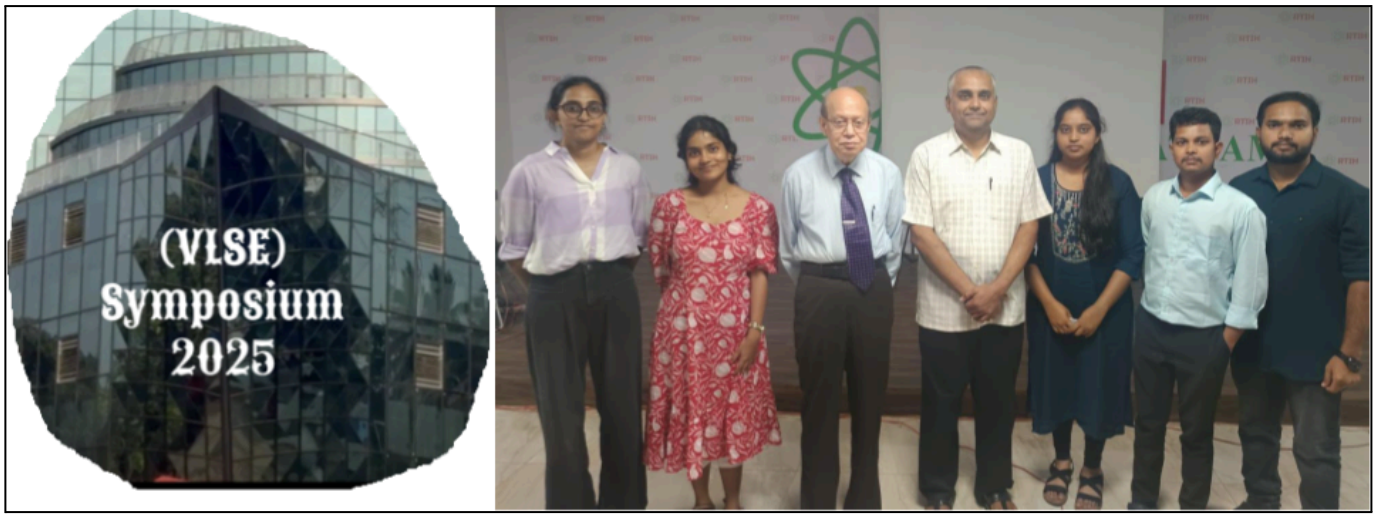

Figure 1. The official logo of VLSE2025 and the organizing committee with the keynote speaker are shown in the left and right panels, respectively. Members in the right panel from left to right are Jahnavi Chintalapati, Sadhya S. Kasara, Dr. Narasimha Das Undurti, Dr. Ravikiran S. Yedidi, Keerthi R. Bhukya, Chiranjeevi V. M. Ganteti and Anilkumar Bunga.

Citation: Ganteti, C.V.M., Bhukya, K.R., Bunga, A., Kasara, S.S., Chintalapati, J., Goddu, Ch., Tadava, P., Akula, S. and Yedidi, R.S. (2026). The 5th annual Visakha Life Sciences & Entrepreneurship (VLSE) Symposium 2025. *TCABSE-J*, Vol. 2, Issue 1:6-8. Epub: Mar 20th, 2026.

Talk by Dr. Mandar Kulkarni, CEO of Vyas Cancer Research (VCR) Park: Dr. Mandar Kulkarni delivered the Chief Guest address on the theme of translating novel scientific ideas from the laboratory to practical products and solutions for patient care. He outlined the three key pillars of a startup, innovation, entrepreneurship and value emphasizing that a new idea alone does not automatically become a product. He explained that successful translation requires not only scientific innovation, but also a clear problem-solution fit, a viable business model, and the ability to create meaningful value. By quoting various examples from technology in general and biotechnology, he highlighted the importance of understanding how discoveries move from early research to real-world application. In the context of biotechnology and oncology, Dr. Kulkarni discussed the growing need for timely and affordable healthcare innovations, particularly in view of the increasing cancer burden in India. He emphasized that advances in tools such as NGS and CRISPR-Cas9 have significantly improved our ability to study disease, even though the underlying biology remains the same. He also addressed the importance of factors such as idea, team, funding, business model, and timing in determining the success of a startup. He then proudly mentioned the Unicorn Enveda.

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Figure 2. The chief guests, Dr. Mandar Kulkarni and Dr. Suresh Poosala (left to right). Guest of honor, Dr. Narasimha Das Undurti (middle) and VLSE2025 organizer, Dr. Ravikiran S. Yedidi (right).

Enveda is a startup company that incubated at the VCR Park achieving the "Unicorn" stage in their development. The talk concluded with an overview of the translational research ecosystem at Vyas Cancer Research Park, including its collaborative links with hospitals and academic institutions, and its focus on advancing oncology research toward clinically relevant outcomes.

Talk by Dr. Suresh Poosala, Founder & CEO of Acasta Health and OncoseekBio Pvt Ltd. (VCR Park): Dr. Suresh Poosala Dr. Suresh Poosala delivered an insightful lecture focusing on the integration of academic research with pharmaceutical innovation in the context of *Viksit Bharat*. He emphasized the importance of "connecting the dots" between scientific research, industry requirements and societal needs, highlighting that research should not remain confined to laboratories but must translate into meaningful healthcare solutions. He explained that translational research serves as a critical bridge in converting scientific discoveries into affordable and effective medical interventions, thereby addressing real-world challenges. In his address, Dr. Poosala discussed key challenges in pharmaceutical innovation, including regulatory complexities, funding limitations and the need for strong interdisciplinary collaboration. He stressed the importance of aligning research objectives with national priorities, where innovation contributes to self-reliance and global leadership in healthcare. The lecture also highlighted that successful pharmaceutical innovation depends not only on discovery but also on accessibility, scalability and societal impact. He encouraged researchers to focus on the practical relevance of their work and to explore pathways for commercialization, ultimately inspiring participants to transform laboratory research into impactful solutions for the benefit of society.

Talk by Dr. Narasimha Das Undurti, CEO & CSO of UND Life Sciences, USA: The keynote address titled *"Think Outside the Box,"* by Dr. Narasimha Das Undurti emphasized the essence of innovative thinking in scientific research. Drawing inspiration from the famous quote by Albert Szent-Györgyi, he highlighted that true discovery lies in observing common phenomena but interpreting them in unique and unconventional ways. He introduced the concept of the "4 Ps" of research—Proposal (hypothesis), Publication, Patent, and Product—stressing that meaningful research should ultimately translate into practical applications that benefit society. The talk further explored the intricate relationship between metabolism, inflammation, and neurological control. He explained how conditions such as obesity are closely linked with chronic inflammation and how weight loss can significantly reduce inflammatory responses. A key focus was on the connection between adipose tissue and the brain, particularly the hypothalamus, demonstrating that metabolic disorders like hyperinsulinemia and hypertriglyceridemia may originate from neural dysregulation. He also discussed the presence and significance of insulin receptors in the brain, which play a crucial role in regulating food intake, neuronal development, and synaptic activity. Through these insights, the speaker encouraged researchers to move beyond conventional boundaries, integrate interdisciplinary knowledge, and pursue research that leads to innovation and real-world impact. The session concluded with a strong message that impactful science is not just about experimentation, but about thinking differently and daring to challenge established perspectives.

Student oral & poster presentations: Post lunch, the afternoon session of day1 continued with the student oral and poster presentations. Out of the 8 oral presentations, 2 were picked for the first and second prizes depending on their overall merit. Out of the 15 poster presentations, 2 were picked for the first and second prizes.

Talk by Mr. Ravi Eswarapu, CEO of Ratan Tata Innovation Hub: The session included an insightful message from Ravi Eswarapu, CEO of the Ratan Tata Innovation Hub, Visakhapatnam. In his address, he highly appreciated and praised the significant contributions of TCABS-E Laboratories in the fields of research and innovation. He highlighted that TCABS-E Laboratories played a major role, contributing nearly 40% of the research output associated with achieving NAAC A^{++} accreditation for Andhra University, along with notable contributions toward patents filed in collaboration with the university. His encouraging words motivated students and researchers to actively engage in innovative research and academic excellence. He actively interacted with the students/faculty members, creating an engaging and dynamic session.

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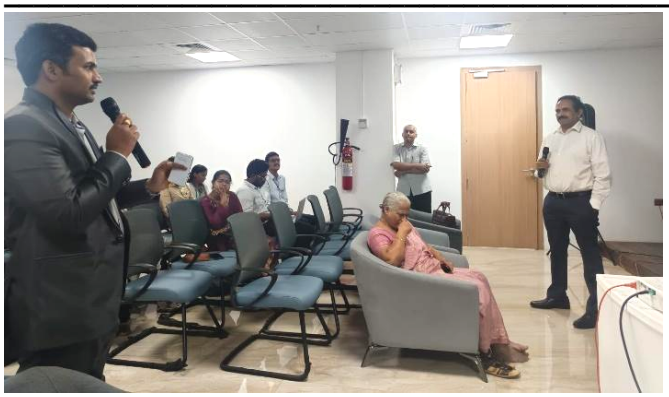

Figure 3. Interactive session post-talk by Mr. Ravi Eswarapu.

He addressed various queries related to innovation, research opportunities and career development, encouraging participants to think creatively and pursue interdisciplinary approaches. His interaction provided valuable insights into real-world applications of scientific knowledge and inspired the attendees to align their academic pursuits with emerging industry trends. The session fostered a spirit of curiosity, motivation, and meaningful dialogue among all participants.

Hands-on Bioinformatics workshop by Dr. Ravikiran S. Yedidi, Founder of TCABS-E Laboratories: Dr. Ravikiran S. Yedidi led the Bioinformatics workshop with help of TCABS-E team members, AnilKumar and Chiranjeevi. Bioinformatics has become an essential discipline in modern biological research, enabling scientists to analyze large-scale biological data and understand molecular mechanisms at the genomic and structural levels. The workshop included lectures and practical sessions covering database searching, DNA/RNA to protein translation, sequence alignment, protein structure visualization, and protein-protein networking. A suite of integrated search and retrieval tools provided by the National Center for Biotechnology Information (NCBI), maintained by the U.S. Federal Government, facilitates efficient access to a wide range of biological data, including genomic sequences, protein structures, scientific literature, inheritance patterns, and clinically relevant variants, thereby supporting diverse applications in bioinformatics and biomedical research.

Pairwise sequence alignments of DNA, RNA, and protein sequences were performed using the Needleman–Wunsch algorithm to obtain optimal global alignments. Subsequently, multiple sequence alignment (MSA) was conducted using the CLUSTAL Omega tool available through the EMBL-EBI web server (European Molecular Biology Laboratory, United Kingdom), ensuring high-quality alignment and phylogenetic inference. Transcription of a nucleotide (DNA/RNA) sequence to a protein sequence was performed using the Expasy Translate tool (maintained by the SIB Swiss Institute of Bioinformatics). Literature search using PubMed and PMC databases from the NCBI.

Search and retrieval of 3-D macromolecular structures were performed using the Protein Data Bank (PDB) web platform, maintained by the Research Collaboratory for Structural Bioinformatics (RCSB), which serves as the U.S. data center for the global PDB archive, enabling access to high-resolution structural data of proteins, nucleic acids, and complex assemblies for structural and functional analyses. Protein structures prediction from amino acid sequences using the Swiss model (developed and maintained by the Computational Structural Biology Group at the SIB Swiss Institute of Bioinformatics and Biozentrum of the University of Basel). Protein-protein interactions predicted using STRING (Search Tool for the Retrieval of Interacting Genes/proteins) database.

The workshop was attended by approximately 60 participants from various universities and colleges. All participants actively engaged in the hands-on sessions, performing the aforementioned tasks in real time on their laptops under guided supervision. The program enhanced participants' ability to analyze biological data and interpret protein structures using bioinformatics software. The session set a promising tone for the symposium, encouraging participants to engage in meaningful discussions and explore novel ideas. The workshop concluded with an interactive question and answer session followed by a vote of thanks and formal adjournment.

Figure 4. Bioinformatics workshop by Dr. Ravikiran S. Yedidi.

Acknowledgements: We thank The Yedidi Institute of Discovery and Education, Toronto for scientific collaborations.

Conflict of interest: The authors declare no conflict of interest in this study.

Author contributions: C.V.M.G., K.R.B., A.B., S.S.K., J.C. were organizing members that shared and wrote the details. C.G., P.T. and S.A. helped in writing different sections. R.S.Y. is the principal investigator who finalized the manuscript.