विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

GITAM
DEEMED TO BE UNIVERSITY
BENGALURU • HYDERABAD • VISAKHAPATNAM

G-TEC
DST - GITAM TECHNOLOGY ENABLING CENTRE

Volume 3 May 2025

NEWS LETTER

Funded by the
Department of Science & Technology, TDT Division

GITAM – Technology Enabling Centre
GITAM (Deemed to be University)

Picture from the 14th International Conference on Sustainable Waste Management - Circular Economy and IPLA Global Forum 2024

Dear Readers,

It is with great pleasure that I present the third edition of the G-TEC Newsletter, highlighting our collective efforts in fostering innovation, collaboration, and technological advancement. Over the past year, G-TEC has strengthened its role as a bridge between academia and industry, driving impactful research and sustainable solutions.

This edition features key milestones, including our participation in the 14th International Conference on Sustainable Waste Management - Circular Economy and IPLA Global Forum 2024, where we showcased our commitment to sustainability. Additionally, we have expanded our network through strategic MoUs with academic institutions, hosted insightful workshops and masterclasses, and advanced technology mining and transfer initiatives.

A significant focus has been placed on intellectual property awareness and technology transfer, with expert sessions conducted across various institutions. Through our collaborations with industry leaders, researchers, and entrepreneurs, we continue to create a thriving ecosystem that nurtures innovation and supports technology commercialization. Our ongoing engagement in knowledge-sharing platforms ensures that students and faculty gain exposure to cutting-edge advancements, preparing them for future challenges in the dynamic technology landscape.

I extend my sincere gratitude to Dr. Krishna Kanth Pulicherla (DST, GoI), Prof. K. Sankaran (Anna University), our Program Advisory Group members, and all stakeholders for their unwavering support. Together, we are building a future where innovation drives sustainable development.

Best Regards,

Prof. Raja P Pappu

Coordinator

DST GITAM Technology Enabling Center

Table of Contents

TECHNOLOGIES TRANSFERRED

1 Technology Transfer of Hybrid Solar Dehydrator to Empower Farmers in Mizoram

Hybrid solar dehydrator to ease farmers' woes in Mizoram

- The eco-friendly solution incrporates renewable solar energy
- The cutting-edge technology aims to aid in drying herbs and spices

HANS NEWS SERVICE
VISAKHAPATNAM

GTEC team members discussing with Mizoram Governor K Hari Babu during their meet in Aizawl

hybrid solar dehydrator ith automatic temperature ntroller, an energy-effi- ent and eco-friendly inno- tion, that integrates solar ergy for daytime drying d grid or stored energy for ghttime operations, has en developed for farmers Mizoram.

Designed and developed GITAM Technology Enabling Centre (GTEC), Visakhapatnam campus to combat chal-lenges of high humidity in Mizoram, the eco-friendly solu-tion in- corporates renewable solar energy to reduce mois-ture in valuable farm produce. By extending shelf life, the technology empowers farm- ers and MSMEs with a scal- able and reliable solution, enhancing productivity and economic growth, ensuring 24/7 functionality.

The cutting-edge technol- ogy aims to aid in drying herbs and spices like tur- meric, mint, basil, and gin- ger, as well as grains, seeds, and nuts such as rice, wheat, sunflower seeds and cash- ews, thereby significantly extending their shelf life and reducing post-harvest losses. The technology was transferred formally to the State of Mizoram from the institution through a let- ter of transfer signed by the Mizoram Minister of Hor- ticulture Department Prof Lalnilawma and GTEC co- ordinator Prof Raja P. Pappu at a meeting held recently in Mizoram.

Speaking about the ini- tiative, Prof Raja P Pappu, Dean of the institution's School of Business and co- ordinator of GTEC, high- lighted that the dehydrator is also highly effec-tive for processing fruits like man- goes, bananas, apples, veg- etables as well as medicinal plants and trees like neem, moringa, chamomile and hibiscus.

It is also suitable for ex- otic products like apricot, jackfruit, dragon fruit, co- coa and coffee beans, open- ing up new market opportu- nities for farmers, including exports. The Professor em- phasised that the low-cost, energy-efficient technology aligns with Mizoram's sus- tainable development goals by boosting small-scale farmers' income, reducing food wastage, creating em- ployment opportunities and driving economic growth.

The inventors of the cus- tomised hybrid solar de- hydrator, including GTEC manager Karaka VVNR Chandra Mouli, BARC for- mer scientist and Distin- guished Professor Dr Ravi Kumar Gurazada, and Chief Operating Officer GTEC Sombhatt Shastri met Mizo- ram Governor K Hari Babu.

Mizo ryots to get solar dehydrator from GITAM

EXPRESS NEWS SERVICE
@ Visakhapatnam

THE GITAM Technology Ena- bling Centre (GTEC) at GITAM Deemed-to-be University has developed a "Hybrid Solar De- hydrator with Automatic Tem- perature Controller" to assist farmers in Mizoram by reduc- ing post-harvest losses and ex- tending product shelf life.

In a formal ceremony, the technology was handed over to the Mizoram government. Hor- ticulture Minister Lalnilawma and Dean of GITAM School of Business and GTEC Coordina- tor Raja P Pappu signed the transfer agreement.

The dehydrator is suitable for drying herbs, spices, grains, seeds, nuts, vegetables, fruits, medicinal plants, and high-val- ue products like cocoa and cof- fee beans. Pappu highlighted its role in supporting Mizo- ram's sustainable development goals by reducing food wastage, enhancing farmer income, and promoting economic growth.

The invention team includes GTEC Manager Dr Karaka VVNR Chandra Mouli, former BARC scientist Dr Ravi Kumar Gurazada, and GTEC COO Sombhatt Shastri. Assistant Professor Dr Lalhmingliana Renthlei of Mizoram Universi- ty coordinated with the State government.

The dehydrator integrates solar energy for daytime dry- ing and grid or stored energy for night use. It achieves tem- peratures up to 89°C, effectively drying products while preserv- ing flavour, odour, and colour.

Its customisable design and advanced sensors ensure effi- cient drying.

GITAM Technology Enabling Centre (G-TEC) has developed a Hybrid Solar Dehydrator, integrating solar and stored energy to ensure 24/7 functionality. This eco-friendly solution helps farmers in Mizoram combat high humidity, reduce post-harvest losses, and extend produce shelf life.

The technology, formally transferred to Mizoram's Horticulture Department, supports drying herbs, spices, grains, nuts, and fruits, enhancing productivity, income, and export opportunities. Developed by G-TEC experts and backed by Mizoram Governor K. Hari Babu, this initiative aligns with sustainable development goals, boosting farmers' livelihoods and economic growth.

TECHNOLOGIES TRANSFERRED

2 Technology Transfer of Solar drying technology to Ladakh University

లడాక్, కార్గిల్ రైతుల కోసం గీతం టెక్నాలజీ

రైతులు ఉపయోగించేలా హైబ్రీడ్ సోలార్ డయర్

సాగర్‌నగర్, జనవరి 21 (సిడిజన్స్ రిపోర్టర్) : ఏడాది పొడవున చల్లటి వాతావరణంతో ఉండే లడాక్, కార్గిల్ ప్రాంతాలలో ఉద్యాన వన పంటలు, వివిధ వ్యవసాయ ఉత్పత్తులు మార్కెట్ ప్రమాణాలకు అనుగుణంగా భద్రపరచడానికి వీలైన సాంకేతిక పరిజ్ఞానాన్ని గీతం డీమ్డ్ విశ్వవిద్యాలయంలోని గీతం టెక్నాలజీ ఎనేబిలింగ్ సెంటర్ (జి-టెక్) నిపుణులు అభివృద్ధి చేశారు. హైబ్రీడ్ సోలార్ డయర్ సాంకేతిక పరిజ్ఞానాన్ని లడాక్ విశ్వ విద్యాలయం వైస్ ఛాన్సలర్ ప్రొఫెసర్ ఎస్.కె.మెహతకు జి-టెక్ కోఆర్డినేటర్ మరియు గీతం స్కూల్ ఆఫ్ బిజినెస్ డీన్ ప్రొఫెసర్ రాజాఫణి పప్పు ఇటీవల జరిగిన కార్యక్రమంలో అందజేశారు. జి-టెక్‌కు చెందిన నిపుణులు డాక్టర్ కె.వి.వి.ఎన్.ఆర్.చంద్ర మౌళి, గీతం విశిష్ట ప్రొఫెసర్ డాక్టర్ గురజాడ రవికుమార్, జి-టెక్ అధికారి సోంబట్ శాస్త్రీ ఈ సాంకేతిక పరిజ్ఞానాన్ని రూపొందించారు. తక్కువ వ్యయంతో అయ్యే ఈ సాంకేతిక పరిజ్ఞానంలో ఉష్ణోగ్రతలను నియంత్రించే సెన్సార్‌లు, పగటి పూట సూర్య రశ్మిని గ్రహించి సౌరశక్తిని నిల్వచేసి రాత్రి సమయంలోను తగు ఉష్ణోగ్రతల మధ్య పంటలను సంరక్షించే పరిజ్ఞానం ఉపయోగించినట్లు వారు తెలిపారు. ఈ సాంకేతిక పరిజ్ఞానంలో ఆహార ఉత్పత్తుల రంగు, రుచి, వాసనలలో ఏవిధమైన మార్పులు ఉండవని పేర్కొన్నారు. దీనితో లడాక్, కార్గిల్ ప్రాంతాలలో అధికంగా పండే ఆప్రికాట్ ఇతర పండ్లను తేమ లేకుండా పొడి బారేటట్లు చేసి దీర్ఘకాలం నిల్వ చేసుకోవచ్చునని వారు వెల్లడించారు. ఈ సందర్భంగా లడాక్ విశ్వవిద్యాలయం వైస్ ఛాన్సలర్ ప్రొఫెసర్ ఎస్.కె.మెహత మాట్లాడుతూ సరైన సాంకేతిక పరిజ్ఞానం అందుబాటులో లేక లడాక్ ప్రాంత రైతులు పంట దిగుబడిలో 60 శాతం వరకు కోల్పోతున్నారని పేర్కొన్నారు. గీతం నిపుణులు రూపొందించిన సాంకేతిక పరిజ్ఞానం దిగుబడి అయిన పంటలలో తేమ వల్ల జరిగే నష్టాలను నివారించి నాణ్యతతో కూడిన ఎగుమతులకు మార్గం కల్పిస్తుందని ఆశాభావం వ్యక్తం చేశారు. విశ్వవిద్యాలయాలోని పరిశోధన ఫలితాలు క్షేత్ర స్థాయిలో ఈ విధంగా ఉపయోగపడటం అభినందనీయమన్నారు.

GITAM Technology Enabling Centre (G-TEC) has successfully transferred Hybrid Solar Dehydrator technology to the University of Ladakh, benefiting Ladakhi farmers by improving post-harvest drying processes for high-altitude crops such as apricots and sea buckthorn.

With automatic temperature control, this energy-efficient innovation reduces post-harvest losses and enhances crop quality, supporting agricultural sustainability in Ladakh's extreme climate. The transfer was formalized in the presence of Ladakh University Vice-Chancellor Prof. S.K. Mehta, DST Scientist Dr. Krishna Kanth Pulicherla, and GITAM representatives.

This collaboration strengthens industry-academia partnerships, promoting innovative solutions for farmers while boosting local economies and agricultural resilience.

TECHNOLOGIES MINED

1 The Sparsh Rakshak Toy

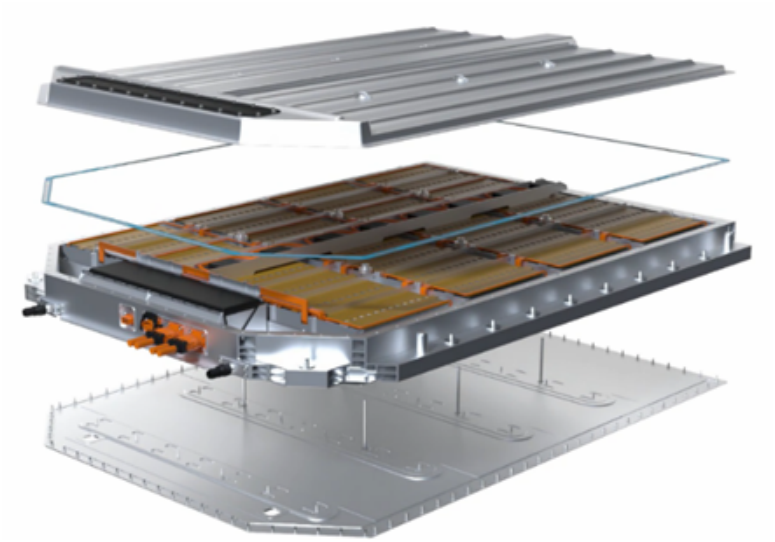
The Sparsha Rakshak toy is an innovative educational tool designed to teach children about personal boundaries and safety using touch-sensitive technology. By providing real-time feedback, the toy helps children differentiate between good and bad touch through interactive learning. It features pre-recorded voice messages that explain these concepts in a simple, child-friendly language, bridging the gap between child learning and adult guidance.

TRL Level: 08

Applications:

- Touch Sensors – Detect physical contact and trigger appropriate responses.
- Microcontroller – Processes sensor data and controls the toy's functions.
- Audio Playback Module – Delivers pre-recorded messages explaining good and bad touch.
- Recording Mechanism – Allows caregivers to customize messages for personalized guidance.
- Power Supply – Ensures continuous operation of the toy.
- Durable and Safe Materials – Designed to be child-friendly, ensuring both safety and longevity.

2 Battery Enclosures



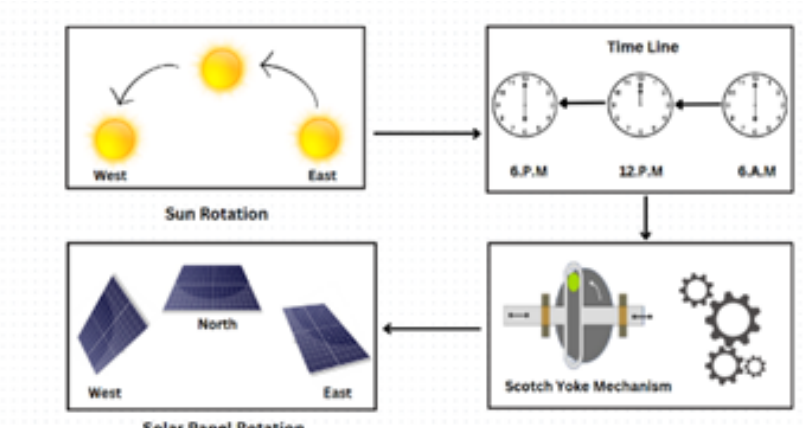
This novel battery housing design integrates lightweight yet durable materials with advanced cooling mechanisms to enhance battery safety and longevity. By utilizing state-of-the-art engineering, this approach addresses key challenges in thermal management, weight reduction, and durability, making it an ideal solution for modern energy storage systems.

TRL Level: 05

Applications:

- Lightweight Materials – Utilizes high-strength composites or advanced alloys to reduce overall weight while maintaining durability.
- Enhanced Cooling Mechanisms – Incorporates cutting-edge thermal management systems to prevent overheating and improve efficiency.
- Structural Durability – Designed to withstand mechanical stress, vibrations, and extreme environmental conditions.
- Improved Safety Features – Reduces the risk of thermal runaway, ensuring higher reliability and performance.
- Extended Battery Life – Optimized thermal regulation and protective housing contribute to slower degradation and longer operational lifespan.

3 Sun Tracking Device



Our sun-tracking device is a unique, non-electrical and non-automated solution designed to enhance the efficiency of solar panels. Unlike conventional solar trackers that rely on electrical components, this mechanical system operates without electricity, making it a cost-effective and energy-efficient alternative.

TRL Level: 04

Applications:

- Increased Energy Output – Enhances electricity generation by 25–30% by keeping solar panels aligned with the sun throughout the day.
- Scotch Yoke Mechanism – Utilizes a gear and shaft-based movement to control the panel's rotation and direction.
- Non-Electrical Operation – Eliminates the need for sensors, motors, or automation, making it low maintenance and highly reliable.
- Sustainable and Cost-Effective – Ideal for remote areas where access to electricity is limited, reducing operational costs.
- Versatile Implementation – Can be integrated into residential, commercial, and industrial solar power systems to maximize efficiency.
- This innovative mechanical tracking system offers a simple yet highly effective solution to improving solar energy harvesting, ensuring sustainability and affordability in renewable energy applications.

4 The Aqua Silencer

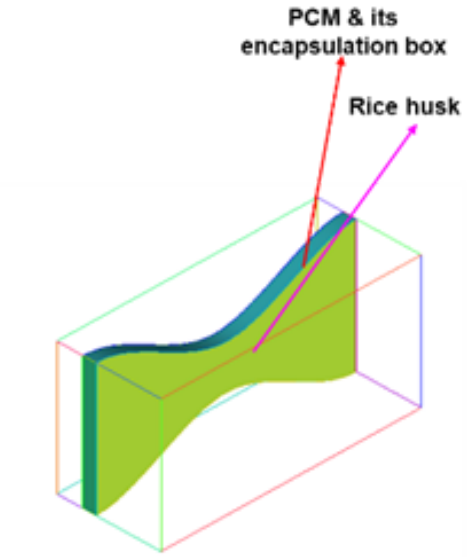
TRL Level: 05

The Aqua Silencer is an innovative emission control device designed to reduce carbon monoxide (CO) and hydrocarbon (HC) emissions from motorcycle engines. By utilizing an external attachment containing activated charcoal and lime water, this system effectively lowers pollutant levels, ensuring compliance with statutory emission norms.

Applications:

- Emission Reduction – Significantly decreases CO and HC levels in exhaust gases, making motorcycles more environmentally friendly.
- Activated Charcoal Filtration – Absorbs and neutralizes carbon monoxide (CO), reducing its harmful impact.
- Lime Water Treatment – Effectively captures and breaks down hydrocarbons (HC) to minimize air pollution.
- Eco-Friendly Alternative – Provides a cost-effective and efficient solution for reducing vehicle emissions without major engine modifications.
- Regulatory Compliance – Helps motorcycles meet statutory emission norms, contributing to cleaner air and sustainable transportation.
- The Aqua Silencer is a practical and efficient solution for reducing vehicular pollution, paving the way for greener transportation technologies.

5 Energy-efficient building envelope



TRL Level: ·05

An energy-efficient building envelope is designed to reduce indoor heat gain and minimize the impact of harsh outdoor environments. With rapid urbanization and building expansion, energy consumption for thermal comfort has increased significantly, relying heavily on non-renewable sources. This innovation addresses these concerns by utilizing sustainable materials, particularly those derived from agricultural waste, to create an eco-friendly alternative for the construction industry.

Applications:

- Residential Sector – Provides an energy-efficient alternative that lowers indoor temperatures, reducing dependency on artificial cooling systems.
- Sustainability & Waste Utilization – Uses agricultural waste as a raw material, promoting circular economy principles and reducing landfill waste.
- Energy Savings & Environmental Impact – Reduces carbon footprint by cutting down on energy consumption in buildings.
- Commercial & Public Buildings – Green certifications are increasingly valued, making these bricks ideal for eco-friendly office spaces, schools, and public buildings.
- Business Potential – The demand for sustainable construction materials is growing, presenting a profitable opportunity for developers and businesses focused on green infrastructure.

6 Predictive Maintenance using Digital Twin

This technology enhances operations, predictive maintenance, and innovation by enabling precise monitoring and simulations. It replicates a real-world entity exactly, allowing for a detailed study of anomalies and efficient problem detection. This digital replication provides valuable insights that improve performance and reliability across various industries.

TRL Level: 04

Applications:

- Predictive Maintenance – Helps identify faults early, reducing downtime and improving equipment lifespan.
- Operational Efficiency – Enables real-time monitoring and optimization of processes for better productivity.
- Anomaly Detection – Studies irregularities and analyzes failures in a controlled environment, enhancing safety and reliability.
- Simulation & Innovation – Provides a risk-free platform to test new strategies and optimize designs before real-world implementation.
- Industry Applications – Beneficial in sectors like manufacturing, healthcare, smart cities, and infrastructure management.

1 Symposium on TEC- CONNECT & CONVERGENCE

The TEC-CONNECT & CONVERGENCE Symposium, hosted by KIIT University, Bhubaneswar, brought together industry leaders, academia, and TEC representatives to explore the role of Technology Enabling Centres (TECs) in fostering collaboration and innovation.

Key discussions focused on industry-academia partnerships, startup valuation from an investment perspective, and bridging the trust gap between academia and industry. The symposium featured insightful sessions, including TEC-DEFENCE Connect, where Army Defence Training Academy leaders discussed real-world challenges, and TEC-CSR Connect, where CSR leaders explored TEC-driven initiatives. TEC-INVESTOR Connect provided a platform for TECs to showcase matured technologies to investors, while the Best Practices Session highlighted success stories from DST-nominated TECs.

G-TEC, represented by SomBhatt Ayyala (COO, G-TEC), showcased its approach to industry engagement and partnership-building. The event concluded with feedback from Dr. Krishna Kanth Pulicherla (DST, GoI) and Prof. K. Sankaran (TEC-EAG Member), offering valuable insights to shape the future of TEC-driven innovation and collaboration.

2 Bengaluru Tech Summit

GITAM Technology Enabling Centre (G-TEC) proudly participated in the Bengaluru Tech Summit, a premier technology event that brought together industry leaders, researchers, and innovators from across the country. The summit served as an excellent platform for fostering collaborations and exploring cutting-edge advancements in various technological domains.

At the G-TEC Stall, we showcased our latest initiatives, research innovations, and technology-driven solutions aimed at bridging the gap between academia and industry. The stall attracted entrepreneurs, investors, and technology enthusiasts, providing them with insights into the transformative projects spearheaded by G-TEC. Our participation focused on key areas such as technology transfer, commercialization, and startup support, highlighting the role of G-TEC in fostering research-driven solutions.

3 14th International Conference on Sustainable Waste Management - Circular Economy and IPLA Global Forum

The 14th International Conference on Sustainable Waste Management and Circular Economy was hosted by GITAM Deemed to be University. This prestigious event was proudly sponsored by G-TEC, demonstrating our commitment to driving sustainable practices and promoting circular economy solutions on a global scale. The conference serves as a platform for thought leaders, policymakers, researchers, and industry practitioners to come together, share insights, and explore the latest innovations in waste management. With a focus on circular economy principles, the forum highlighted strategies for reducing waste, promoting resource recovery, and fostering sustainable development.

The key themes and topics of discussion in the conference included Sustainable Waste Management Systems, Circular Economy Innovations and Best Practices, Waste Reduction and Recycling Technologies, Extended Producer Responsibility (EPR) Implementation, Climate Action through Waste Management Solutions, Financing and Investment in Sustainable Waste Management, and Community Engagement and Capacity Building. Participants had an invaluable opportunity for global networking, knowledge exchange with leading experts, exploring collaborative opportunities for sustainable waste management initiatives, and gaining policy insights on circular economy regulations.

4 World Health Innovation Forum and the Global MedTech Expo at AMTZ VSKP

GITAM Technology Enabling Centre (G-TEC) has made significant contributions as both sponsor and exhibitor at the prestigious World Health Innovation Forum and Global MedTech Expo, hosted at Andhra Pradesh MedTech Zone (AMTZ) in Visakhapatnam. The event served as a dynamic platform for healthcare innovators, with G-TEC playing a prominent role through multiple engagements.

A highlight of our participation was the thought leadership demonstrated by Dr. Ravi Shankar Saripalle, Professor of Entrepreneurship at GITAM, who served as a panelist for the "Big Data & AI for Predictive Healthcare" session. His compelling presentation on "Healing with Intelligence—The AI Doctor Will See You Now: Transforming Medicine Through Technology" highlighted G-TEC's pioneering work at the intersection of artificial intelligence and healthcare innovation. Our exhibition stall attracted considerable attention, featuring innovative smart diagnostic tools, and promising student-developed MedTech prototypes

The forum provided valuable opportunities to establish strategic connections with AMTZ officials, WHO delegates, and industry leaders, paving the way for potential collaborations in joint R&D projects and startup commercialization. These interactions perfectly align with G-TEC's mission to bridge academic research with practical healthcare solutions, particularly in developing affordable medical technologies.

5 Symposium-Accessibility and Inclusion in Technology Development (UoH-TEC)

The University of Hyderabad hosted a Symposium on Accessibility and Inclusion in Technology Development and Transfer, bringing together experts from industry, academia, and the IP sector to discuss key aspects of technology transfer and collaboration.

A The event featured insightful talks by distinguished speakers, including Dr. D. Yogeswar Rao (ASPIRE-UoH) on Technology Transfer Essentials, Cmdr. Amit Rastogi (NRDC) on Challenges in Technology Transfer, and Dr. Puneeta Arora (AvidInvent) on IPR in Life Sciences. Industry-academia collaboration was a key focus, with speakers like Prof. Ranjit (SRM University) and Dr. N.V. Satyanarayan (Former Scientist, IICT-Hyderabad) emphasizing the role of joint research and knowledge generation.

Panel discussions explored strategies to strengthen collaboration between academia, industry, and government, featuring industry leaders like Dr. Krishna Ella (Bharat Biotech), Dr. BVR Mohan Reddy (Cyient), and Prof. B.J. Rao (UoH). Additionally, Dr. K.K. Narayanan (Bangalore) and Dr. T. Murali (Virchow Biotech, Hyderabad) shared insights on technology assessment, valuation, and emerging trends in life sciences.

This symposium served as a key platform for TECs, researchers, and industry leaders to exchange knowledge, build networks, and foster innovation in technology development and transfer.

WORKSHOPS

DST GITAM-TEC Conducted Excellence in Steel: Unmatched Quality from RINL Visakhapatnam Steel Plant

GITAM Technology Enabling Centre (G-TEC) successfully organized an expert talk on "Excellence in Steel: Unmatched Quality from RINL", in collaboration with RINL – Visakhapatnam Steel Plant. The event brought together over 180 students from Civil, Mechanical, Architecture, and Management disciplines, providing them with valuable insights into advanced steel production, quality assurance, and marketing strategies.

PDistinguished experts from RINL, including Sri Ajoy Sen (DGM, Marketing), Sri A.K. Rama Rao (DGM, Quality Assurance & Technology Development), and Sri Dwaram Anantha Venkata Swamy (DGM, Corporate Communications), led insightful discussions on cutting-edge technologies, quality control measures, and strategic market approaches that have established Vizag Steel as a global industry leader.

The session was honoured by the presence of Prof. K. Nagendra Prasad, Director, GITAM School of Engineering, who served as the Guest of Honour. He highlighted the significance of industry-academia collaboration in equipping students with the skills and expertise required for professional success.

This event not only strengthened ties between academia and industry but also offered students a practical understanding of real-world industrial applications, preparing them to become future leaders in the field.

Panel Discussion on Waste Management, Sustainability, and the Circular Economy

GITAM Technology Enabling Centre (G-TEC) hosted a thought-provoking panel discussion on Waste Management, Sustainability, and the Circular Economy, featuring experts from industry and academia. Moderated by Mr. Sombhatt Ayyala (CEO, G-TEC), the session explored how effective waste management contributes to achieving sustainability goals.

Panelists included Mr. V Satish (JINDAL), Dr. J V S Murthy (GVP), Mr. Subhradip Mondal (Coromandel), and Prof. Srinivas Namuduri (GITAM), who shared diverse insights—from industrial practices and research-driven solutions to corporate strategies and environmental impacts. The discussion emphasized the need for collaborative approaches between industry, academia, and policymakers to develop innovative and eco-friendly waste management systems that align with global sustainability efforts.

This engaging session provided attendees with actionable insights and a deeper understanding of waste management's pivotal role in sustainability and circular economy frameworks.

CAPACITY BUILDING PROGRAMS

Masterclass on Sustainability, Waste Management, and the Circular Economy for School Children by Dr. Sameeksha

The GITAM University recently organized an engaging and insightful Masterclass on Sustainability, Waste Management, and the Circular Economy, led by Dr. Sameeksha SP, a renowned expert in Renewable Energy, Sustainability, and Climate Science. The session aimed to educate and inspire school children, fostering awareness of sustainable practices and their vital role in creating a greener future.

Dr. Sameeksha SP delivered an interactive and thought-provoking session, addressing key environmental challenges and solutions. The masterclass provided young learners with a deeper understanding of sustainability, highlighting the importance of waste management, circular economy principles, and renewable energy solutions.

The masterclass also featured interactive activities and discussions, allowing students to engage in real-world case studies and practical applications of sustainability principles. Dr. Sameeksha SP's expertise and dynamic teaching approach made these complex topics accessible and inspiring for young minds.

By hosting such initiatives, GITAM University reaffirms its commitment to fostering environmental awareness and responsible citizenship among the younger generation, empowering them to be future leaders in sustainability and climate action.

Webinar on "Demystifying Patent Prosecution for AI-Related Inventions"

GITAM Technology Enabling Centre (G-TEC), in collaboration with L2Pro, successfully hosted a webinar on "Demystifying Patent Prosecution for AI-Related Inventions" on September 26, 2024. The session attracted over 180 participants, including faculty, research scholars, and students from across Visakhapatnam and Andhra Pradesh.

With support from GNIOT, SRM University, KL University, ASSOCHAM, and AIPFC, the event saw active participation from leading engineering colleges like Dadi Institute, Raghu Engineering College, and Lendi Institute. Ms. Keerthi of ASSOCHAM delivered key insights on navigating AI-related patenting processes, emphasizing the growing importance of intellectual property protection in AI innovations.

The webinar successfully provided participants with practical knowledge on securing AI patents and maximizing intellectual property value. G-TEC remains committed to fostering innovation and supporting researchers in safeguarding their technological advancements.

Awareness of G-TEC & Session on problem solution fit IIC at Sanketika Vidya Parishad Engineering College, VSKP

GITAM Technology Enabling Centre (G-TEC) conducted an engaging awareness session on G-TEC initiatives and Problem-Solution Fit at Sanketika Vidya Parishad Engineering College, Visakhapatnam. The session was led by Dr. Chandra Mouli, Manager, GITAM Technology Enabling Centre, who provided valuable insights into the role of G-TEC in fostering innovation, entrepreneurship, and industry-academia collaborations.

The session focused on the Problem-Solution Fit, a crucial aspect of startup success, helping students and aspiring entrepreneurs understand how to align their innovations with real-world challenges. Dr. Chandra Mouli shared best practices on identifying market needs, validating solutions, and refining ideas for successful commercialization.

This initiative is part of G-TEC's continuous efforts to promote a culture of innovation and problem-solving among young minds, encouraging them to explore entrepreneurial opportunities. The session was well-received by faculty and students, inspiring them to leverage G-TEC's resources for research, incubation, and technology transfer.

Lecture Series organized by our IIC – SVPEC on Technology transfer in association with GTEC

The Institution's Innovation Council (IIC) – Sanketika Vidya Parishad Engineering College (SVPEC) successfully organized a Lecture Series on Technology Transfer in collaboration with GITAM Technology Enabling Centre (G-TEC) on 23rd September 2024. The session was led by Dr. Chandra Mouli, Manager, GITAM Technology Enabling Centre, who shared valuable insights on the significance of technology transfer in fostering innovation and bridging the gap between research and commercialization.

The lecture covered key aspects such as intellectual property rights, industry-academia collaborations, and the role of startups in translating research into market-ready solutions. Dr. Chandra Mouli emphasized the importance of structured technology transfer mechanisms and provided real-world examples of successful implementations.
The event was well-received by students and faculty, equipping them with knowledge on how to navigate the technology transfer landscape and contribute to India's innovation ecosystem. G-TEC remains committed to nurturing future innovators and strengthening industry-academia partnerships through such knowledge-sharing initiatives.

Session on the "Basics of Intellectual Property Rights and its Importance for Innovators and Entrepreneurs" at Sanketika engineering college

GITAM Technology Enabling Centre (G-TEC) continues to foster innovation and entrepreneurial awareness through its expert-led sessions. On 29th November 2024, Dr. Chandra Mouli, Manager, GITAM Technology Enabling Centre, conducted an insightful session on "Basics of Intellectual Property Rights (IPR) and Its Importance for Innovators and Entrepreneurs" at Sanketika Engineering College, Visakhapatnam.

The session aimed to educate students, researchers, and budding entrepreneurs on the fundamentals of IPR, including patents, copyrights, trademarks, and trade secrets. Dr. Chandra Mouli emphasized the significance of protecting intellectual assets, the process of patent filing, and how startups can leverage IPR to gain a competitive edge in the market.

The interactive session provided attendees with practical knowledge on securing their innovations and navigating the legal landscape of intellectual property. With an engaged audience and thought-provoking discussions, the event successfully strengthened awareness about the role of IPR in fostering a thriving innovation ecosystem.

Session on "Technology Transfer and Intellectual Property Rights (IPR)" at Sanketika Pharmacy College

GITAM Technology Enabling Centre (G-TEC) continues its mission of fostering innovation and intellectual property awareness through impactful sessions. On 12th February 2025, Dr. Chandra Mouli, Manager, GITAM Technology Enabling Centre, delivered an expert talk on "Technology Transfer and Intellectual Property Rights (IPR)" at Sanketika Pharmacy College, organized by the Institution of Innovation Council (IIC), Professional Societies Coordination Cell, and Entrepreneurship Development Cell.

The session provided a comprehensive understanding of technology transfer processes, intellectual property protection, and commercialization strategies. Dr. Chandra Mouli emphasized the significance of IPR for researchers, innovators, and entrepreneurs, shedding light on patents, trademarks, copyrights, and their role in safeguarding innovations.

Attendees gained valuable insights into leveraging intellectual property for business growth and the importance of academia-industry collaboration in technology transfer. The session also encouraged young innovators to explore avenues for translating research into real-world applications.

MEMORANDUM OF UNDERSTANDING

The formalization of a Memorandum of Understanding (MoU) between Academia and G-TEC represents a momentous achievement that nurtures cooperation and alliance between these institutes. This MoU acts as a binding agreement that defines the terms and parameters of collaboration, paving the way for collaborative research and projects with common objectives.

S. No.	Name of Industry	Focus areas
1.	SRKR, Bhimavaram - Sagi Rama Krishnam Raju Engineering College, Bhimavaram	Food Technology Automation AR/VR Pharmaceuticals Agriculture Smart Manufacturing
2.	Aditya University, Surampalem - Aditya University, Surampalem	
3.	Chalapathi Engineering College (A), Guntur - Chalapathi Institute of Technology	
4.	Ramachandra College of Engineering (A), Eluru	
5.	19. RVRJC, Guntur - RVR & JC College of Engineering, Guntur	
6.	BVC ENGINEERING COLLEGE (AUTONOMOUS), Odalarevu	

PROBLEM STATEMENTS

1. Problem: Customized UV Lamps for indoor plant growth

Statement: Indoor plants often struggle to thrive due to inadequate lighting, especially when natural sunlight is limited. Traditional artificial lights fail to provide the specific wavelengths needed for optimal growth. UV light, particularly UV-A and UV-B, is essential for enhancing plant growth, boosting disease resistance, and stimulating important physiological processes. However, existing UV lamps are not tailored to the diverse needs of different plant species. The challenge is to develop customizable UV lamps that offer adjustable wavelengths and intensities to suit various plant species and growth stages, improving plant health and photosynthesis efficiency while being energy-efficient and safe.

2. Problem: Portable Bubble Wash System for Post-Harvest Management

Statement: Post-harvest losses in fruits and vegetables due to microbial contamination, pesticide residues, and inadequate cleaning methods are a major challenge, especially for small and marginal farmers who lack access to advanced washing and preservation technologies. Traditional washing methods are often ineffective, water-intensive, and unsuitable for ensuring extended freshness and food safety. There is a critical need for a compact, efficient, and portable washing system that can improve the hygiene, shelf life, and marketability of produce

3. Problem: Cold Press Oil Extraction Machine

Statement: Traditional cold-pressed oil filtration methods often prove inefficient in completely removing impurities while maintaining product quality, leading to compromised purity and shelf life. To address these limitations, the objective is to develop an advanced filtering machine featuring adjustable operating speeds (90-150 RPM) and integrated multi-stage filtration technology.

PROBLEM STATEMENTS

4. Problem: Automation of Milk Packet Arrangement in Dairy Plants

Statement: Manual arrangement of milk packets in dairy plants remains a labor-intensive and inefficient process, creating multiple operational challenges. Current reliance on human workers for crate packing leads to inconsistent output speeds, high labor costs, and physical fatigue among staff from repetitive motions. The solution must accommodate varying packet sizes and materials while operating efficiently in typical plant conditions.

5. Problem: To retain vegetable freshness and shelf-life for up to 3 days without cold storage

Small-scale farmers and vendors often face difficulty in maintaining the freshness and shelf-life of vegetables beyond 1–2 days due to inadequate storage infrastructure, high ambient temperatures, and poor handling practices. This leads to significant post-harvest losses, reduced income, and limited access to distant markets. There is a pressing need for affordable, low-energy solutions that can preserve the quality of vegetables for at least 3 days, enabling better planning, reduced waste, and improved profitability for producers and sellers.

6. Problem: New technology in the Boiling process of cashew, because the present process is causing discoloration of the cashew.

The current boiling process used in the cashew industry, especially in traditional setups, is often inefficient and lacks standardization, leading to significant quality issues, most notably, discoloration of the cashew kernels. This discoloration not only affects the visual appeal but also reduces the market value of the product.

SECTORS OF FOCUS AT GITAM – TEC

- Smart Manufacturing
- Agri Tech
- Health Tech
- Food Technology
- Material Science
- Waste Management
- Toys

MoU's with Academia	23
MoU's with Industries	9
Technologies identified	37
Technologies mined	1503
Technologies transferred	3
Capacity Building for Industry & Academia	29

OUR TEAM

Prof. Raja P Pappu

Dean - School of Business

Coordinator

Dr. Prasada Rao AK

Associate Dean Core-Engineering

Co-Coordinator

Prof. K Viswanatha Chaitanya

Professor, Life Sciences

Co-Coordinator

SomBhatt Ayyala

Deputy Director, Industry Relations

COO

Dr. Chandra Mouli KVVNR

Manager, Technology Transfer

Alekhya Maram

Assistant Manager, Technology Transfer

STAY CONNECTED WITH G-TEC

Thank you for reading the latest edition of the GITAM Technology Enabling Centre (G-TEC) Newsletter! We hope you found the updates and insights informative and inspiring.

As we continue to advance our mission of fostering innovation, research, and collaboration, we encourage you to stay connected with us and participate in our various initiatives.

- Join our Events and Workshops to Enhance your Knowledge
- Collaborate with Us for Technology Transfer and Development

For more information, please reach out to us at:
Email: gtec@gitam.edu
Website: www.gtec.gitam.edu
LinkedIn: www.linkedin.com/company/91447466

Best regards,
The G-TEC Team
GITAM Technology Enabling Centre (G-TEC)
Visakhapatnam, India

THANK YOU

Together, let's drive innovation and make a difference!