



R & D Newsletter

Gujarat Technological University, Ahmedabad

Volume 1, Issue 4
October-December, 2024



**GUJARAT
TECHNOLOGICAL
UNIVERSITY**

AN INTERNATIONAL INNOVATIVE UNIVERSITY
(Accredited with A+ Grade by NAAC)
State Government University

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- Collaborations/Interactions
 - Research Oriented Talks
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Message From Hon'ble Vice Chancellor



Dear Faculty Members & Researchers,

Greetings from GTU!

We are delighted to share the fourth issue of our quarterly R&D newsletter, a key part of our ongoing efforts to strengthen and enhance our research and development initiatives, this edition provides updates on latest workshops and events aimed at fortifying our research ecosystem and inspiring new innovations wherein a special section of R&D initiatives at affiliated colleges has been introduced.

By fostering collaboration and knowledge-sharing, we continue to build strong partnerships that can collectively advance our research goals. Our vision is to create a dynamic and supportive environment where researchers can learn, grow, and make meaningful contributions to the academic community.

We welcome your suggestions for future initiatives that address real-world challenges and invite you to share this newsletter widely. This will help showcase the university's ongoing research and extend the impact of our efforts. We will continue organizing events and workshops designed to bring researchers together from diverse fields, offering valuable opportunities to exchange ideas and explore new research avenues.

Please reach to GTU R&D Cell which works actively to bring together industry, researchers and innovators.

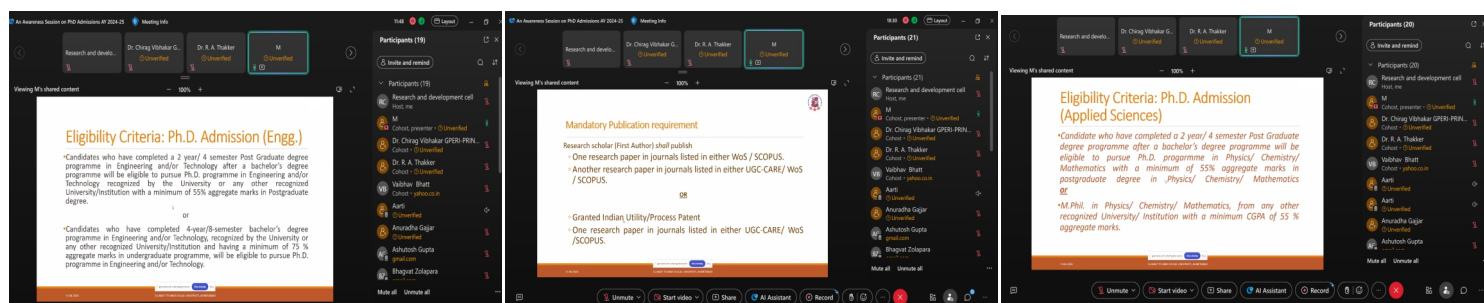
Best Wishes,

Dr. Rajul K. Gajjar
Vice Chancellor



Events/Activities (October- December, 2024)

1. Awareness Session for Ph.D. Admissions AY 2024-25 (Engineering and Applied Science)



An online awareness session regarding admissions in the Ph.D. program AY 2024-25 (Engineering and Applied Science) was conducted on October 9, 2024. This event was organized by R&D Cell in collaboration with GTU-SAST, GTU-SET and GPERI. These sessions was conducted by Dr. R.A. Thakker, Director-R&D Cell, Dr. Jignesh Amin, Director- GTU-SET, Dr. Vaibhav Bhatt, Director-GTU-SAST, Dr. Chirag Vibhakar, Principal - GPERI and Assistant Director-RDC about the application process, eligibility criteria, the various fellowships, available research facilities at schools of GTU and vacant seats for Ph.D. admission for the current academic year. Research Coordinator and Assistant Director RDC gave a brief overview of the University's Ph.D. programs, outlining the eligibility criteria for admissions under various faculties of Engineering & Technology, Applied Science and Biotechnology. These candidates were also apprised about the recently introduced Vice Chancellor's Fellowship and other fellowships available for full-time Ph.D. candidates.

Dr. Vaibhav Bhatt elaborated on the research facilities at GTU School of Applied Science & Technology. Dr. Chirag Vibhakar showcased GPERI's Siemens Center of Excellence and Solar R&D Center. Dr. Jignesh Amin presented the advanced research facilities at GTU School of Engineering & Technology, and mentioned about available vacant Ph.D. seats.

2. Seminar on A Vision for India to Lead in Semiconductor R&D and Manufacturing (What, Why & How?)



R&D Cell & GTU-SET organized a seminar on "A Vision for India to Lead in Semiconductor R&D and Manufacturing (What, Why & How?)" on October 16, 2024; wherein Prof. Mayank Srivastava, DESE, IISc-Bangalore and co-founder of AGNIT Semiconductors delivered very information session. He has over 250 publications, 57 patents, and numerous awards, including the DST Swarnjayanti Fellowship and the Abdul Kalam Technology Innovation National Fellowship. Prof. Shrivastava has been pivotal in advancing India's semiconductor objectives while inspiring the next generation of young minds.

Prof. Mayank Shrivastava discussed key topics including the importance of semiconductor technology, India's current position in the semiconductor ecosystem, and the role of R&D in emerging technologies like AI and IoT. He also highlighted the challenges India faces, such as infrastructure gaps and skill shortages, and outlined a vision for India to become a leader in semiconductor R&D and manufacturing. The discussion included the need for investment in research institutions, industry partnerships, and the development of a skilled workforce. Additionally, case studies from countries like Taiwan and South Korea were presented as successful models for India to emulate.

3. Interactive Session on Exploring Collaborative Opportunities between CSIR-CSMCRI and GTU



An online session on “Exploring Collaborative Opportunities between CSIR-CSMCRI and GTU” was organized by R&D Cell on October 25, 2024 wherein Dr. Parul Sahu, Scientist, SMC Division of CSIR-CSMCRI joined. She has expertise in Separation Techniques, Phase Equilibrium Thermodynamics and Chemical Process Design.

This interactive session was held for recognized research supervisors in Chemical Engineering, Physics, Chemistry, and Biotechnology, and was aimed at exploring collaborative opportunities with CSIR-CSMCRI, Bhavnagar.

During this session, Dr. Parul Sahu presented the mission of CSMCRI, focusing on cutting-edge research and sustainable development. She discussed ongoing projects in solar energy conversion, silica technology, and high-purity salt production. The session covered seaweed cultivation at the Gulf of Kutch and the academic programs of AcSIR. Dr. Sahu highlighted collaboration opportunities under the ARNF-SURE program.

Dr. Sahu also briefed about the Memorandum of Understanding (MoU) through which collaboration and resource sharing can be done by organizing joint workshops, seeking collaborations with other CSIR labs, and providing platforms for students' dissertation projects. This partnership aims to promote academic prospects and submission of joint research proposals/projects to enhance the research outcomes.

Proposed initiatives between GTU and CSIR-CSMCRI include organizing joint workshops, seeking collaborations with other CSIR labs, and providing platforms for students' dissertation projects.

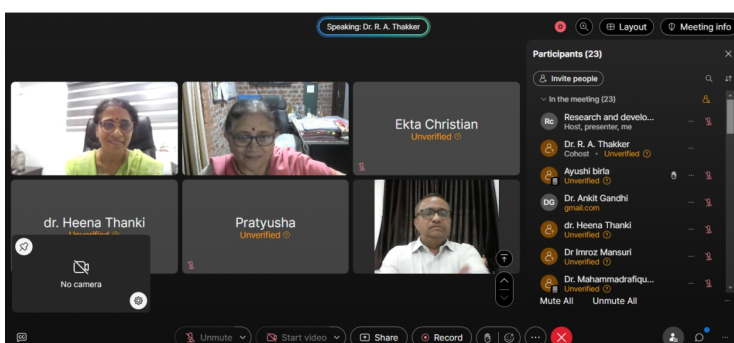
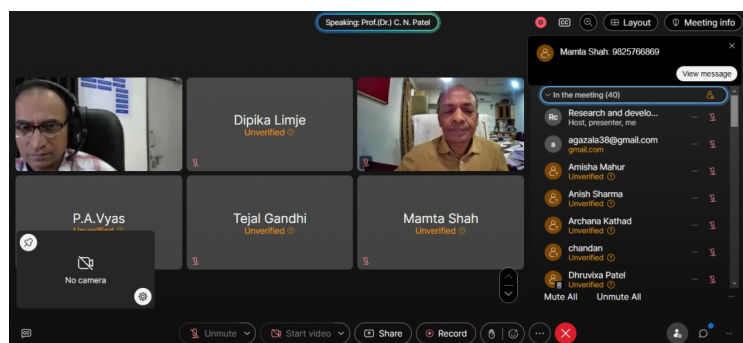
4. Session on Intellectual Property Rights: The Foundation for strategic Nation Building



An offline session was organized by GTU- Intellectual Property Facilitation Centre (IPFC), Scheme for Pedagogy & Research in IPR for Holistic Education and Academic (DPIIT- SPRIHA) and GTU- R&D in collaboration with SWAVALAMBI BHARAT ABHIYAAN on November 19, 2024 on “Intellectual Property Rights: The Foundation for strategic Nation Building” by Dr. Dhanpat Ram Agarwal a Chartered Accountant.

Dr. Dhanpat Ram Agarwal underscored the fundamental importance of Intellectual Property Rights as a pillar of strategic nation-building by sharing the success stories of several developed economies. The event highlighted how investing in IPR not only benefits individual creators but also contributes significantly to national economic strategies and competitive positioning in the global marketplace.

5. Interactive Session on Communicating Research Interests and Expertise: An Interaction Platform for Research Supervisors and Prospective Research Scholars



An online interactive session was organized by R&D Cell from 2-7 December, 2024 for Research Supervisors and Prospective Research Scholars in all discipline (Science-Maths, Science-Physics, Biotechnology, Humanities-English, Computer/IT Engineering, Computer Science, Electrical Engineering, Electronics & Communication Engineering, Pharmacy, Management, Mechanical Engineering, Metallurgy Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Instrumentation & Control Engineering, Science-Chemistry, Environment Engineering, Textile Engineering).

Dr. R.A. Thakker, Director -Research and Development Cell (RDC), highlighted the goals of the week-long online interactive sessions to connect prospective research scholars with suitable research supervisors. This initiative aims to foster an academic environment that promotes innovative research by bridging gaps and enables networking based on mutual research interests. Research supervisors provided guidance and insights for the presentation of research proposals to prospective research scholars.

Prospective research scholars engaged actively, discussing their research proposals and seeking guidance to refine their ideas. These interactions ensured tailored support, enhancing the quality and relevance of research proposals and paving the way for academic collaborations.

6. Directors' /Vice-Chancellors' Meet

On October 28, 2024, Gujarat Technological University organized a meeting of Directors and Vice Chancellors as part of Vigyan Gurjari's 2nd Convergence Conclave for development of knowledge cluster at Tricity (Ahmedabad, Gandhinagar, and Gift City), focused on discussing the goals and challenges of this initiative, with a primary aim to foster scientific and technological advancements in academic institutions.



Key discussions at this meeting included addressing funding challenges for Ph.D. students, emphasizing the need for institutional collaboration and resource sharing, and proposing comprehensive training programs to enhance research capabilities. Participants too emphasised the importance of resource sharing, creation of a resource and information portal, and monitoring to ensure utilization of research facilities.

The GTU Director/VC meeting concluded with valuable insights highlighting the potential for significant advancements in scientific and technological research within Gujarat's academic landscape. The active participation and shared commitment of attendees emphasized the importance of collaboration, effective resource utilization, and comprehensive training programs to enhance contributions to research and innovation.

7. Round Table Conference on the Paving the Future: Innovations and Challenges in Renewable Energy on 21.12.2024



R&D Cell and Gujarat Power Engineering and Research Institute (GPRI) had jointly organized a roundtable discussion on December 21, 2024 on Paving the Future: Innovations and Challenges in Renewable Energy with active participation from a wide range of organizations, including government bodies like the Energy and Petrochemical Department (EPD) and research institutes such as the Gujarat Energy and Research Management Institute (GERMI) and Institute for Plasma Research (IPR). Industry leaders, including Zodiac Energy and Tata Solar, joined alongside academic institutions like Sardar Vallabhbhai National Institute of Technology (SVNIT) and Nirma University, fostering collaboration across sectors.

Key discussions at this roundtable meeting included Collaboration for Green Hydrogen and Energy Storage, Advancing Biogas Research, Addressing Grid Challenges, Bridging Skill Gaps in Renewable Energy Workforce and Leveraging Existing Platforms.

The roundtable concluded with GTU's Vice Chancellor, Dr. Rajul K. Gajjar, reaffirming the university's commitment to advancing India's renewable energy capabilities. Dr. Gajjar emphasized the importance of collaboration among academia, industry, and research institutions, highlighting GTU's efforts to position India at the forefront of renewable energy technology for a sustainable and self-reliant future.

R&D Initiatives & Activities at GTU-Affiliated Colleges (October- December, 2024)

The R&D Cell - Gujarat Technological University (GTU) initiated gathering information about ongoing research and development initiatives/activities at GTU-affiliated colleges. This initiative aims to showcase diverse projects led by faculty and students, promoting innovation and collaboration, fostering knowledge sharing among the academic community and industry partners, and enhancing GTU's visibility as a leader in higher education and innovation.



1. The R&D Cell at C. K. Pithawalla College of Engineering and Technology, Surat organized an expert talk on "Enhancing the life of RCC and Steel Structures in Coastal Areas" on 07.10.2024.

During this session, Dr. J. B. Sharma, a retired academician and founder of CathProSolutions, delivered an expert lecture on "Enhancing the Life of RCC and Steel Structures in Coastal Areas" to Civil Engineering students. Thirty Seven students attended this talk. Dr. Sharma delivered a session on construction mistakes causing corrosion, highlighted issues in Surat buildings through photographs, and showcased his patented device for structural health monitoring. Students gained practical knowledge about identifying and solving construction problems from this session.

2. An International Conference on Digital Transformation and Social Development (VBTiCON 2024) was organized by the R&D Cell of Vidyabharti Trust College in collaboration with Gujarat Technological University, Ahmedabad on the 22nd November 2024. This conference highlighted the crucial role of digital transformation in promoting sustainable social development. Speakers, Dr. Almoula and Dr. Shorey, shared their valuable insights on the impact of technology in various sectors. This conference also provided a platform for students and researchers to showcase their innovative projects and receive constructive feedback.





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