



R & D Newsletter Gujarat Technological University, Ahmedabad

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July-September, 2024



**GUJARAT
TECHNOLOGICAL
UNIVERSITY**

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

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



Dear Faculty Members & Researchers,

Greetings from GTU!

We are bringing out this quarterly newsletter to boost our research and development efforts by sharing updates on collaborations, workshops and events. Our goal is to strengthen our research ecosystem and inspire new innovations.

We hope to build strong partnerships that will help advance our research initiatives by working together and sharing knowledge. These efforts will help create a supportive research environment where everyone can learn.

We encourage all to suggest new initiatives that the R&D cell can organize, focusing on real challenges. Please share this newsletter within your network so we can expand the reach of our research initiatives and showcase the work happening at the university. We invite all researchers to get involved in the events and activities organized by the R&D Cell.

In the coming months, we will be coming with events and workshops that aim to bring researchers across different fields. These events will be a great opportunity to share knowledge and explore new avenues of research activities.

Congratulations to the R&D Cell team for their hard work and dedication for coming up with this quarterly newsletter.

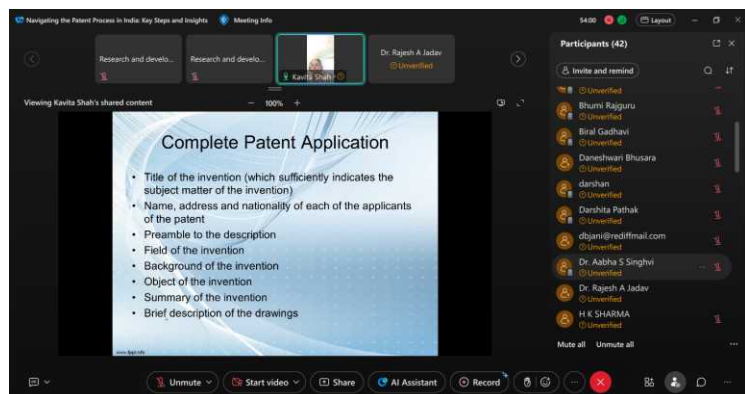
Best Wishes,

Dr. Rajul K. Gajjar
Vice Chancellor



Events (July-September, 2024)

1. Navigating the Patent Process in India



An online session titled "Navigating the Patent Process in India" was conducted on July 5, 2024. This event was organized by SPRIHA, IPFC-GTU and R&D Cell. This session was delivered by Ms. Kavita Shah, an Indian Patent Agent and Consultant having more than 15 years of experience in Intellectual Property Rights (IPR) and international collaborations.

Ms. Shah provided valuable insights into the patent process under the Indian Patent Act, highlighting the criteria for novelty and detailing the steps involved in patent filing in India. She also discussed about the various types of patent applications, pre-grant and post-grant mechanisms, examination procedures, etc. along with as to how to effectively respond to examination reports.

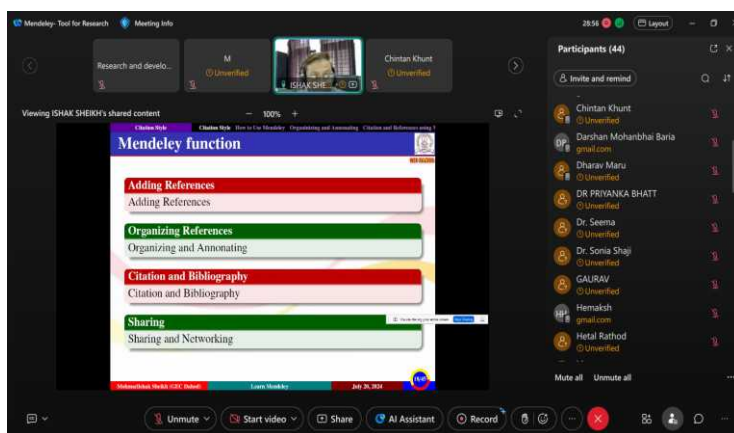
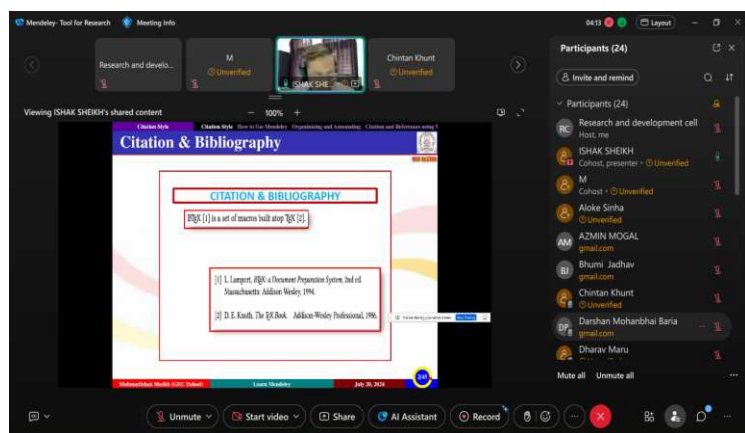
2. Session on Research Methodology and its tools



R&D Cell organized a session on Research Methodology and Its Tools on July 20, 2024; wherein Prof. (Dr.) Srinivasan Chandrasekaran from IIT Madras, an expert in offshore structures and seismic evaluation delivered the session.

This session was aimed to equip research scholars with strategies to navigate common research challenges, addressing critical topics like selecting a research problem, proper citation practices, avoiding plagiarism and understanding issues related with copyright(s). Dr. Chandrasekaran emphasized the need for a systematic approach for research and emphasized the role of accurate citations in enhancing the credibility and relevance of any scholarly/research work.

3. Session on Mendeley: Tool for Research



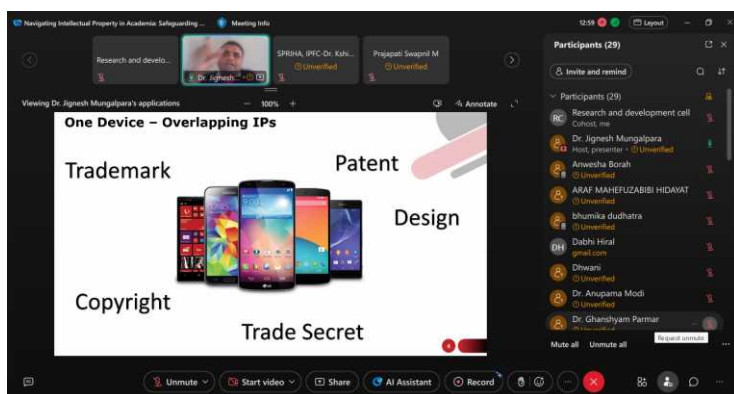
An online session on Mendeley: Tool for Research was organized by R&D Cell on July 20, 2024 by Prof. Mohmadishak Sheik, a recognized Mendeley Advisor. He has conducted over 50 workshops on this topic.

During this session, Prof. Sheik, emphasized the crucial role of citations and bibliographies in academic writing, underscoring their importance in preventing plagiarism and enhancing the credibility of research work. During his session he elucidated the use of proper citation(s) to give credit to original authors and also to strengthen the scholarly value of research work.

Prof. Sheik provided a comprehensive overview of some standard citation styles, including APA, MLA, Chicago and Harvard, with a special focus on the citation style commonly used in scientific disciplines, such as IEEE, where sources are listed in the order of appearance and complemented with the reference list.

The session also included a detailed demonstration of Mendeley's capabilities as a reference management tool. Prof. Sheik showcased how Mendeley helps organize citations, automatically extracts bibliographic details and generate citations in various styles. Additionally, he highlighted advanced features of Mendeley that allows the users to add notes and comments directly to research papers.

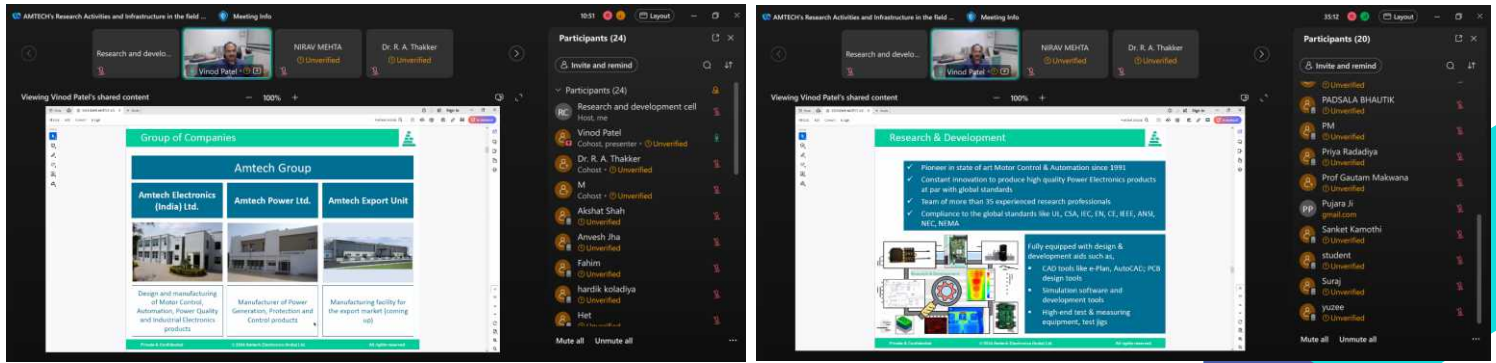
4. Session on Navigating Intellectual Property in Academia: Safeguarding Research



An online session was organized by SPRHA, IPFC-GTU and R&D Cell on July 22, 2024 on "Navigating Intellectual Property in Academia: Safeguarding Research" by Dr. Jignesh Mungalpara, Founder and Partner, JT Attorney Alliance.

Dr. Jignesh Mungalpara highlighted the importance of Intellectual Property (IP) protection in nurturing innovation, covering key IP categories like patents, designs, copyrights, and geographical indications (GI). He also explained the various processes related to processing of patent i.e. from drafting patent applications to their prosecution as well as hearing(s). During his talk he also addressed the role of the patent office(s) and inventors, the significance of patents and the differences between patents and research papers. His talk emphasized on patent claims and the importance of addressing an invention's uniqueness and functionality while drafting patent applications.

5. Session on AMTECH's research activities and infrastructure in the field of power electronics



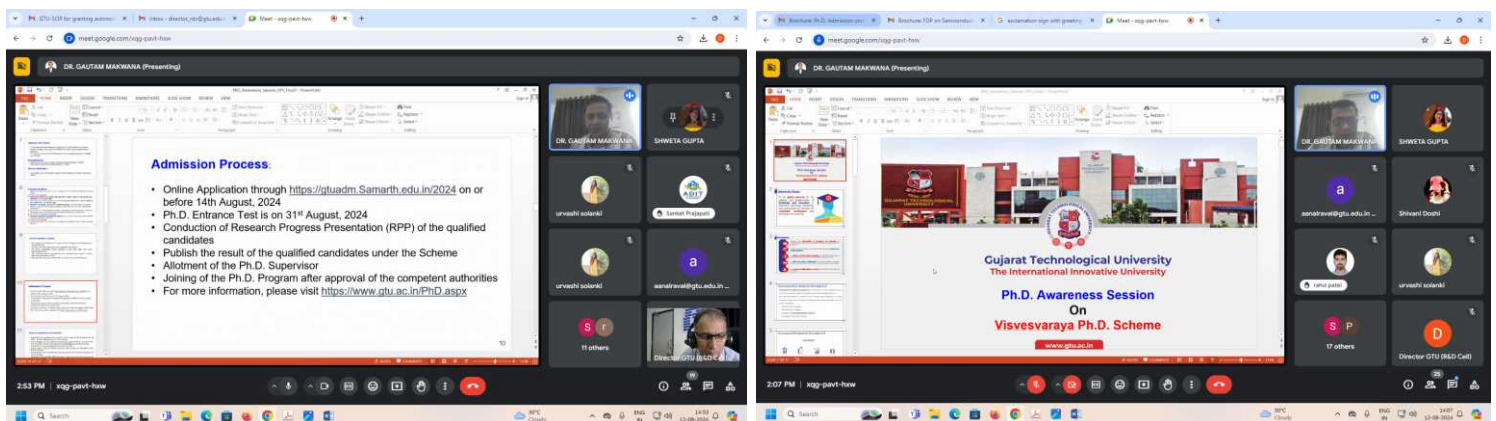
An online session was organized by R&D Cell on August 6, 2024 highlighting the various research activities and initiatives of AMTECH in the field of power electronics. This session was delivered by Mr. Vinod Patel, Vice President, R&D Division, Amtech Electronics India Limited, Gandhinagar and has significantly contributed towards manufacturing of renewable energy converters.

Mr. Vinod Patel gave an overview of AMTECH, a leading provider of motor control, automation and energy solutions since 1987. The company has a global presence and serves over 3,500 corporate customers. AMTECH operates across multiple sectors, including electronics, power solutions and exports; emphasizing innovation and quality.

During his session, Mr. Vinod Patel highlighted AMTECH's partnership with Amtech Drives Inc., Atlanta, USA, that facilitates the distribution of their products across North America and beyond.

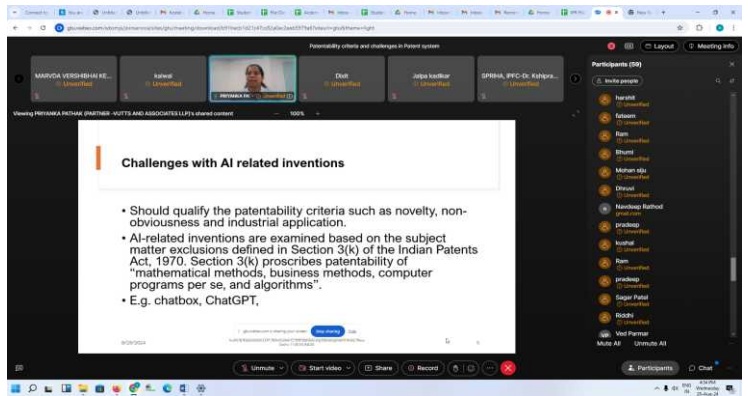
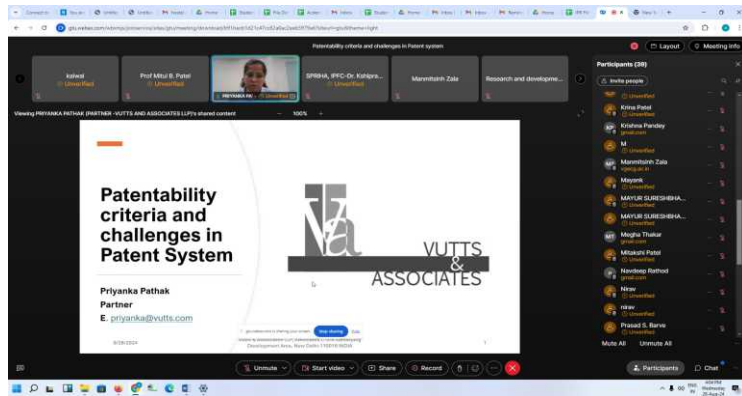
Mr. Patel also informed the participants about AMTECH's state-of-the-art manufacturing facilities and dedicated R&D facilities related to integrating cutting-edge technologies such as IoT and machine learning to enhance operational efficiency across various industries.

6. Session on Visvesvaraya Ph.D. Scheme-Phase II



An online session for Ph.D. admissions under the Visvesvaraya Ph.D. Scheme-Phase II was organized by R&D Cell and GSET-GTU on August 12, 2024 to introduce and promote Ph.D. admissions under the scheme. Dr. G. Makwana, Associate Professor, GTU-SET gave a brief introduction about the scheme highlighting the associated financial assistance provided by MeITY. Dr. Makwana along with Dr. R.A. Thakker, explained the procedure for Ph.D. admission under Visvesvaraya Ph.D. Scheme-Phase II in Electronics & Communication Engineering and Computer/IT disciplines for the AY 2024-25 that included eligibility criteria, online application procedures and other related processes and procedures.

7. Session on Patentability Criteria and Challenges in Patent System



An online session was organized by SPRIHA, IPFC-GTU and R&D Cell on August 28, 2024 on Patentability Criteria and Challenges in Patent System. This session was delivered by Ms. Priyanka Pathak, Partner, Vutts & Associates LLP, New Delhi. She has extensive experience in various IPR domains. She briefed about the current challenges in the Patent system.

During her talk, Ms. Pathak, outlined the essential criteria for patentability that includes novelty, non-obviousness, industrial applicability and sufficiency of disclosure, as governed by Sections 3 and 4 of the Patents Act of 1970.

She also emphasized the challenges faced by AI-related inventions within the patent system. These innovations must meet specific criteria while navigating the exclusions in Section 3(k) of the Indian Patents Act, which prohibits patenting mathematical methods, business methods, and computer programs. This creates unique hurdles for AI innovations.

8. Session on Bridging the Gap: Integrating IEEE Solutions into Engineering Curriculum

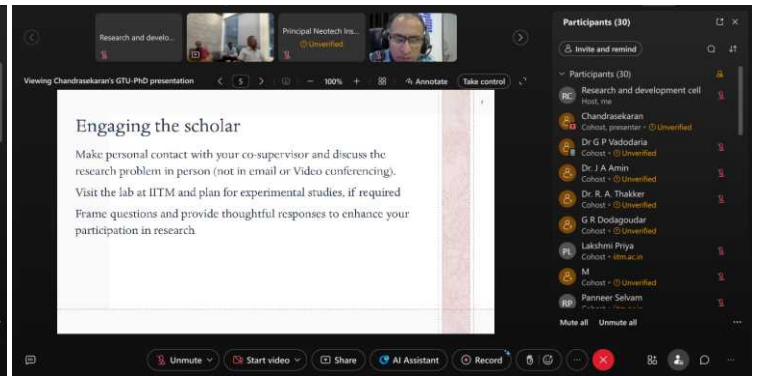
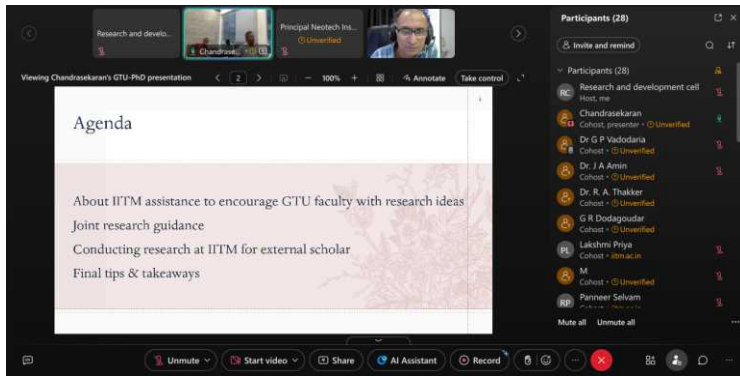


R&D Cell organized a session on August 29, 2024 on Bridging the Gap: Integrating IEEE Solutions into Engineering Curriculum at GTU. Mr. Collin D'Mello, International Area Manager for IEEE India Operations Center, India delivered this session.

During the session, Mr. Collin D'Mello, highlighted the importance of integrating IEEE solutions into the rapidly evolving engineering curriculum. He explained about leveraging IEEE's extensive library that can be used to enhance students' learning experiences. This integration will align the academic curricula with the needs of the industry. Through this integration the students will know about the real-world applications and innovative tools in order to prepare them for future roles as leaders and innovators.

Mr. Collin D'Mello discussed various IEEE initiatives, including the IEEE Xplore Challenge, IEEE VTS Motor Vehicles Challenge, and the Three Minute Thesis competition, designed to engage students and professionals in practical engineering applications. He also informed about IEEE's scholarships, awards and grants that support students and early-career professionals. Additionally, he emphasized IEEE's commitment towards humanitarian technologies, leveraging advancements to address global challenges.

9. Session on Exploring Opportunities for Civil Engineering Research Supervisors to Collaborate with IIT Madras

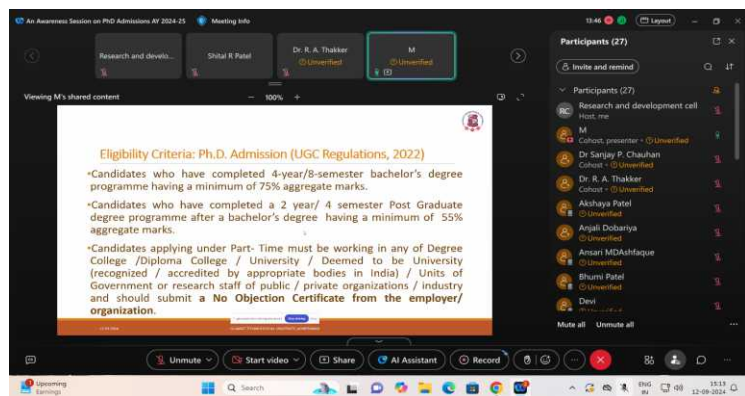


An online session was organized by R&D Cell on September 4, 2024 on Exploring Opportunities for Civil Engineering Research Supervisors to Collaborate with IIT Madras. Dr. S. Chandrasekaran, Senior Professor, IIT-Madras and expert in structural dynamics and earthquake engineering, led the discussion on behalf of faculty members from IIT-Madras, namely, Dr. Rajiv Sharma, Prof. G. R. Dodagoudar, Dr. Arun Menon, Dr. R. Panner Selvam and Dr. P. S. Lakshmi Priya working in areas of Ocean and Civil Engineering.

Prof. S. Chandrasekaran highlighted IIT-Madras initiatives and described as how IIT-M can support GTU in developing a robust research ecosystem. He emphasized the potential role for collaborative academic and research endeavours between the two institutions. He also discussed about the QIP scheme that encourages faculty members to pursue full-time research and informed about the provisions for utilizing IIT-Madras research facilities.

Prof. S. Chandrasekaran discussed about potential academic partnerships between IIT-M and GTU, allowing GTU research scholars to have co-supervisors from IIT-M. He emphasized the importance of collaborative research, proper acknowledgments in publications, and the benefits of interactions with IIT-Madras faculties. These initiatives will enhance collaboration between the two intuitions and will develop synergies in identifying research areas of common interest, enhancing research output and facilitating knowledge exchange. Prof. S. Chandrasekaran emphasized co-supervision to enrich PhD scholars' research experiences, leveraging IIT-M's expertise and resources. He also discussed about Post-Doctoral Fellowship and informed that IIT-Madras faculty members can help develop short-term courses for GTU faculties for knowledge and skills enhancement.

10. Awareness Session on Ph.D. Admissions AY 2024-25

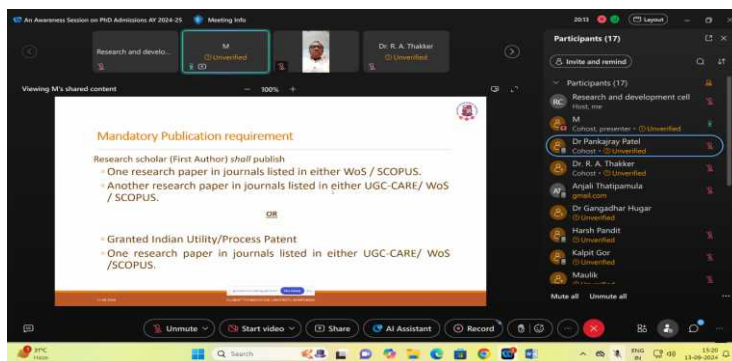
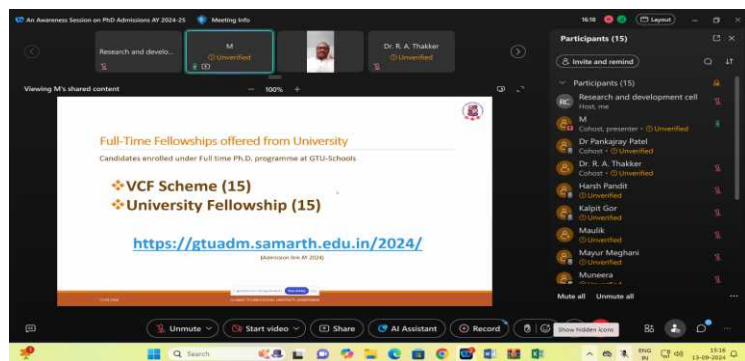


An online awareness session for Ph.D. Admissions in AY 2024-25 was jointly organized by R&D Cell and GTU-School of Pharmacy on September 12, 2024. Dr. R.A. Thakker, Director-RDC and Dr. Sanjay Chauhan informed prospective Ph.D. candidates about the application process, eligibility criteria and fellowships offered by the University for pursuing full time doctoral studies.

Research Coordinator & Assistant Director-Research gave an overview of GTU's Ph.D. program along with key statistics like number of Ph.D. supervisors, research scholars and awarded Ph.D. notifications. She gave a brief overview about the recently introduced Vice Chancellors' Fellowship (VCF) applicable for GTU-Schools.

Dr. Sanjay Chauhan, Director, GTU-School of Pharmacy (GSP), informed prospective Ph.D. candidates about the GSP's advanced research facilities, that includes HPLC, mass spectrometers and NMR. He highlighted key research achievements of faculty members of GSP in terms of publications and Intellectual Property Rights. Dr. Chauhan gave a brief about the major research areas of faculty, including impurity profiling, herbal standardization, and analytical method development, showcasing the school's commitment to impactful research and industry collaboration.

11. Awareness Session on Ph.D. Admissions AY 2024-25



An online awareness session for Ph.D. Admissions in AY 2024-25 was jointly organized by R&D Cell and GTU-School of Management Studies on September 13, 2024. Dr. R.A. Thakker, Director-RDC and Dr. Pankajray Patel informed prospective Ph.D. candidates about the application process, eligibility criteria and fellowships offered by the University for pursuing full time doctoral studies.

Research Coordinator & Assistant Director-Research gave an overview of GTU's Ph.D. program along with key statistics like number of Ph.D. supervisors, research scholars and awarded Ph.D. notifications. She gave a brief overview about the recently introduced Vice Chancellors' Fellowship (VCF) applicable for GTU-Schools.

Dr. Pankajray Patel highlighted the diverse courses at GTU-SMS, including a 2-year MBA with various specializations, a 3-year BBA, and a Doctoral Program (Ph.D.). GTU-SMS also offers an Executive MBA, a 1-year PGDM, and short-term certification courses. The university boasts specialized research labs, a well-equipped library, strong industry collaborations, regular workshops, funding opportunities, and dedicated faculty mentorship to enrich the research environment.

1. Round Table Conference on the Need Assessment for High-Quality Chemicals and Gases used in Semiconductor Manufacturing



R&D Cell and Department of International Relations (DIR), convened a pivotal roundtable discussion at its Chandkheda Campus on September 21, 2024. The focus of this event was the "Need Assessment for High-Quality Chemicals and Gases Used in Semiconductor Manufacturing," addressing the growing demands and challenges in securing critical inputs for the semiconductor industry.

The roundtable brought together a diverse group of experts, including academicians, researchers and industry leaders to discuss strategies for ensuring a secure, sustainable and reliable supply chain for the semiconductor sector. Participants engaged in comprehensive discussions centered on the strategic imperatives necessary to support India's semiconductor ecosystem, examining current needs and forecasting future trends. The overarching goal was to outline actionable steps to establish a sustainable and self-reliant supply chain for essential materials in semiconductor manufacturing.

The event has active participation from a broad spectrum of experts from leading Academic Institutions, Industry Leaders such as VASA Group, AGEM Industries - Mumbai, MICRON Technologies, Kaynes Technology, and Aarti Industries – Mumbai and notable Scientific Organizations like (SAC) - ISRO and the CSIR-IICT – Hyderabad.

The discussions highlighted several critical themes on High-Quality Chemical and Gas Requirements, Logistical Challenges and Solutions, Skill Development and Curriculum Revision, Innovation and opportunities for research.

The highlight of the event was the insightful address by Shri NM Desai, Director of SAC-ISRO, who outlined India's path towards self-reliance in semiconductor manufacturing, aligning with the "AtmaNirbhar" vision of our Hon'ble Prime Minister- Shri Narendra Modi. He emphasized the importance of indigenous innovation and local expertise in positioning India as a global leader in this strategically important industry.

Dr. R.K. Gajjar, Hon'ble Vice Chancellor, GTU, reaffirmed the university's commitment to advancing India's technological capabilities, stating- "This roundtable is a significant step in creating a roadmap for India's semiconductor future." GTU aims to facilitate collaborations among academia, industry, and research institutions, driving innovation and reinforcing India's position in the global semiconductor market.

2. Interaction with representatives of Japan International Cooperation Agency (JICA) held on September 25, 2024 at Gujarat Technological University (GTU), Ahmedabad

On September 25, 2024, a meeting was held between representatives of the Japan International Cooperation Agency (JICA) and officials from Gujarat Technological University (GTU) to explore collaboration in India's semiconductor manufacturing sector. Mr. Numasawa Takeru from JICA highlighted Japan's commitment to enhancing bilateral cooperation, positioning India as a key partner for Japan's Official Development Assistance (ODA). Key areas of collaboration discussed included developing semiconductor skill development infrastructure in Gujarat and Assam, and Indo-Japan academic exchanges. JICA also expressed interest in fostering global partnerships for research and innovation. The meeting laid the groundwork for future discussions to define specific projects aimed at advancing India's semiconductor industry and strengthening India-Japan ties.



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