

**From the Director's Desk**

I am pleased to present to you the inaugural volume of our 2026 edition of the newsletter "ऊर्जा प्रवाह". I extend my warmest wishes for a very Happy New Year to all of you. May the year 2026 present us with another promising opportunity for each member's personal development. For RGIPT, let it be a year of celebration, navigating the dynamic economic landscape that advances us toward our ambitious goals.

A dynamic six-month span elapsed swiftly. During this period, we have accomplished numerous milestones and established several new avenues. Our research initiatives, successful collaborations with industry, and the accomplishments and accolades of our students and faculty, as reflected in our academic and R&D portfolio, demonstrate our dedication to a dynamic, adaptive learning system that advances the technological progress of the nation.

During this period, we effectively coordinated a summit, two symposia, and several seminars. I am pleased to inform you that all these events were successful, attracting a number of delegates and distinguished dignitaries. We experienced a productive period in our publication profile having contributed to research papers and other publications impactfully.

The convocation conducted in November 2025 was a successful event. Another notable achievement of the period was the effective coordination of the institute's flagship initiative, "URJA SANGAM," which integrated Kaltarang, Energia, Urjotsav, and Souhardya.

All these achievements and accolades would not have been possible without the ongoing support of our stakeholders, and I wish to express my gratitude to all my students, faculty members, and staff for their valuable contributions.

With Warm Regards,  
(Harish Hirani)



**RGIPT's Upward NIRF Trajectory**

A major highlight of this period is RGIPT's achievement of the 78<sup>th</sup> rank in the NIRF 2025 Engineering category, reflecting institute's sustained rise in national stature.

NIRF participation and competition continue to intensify. In NIRF 2025 (Engineering), 1,584 institutes participated—an 8.3% increase from 2024. With this significant rise in participation, the challenge of maintaining and improving our ranking has become more critical than ever, underscoring the need for sustained focus and continuous improvement in academics, research, industry engagement, and overall outcomes.



**A proud moment for our Institution!**

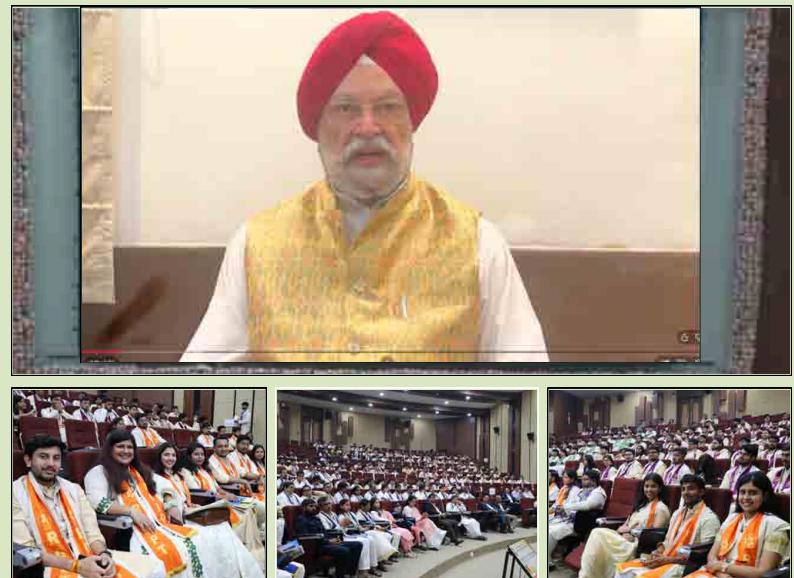
It is a moment of immense pride for the Institution that Prof. A. B. Pandit, President-BoG, RGIPT, has been conferred the prestigious "Rashtriya Vigyan Puraskar 2025 – Vigyan Shri Award (Engineering Sciences)" by the Government of India. The award recognizes his distinguished contributions to Chemical Engineering, particularly in hydrodynamic cavitation, reactor design, and process intensification. Professor Pandit, a Chemical Engineering graduate from the IIT (BHU), was appointed President-BoG, RGIPT by the MoPNG, in July 2024. He currently serves as the Vice-Chancellor of the Institute of Chemical Technology (ICT), Mumbai.

**Professor Harish Hirani takes over as Director, RGIPT**

Prof. Harish Hirani assumed charge as the Director of the Rajiv Gandhi Institute of Petroleum Technology (RGIPT) on April 16, 2025. A distinguished academician and researcher, he is renowned for his contributions to tribology, machine design, and condition monitoring. Prior to joining RGIPT, he served as Professor of Mechanical Engineering at IIT Delhi and as Director, CSIR-CMERI. His extensive academic and administrative experience is expected to further strengthen RGIPT's pursuit of excellence in education, research, and innovation.



Shri Hardeep Singh Puri, Hon'ble Union Minister, Petroleum & Natural Gas, has been closely associated with RGIPT through ministerial oversight and active engagement in its academic and strategic initiatives. He has addressed convocations and key events, presented prestigious awards such as the FIPI Award to outstanding RGIPT scholars, and consistently highlighted the Institute's role in nurturing talent aligned with India's energy priorities. His engagement with student and faculty concerns, including placement-related issues, has reinforced administrative focus and strengthened RGIPT's commitment to academic excellence and student outcomes.



## The Institution

Established by an Act of Parliament in 2007 under the Ministry of Petroleum and Natural Gas, the RGIPT is an Institution of National Importance and India's premier centrally funded institute for education, research, and innovation in the petroleum and energy sectors. RGIPT functions through three campuses: the Jais Campus as the main hub for comprehensive academic programmes, the Bengaluru Campus focused on advanced research and technology development, and the Sivasagar Campus dedicated to diploma education and regional industry engagement.

## Vision and Mission

To serve as the fountainhead for nurturing of world class manpower capable of being the future leaders of technology and technology innovation in the broad field of petroleum technology and energy sector.

Creating a dynamic state-of-the-art learning and working environment, where intellectual ideas are nurtured and new ideas creatively flourish, from which will emerge research scholars and graduates, with the ability to be the leaders and innovators of tomorrow.

## Governance

The institute benefits from the strategic guidance of the Board of Governors and General Council, chaired by senior officials from the MoPNG and comprising distinguished leaders from Maharatna oil and gas PSUs, higher education institutions, and industry experts.

## Changing Energy Landscape and RGIPT's Role

India's energy sector is undergoing a rapid transformation driven by climate commitments and economic growth, marked by its COP26 pledges of achieving 500 GW non-fossil capacity, 50% renewable energy share, a 45% reduction in carbon intensity by 2030, and net-zero emissions by 2070—surpassing the 50% renewable milestone five years ahead of schedule. This evolving paradigm demands deep integration of digital technologies, artificial intelligence, machine learning, advanced computing, and smart sensors for optimized operations and intelligent energy systems. In response, RGIPT is evolving from a conventional academic institution into a strategic, interdisciplinary hub supporting India's energy transition through advanced education, research, consultancy, industry training, and translational innovation aligned with NEP 2020. Recognized for its impact, RGIPT has received multiple national accolades, including awards at NGIC 2024 (HPCL), FICCI Higher Education Excellence Awards 2024, and the HMEL QUEST 2025 Innovation Challenge.

## Digital Transformation at RGIPT

The ERP system at RGIPT was introduced in December 2025, with the first phase implemented as the Academic ERP. This phase includes online fee submission, streamlined student registration, integrated faculty and student portals, and an academic administrative panel for approvals, timetables, and nominal rolls, strengthening efficient and transparent academic administration.



## Strategic Framework: The 5Rs of RGIPT

1. **Rigors of Education** – Sustained excellence in teaching-learning practices
2. **Research & Innovation** – Change management through cutting-edge research
3. **RGIPT Community** – Inclusive growth and stakeholder engagement
4. **Roadmap** – Strategic time-bound transformational agenda
5. **Resilience** – Arterial strength

## Research Highlights

### Active Research Portfolio

- 69 ongoing projects with cumulative value of Rs. 23.71 crores
- 5 consultancy projects with total value of Rs. 21.37 lakhs

This significant inflow showcases continued focus on innovation, research excellence, and collaboration with funding bodies.

### Patents and Intellectual Property

- 7 patent applications filed (5 published and 2 granted)

A certificate of Registration of Design has been granted by the Patent Office under the provisions of the Designs Act, 2000 & Designs Rules, 2001, for the industrial design “**Laboratory Nanofluid Injection Device**”, registered under Design No. 468711-001, Class 24-01

PI: Dr. Ananya Borah, Assistant Professor, RGIPT Sivasagar Campus

### Available Research Facilities @ CIF

The Central Instrumentation Facilities (CIF) at Jais campus houses sophisticated analytical instruments supporting interdisciplinary research:

- Field-Emission Scanning Electron Microscope (FESEM)
- High-Resolution Transmission Electron Microscope (HRTEM)
- X-ray Diffraction (XRD)
- Fourier Transform Infrared Spectrometer (FTIR)
- UV-visible Spectrophotometer (UV-Vis)
- Differential Scanning Calorimeter (DSC)
- Inductive Coupled Plasma Optical Emission Spectrometer (ICP-OES)
- Nuclear Magnetic Resonance (NMR)
- Gas Chromatography (GC)
- BET Surface Area Analyzer

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### Major Research Thrust Areas

Research spans critical domains addressing India's energy transition:

- **CCUS** – Carbon capture, sequestration, and utilization technologies
- **Hydrogen Economy** – Production, storage, utilization, and applications
- **Biofuels** – Biogas, bio-digester design, lignin upgradation, biodiesel, sustainable aviation fuel
- **Petroleum Engineering** – Enhanced oil recovery (EOR), exploration technologies
- **AI/ML Applications** – IoT, UAV, predictive maintenance, digital twins, production optimization, safety monitoring
- **Corrosion Science** – Identification, mitigation, protection strategies
- **Alternative Energy** – E-mobility, solar PV/thermal systems
- **Energy Management** – Supply chain, transition management, energy marketing, computational finance, sociology of development

### MoUs Signed

#### Institute of Chemical Technology (ICT), Mumbai

RGIPT signed an MoU with the Institute of Chemical Technology (ICT), Mumbai, on 11 September 2025 at the RGIPT Jais Campus, marking a significant step towards strengthening collaboration in research, innovation, and technology development in the fields of petroleum, energy, and chemical sciences.



Prof. A. B. Pandit, Vice-Chancellor, ICT Mumbai and Prof. Harish Hirani, Director, RGIPT inking the MoU

#### KiksAR Technologies Pvt. Ltd.

A landmark Strategic Memorandum of Understanding (MoU) between the Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Bengaluru Campus and KiksAR Technologies Pvt. Ltd has been signed by Prof Harish Hirani, Director RGIPT



#### ZULU Defence Systems

Rajiv Gandhi Institute of Petroleum Technology (RGIPT) has signed a transformative MoU with ZULU Defence Systems Pvt. Ltd., marking the beginning of a powerful collaboration in cutting-edge drone technologies.



RGIPT Bengaluru Campus and ZULU Defence Systems have joined hands through the MoU to establish India's first Live Drone Technology Laboratory within an academic campus, marking a landmark initiative in advanced defence and drone technologies.



#### Delft University of Technology, The Netherlands

The MoU, signed on November 19, 2025, aims for advancement of academics, research collaboration and exchanges in areas of interest benefiting both the parties.

## Visits & Meetings on Strengthening R&D

### Director's Visits

- Brahmaputra Crackers and Polymers Limited, Dibrugarh
- CSIR – North East Institute Of Science & Technology (NEIST), Assam
- Assam Gas Company Limited (AGCL), Assam
- Oil India Limited, Digboi, Assam
- Cholamandalam MS Risk Services Limited, Chennai
- Chennai Petroleum Corporation Limited (CPCL), Chennai
- NASSCOM
- Indian Institute of Science, Bengaluru
- KiXR Technologies, Bengaluru
- Brahmaputra Gas Crackers, Assam
- CSIR-NEIST Jorhat, Assam
- ONGC, GAIL, OIL
- Analog Devices, Bengaluru

### Director's Meetings with Important Dignitaries

- Dr. Ranoj Pegu, Hon'ble Education Minister, Government of Assam
- Hon'ble Minister Shri Prasanta Phukan, Minister of Power, Minister of Skill, Employment and Entrepreneurship, and Minister of Medical Education and Research, Government of Assam

### Distinguished Visitors

- Mr. Sanjay Venugopal, Senior Manager – APC Solutions, Yokogawa Technology Solutions, Bangalore, October 10-11, 2025 at RGIPT Jais Campus
- Dr. Ravi Nath Tripathi from Kyushu Institute of Technology (KyuTech), Japan
- Mr. Sudip Gupta, former ED, ONGC Mehsana, Mr. Narendra Singh, GM-NTI, ONGC Mehsana, and Mr. N. Vijai, MD, Saroj Tinytech India Private Limited.
- Prof. Rajiv Manohar (Physics) from the University of Lucknow visited the Department of Energy and Human Sciences on 7th November 2025
- Prof. V. M. Gadre visited Department of Electrical and Electronics Engineering
- Prof. Manish Sharma, Dean Engineering, RGNAU visited the Department of Electrical and Electronics Engineering
- Prof. V. M. Gadre, IIT Bombay visited the Department of Electrical and Electronics Engineering

### Invited Talks

- Invited Talk on Future Prospective in Nuclear Physics by Dr H M Mittal, Professor and Head, Department of Physics, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab, September 12, 2025
- Invited Talk by Dr Nguyen Vu Lan, Vice Rector, Gia Dinh University, Ho Chi Minh City, Vietnam, September 12, 2025
- Dr. Santosh Kumar Mishra delivered a Expert Lecture at REC Sonbhadra
- Dr. Santosh Kumar Mishra delivered a Expert Lecture for FDP at OP Jindal University, Raigarh
- Prof. Amit Ranjan, Professor, Mechanical Engineering delivered a talk at NISER Bhubaneswar.
- Dr. Ankur Pandey delivered a talk as Guest Speaker in the ISTE, Singhad Institute Pune.
- Dr. Ankur Pandey delivered a talk as Guest Speaker for Workshop on "Intellectual Property, Technology Transfer & Healthcare, AIIMS Patna.
- Dr. Ankur Pandey invited as Resource Person for FDP, CMR Institute of Technology, Bengaluru

## Industry-Sponsored Research

RGIPT maintains an active portfolio of 32 industry-sponsored research projects, demonstrating robust engagement with the energy sector and facilitating technology transfer to address real-world challenges.

### Key Industry Collaborations

- NTPC-NETRA and DST: 1 Nm<sup>3</sup>/hr electrolyzer installation at Jais campus
- Major PSUs: Active collaborations with GAIL, ONGC, OIL, IOCL, HPCL, BPCL for applied research and technology development

### Strategic Research Initiatives

#### Hydrogen Energy Research

RGIPT leads comprehensive hydrogen research spanning generation, storage, utilization, and application development. Key innovations include:

#### Indigenous Technology Development

- Low-cost electrodes and membrane-less electrolyzers capable of producing hydrogen from diverse water sources (sea, river, ground, tap water)
- Systems designed to suppress chlorine evolution and eliminate expensive purification units
- 1 Nm<sup>3</sup>/hr electrolyzer installation at Jais campus (NTPC-NETRA and DST funded)

#### Strategic Industry Collaborations

- **Northern Coalfields Limited (NCL):** Development of 2 MW solar-powered green hydrogen plant integrating renewable energy with clean fuel production
- **Numaligarh Refinery Limited (NRL):** Innovative chemical pathways inter alia others:
  - Electrochemical conversion of ethanol-water mixtures into acetic acid and hydrogen
  - Sour-water conversion into elemental sulfur, hydrogen, and ammonium sulfate for industrial waste valorization

## Faculty Recognition and Awards

- Dr. Tathamay Basu, Assistant Professor, Energy and Human Sciences awarded Scientific High Level Visiting Fellowships (SSHN) 2025 by the Embassy of France (through Indo-French CEFIPRA program)
- Prof. Alok Kumar Singh (Petroleum Engineering) represented RGIPT and its FIFI chapter at India Energy Week 2025
- Dr. Susham Biswas (Associate Professor & Head, CSE) – Received Mitacs research funding approval
- Dr. Shivanjali Sharma, Associate Professor, PE – Inducted as Editorial Advisory Board Member, Journal of Energy and Fuels (ACS)
- Dr. Vijay Kumar Singh, Assistant Professor, EEE Department, has been elevated to the grade of IEEE Senior Member.
- Dr. Ankur Pandey received “IEEE SPS UP Chapter Early Career Teacher Award 2024” for Significant Contributions in Teaching and Research, December, 2025
- Dr. Ankur Pandey awarded a Travel grant of 4000 € from the Research Unit of Health Sciences and Medical Technology, Faculty of Medicine, University of Oulu, Finland under 6GESS and Digi Health Research Programs. May, 2025
- Dr. Tathamay Basu, Assistant Professor – Awarded Scientific High Level Visiting Fellowship SSHN 2025 by Embassy of France
- Dr. Tushar Sharma, Associate Professor & Head (ME), has been inducted as Editor for the Special Issue in Discover Chemical Engg. (Springer).
- Dr. Deepak Dwivedi offered visiting positions from University of Cambridge, UK and Australian National University, Australia
- Dr. Piyush Sarkar, awarded as Young Researcher Award during the Geosciences for Sustainable World Conference, BHU.
- Dr. Bheemaiah Chikondra, Assistant Professor, Electrical & Electronics Engineering, received the ANRF–Prime Minister Early Career Research Grant for his project on fault-tolerant control strategies for wide band gap–based multiphase traction inverters in heavy-duty EVs.
- Dr. Debashis Panda selected to attend the ESTIC program organized by DST.
- RGIPT faculty members have been featured in the Stanford–Elsevier World’s Top 2% Scientists List 2025: Prof. Atul Sharma, Prof. Sanjay Kr Kar, Dr. Tushar Sharma, Dr. Arshad Aijaz, Dr. Bheemaiah Chikondra, and Dr. Bhaskor Jyoti Bora, recognizing their global research excellence.

## ACCOLADES



RGIPT Awarded “University of the Year – Emerging (Public)” at FICCI Higher Education Excellence Awards 2024



RGIPT Wins “Best Institution Award” at HMEL QUEST 2025 Innovation Challenge

## Student Achievements

- Team RGIPT secured the Second Prize at HMEL QUEST 2025 – R&D and Innovation Challenge, organized by HMEL



Team: Abhinav Kumar (3<sup>rd</sup> Year, B.Tech), Ashwin Shri Raaj APB (2<sup>nd</sup> Year, B.Tech) and Asvin Singh (2<sup>nd</sup> Year, B.Tech).

Guide: Prof. M. S. Balathanigaimani, Professor



Team: Ayush Pratap Singh & Kumkum Gupta (3<sup>rd</sup> Year, B.Tech), and Ojas Pandey (2<sup>nd</sup> Year, B.Tech).

Guide: Dr. Omvir Singh, Assistant Professor

- Team Net Zero Commando from RGIPT secured 2nd Place Global Winner at AI Hackathon-II GOTECH 2025



- Mr. Aditya Kashyap (Final year) received Donald F Othmer Mildred Topp Scholarship Award and won Pankaj P Patel Trust Essay Competition (IICHE)
- Mr. Ajeet Kumar Prajapati (Ph.D.) and Mr. Aditya Kashyap received Prof. A Suryanarayana Award for Best Chemical Engineering Book Chapter (IICHE)
- Harshit Pandey (B.Tech 3<sup>rd</sup> Year) won 1<sup>st</sup> Prize poster presentation at Chemical Engineering Research Symposium (IIT Ropar)
- Arjun Krishna (B.Tech Chemical Engineering) awarded Bhumistha Infra Services Award at OYCE 2025 (IIT Bombay)
- Mr. Gaurav Srivastava (B.Tech 2nd year) won 2nd Prize poster presentation at SCHEMCON 2025 (VIT Vellore)
- Mr. Vinayak Awasthi won 1st Prize paper presentation at SCHEMCON 2025 (VIT Vellore)
- Mr. Siddharth Atal (Ph.D.) received Best Poster Award at International Conference on Frontiers in Electrochemistry (Chennai)
- Saurabh Kumar (Ph.D.) received Best Oral Presentation Award at ICAMSD 2025 (MNIT Jaipur)
- Aash Mohammad (Ph.D.) received Best Oral Presentation Award (Bali, Indonesia)
- Ajeet Kumar Prajapati (Ph.D.) received Young Achiever Award and Best Oral Presentation Award (Bali, Indonesia)
- Digdarshan Kumar and Aditya Kumar won 1st Prize State level and 3rd Prize RBI 90 Zonal Level Quiz Competition
- Amaresh Mishra (B.Tech Petroleum Engineering) selected among top 50 students worldwide for International Petroleum Technology Conference Energy Education Student Program 2025 (Malaysia)
- Mr. Anitesh Anand and Mr. Almas received ANRF grants to attend EMRS Spring 2025 (France) and 53rd IEEE PV Specialist Conference 2025
- Mr. Anitesh Anand, PhD student, International Travel Support, ANRF India
- Ms. Almas, PhD student, International Travel Support, ANRF India
- Mr. Digdarshan Mishra and Mr. Aditya Mishra, secured 2<sup>nd</sup> Rank in National Financial Literacy Quiz (NFLQ) hosted by National Institute of Securities Markets (an institution run by SEBI)

- Analog and Digital Design Hackathon: Team Lumos shortlisted for Grand Finale



- IEEE Awards: RGIPT IEEE Student Branch won Best Emerging Student Branch Award and 1st Position in Activity Based Incentive Award
- Digdarshan Kumar and Aditya Kumar (RGIPT students) won FIRST Prize at State level and THIRD Prize at RBI 90 Zonal Level Quiz Competitions



- Team Algosappers-6.0 from RGIPT won Graph-E-Thon 2.0 organized by Graphic Era Deemed to be University, Dehradun
- Ms. Lopamudra Sharma and Md Arhaan Ahmad, B.Tech (4<sup>th</sup> Year) Petroleum Engineering secured First Position Globally in Minus CO<sub>2</sub> challenge at EAGE GET 2025 conference
- Mr. Gourab Roy, PhD scholar, under the supervision of Dr. Tathamay Basu visited CNRS-CRISMAT, France, as a Raman-Charpak Fellow from June 16 to December 16 2025
- B.Tech students secured 3<sup>rd</sup> Place at the AAPG Sustainable Development in Energy Competition 2025, supported by Chevron and AAPG, with Pro Ally as a strategic partner. The team won a USD 2000 prize for their idea on Perovskite-based Photocatalytic Conversion of Lignin to Carbon-neutral Chemicals, under the mentorship of Dr. Debasish Panda, Associate Professor, RGIPT.
- Mohammad Yasar, B.Tech Chemical Engineering (2023–27), received the prestigious beVisioneers Fellowship by Mercedes-Benz, Hamburg (Germany) for his idea on Biomass Valorization using Perovskite Photocatalyst, under the mentorship of Dr. Debasish Panda, Associate Professor, RGIPT.
- Tvaran 2025 (KNIT Sultanpur): RGIPT teams won Badminton, Basketball, Table Tennis, Football; runner-up in Powerlifting

## Publication Output and Citations

### Publication Output and Citations

RGIPT recorded 575 research publications across 2024 and 2025:

- 2025 (as of November 14): 228 publications

In 2025, publications received over 6,400 citations, demonstrating steady research activity, growing scholarly impact, and increasing international visibility.

- Dr. Shivanshu Shrivastava, Assistant Professor, Electrical and Electronics Engineering, published his second book, "Artificial Intelligence for Communication Engineering: The Intricacies of Deep Learning Applications in Wireless Systems" - publisher Eliva Press
- Prof. Amit Ranjan published a research article on "Photocatalytic performance of NiZnO/graphene oxide composites, towards visible light induced degradation of methylene blue dye"
- S. Panda, G. Roy, T. Basu, D. Panda, Facet {100} Fosters Resonance Energy Transfer in Ni/Co-doped CsPbBr<sub>3</sub> Nanocrystals, ACS Energy Materials (2024) 7, 10179–10188
- A. Kumar, A. Anand, A. Tripathi, P.N. Singh, D. Panda, K.D.P. Nigam, K.G. Biswas "A Sustainable Route of Mass Transfer for Liquid-Liquid Flow in Millimeter-sized Conduit: Unearthing the Potential of Argo waste-derived Nanomaterials" Waste and Biomass Valorization (2025)
- Prof. Atul Sharma and his PhD scholars published a book chapter, "Integration of Thermal Energy Storage Materials for Off-Sunshine Cooking, Solar Cookers and Sustainable Cooking Solutions for the Post-Energy Crisis Era" in IGI Global - Scientific Publishing

- Dr. Santosh K Mishra, Assistant Professor and his research team published a research paper in Elsevier: Knowledge-Based System Journal (IF 7.6)
- Dr. Tushar Sharma (Associate Professor & Head, ME)- published second book: "Advancements in Chemical Enhanced Oil Recovery"
- Dr. Debasis De, Assistant Professor, RGIPT Bengaluru Campus published a research article in Results in Engineering (Elsevier) (IF 7.9)
- Dr. Rohit Bansal and Prof. Sanjay Kumar Kar, RGIPT Bengaluru Campus published a research article in Energy Nexus (IF 9.5)
- Prof. Atul Sharma & PhD scholars published a book chapter, Nanofluid-Enhanced Phase Change Materials for Different Thermal Energy Storage Applications, Springer
- Ankit Singh, Anirudh Bardhan, Shalu Yadav, Dr. Shivanjali Sharma and Prof. Abhay Kr Choubey published an article, "Application of Phyto-Mediated Microwave-Synthesized ZnO-SnO<sub>2</sub> Nanocomposites in Water-Based Drilling Fluids" in ACS Publications
- Dr. Santosh K. Mishra, Assistant Professor, CSE published a research article on Q1 Journal (IF 7.5)
- Dr. Chinmayee Hazarika published a book chapter in the edited volume "Artificial Intelligence in Food Science, published in October 2025.
- Dr. M. Chakkrapani published a research article titled in the reputed Elsevier journal Electric Power Systems Research in November 2025.
- Faculty of Mechanical Engineering, Sivasagar Campus, published 4 SCI/ SCIE-indexed international journals & one Scopus-indexed book chapter.
- Dr. Piyush Sarkar published his First Book, "Laboratory Characterization of Shale: Measurement and Simulation" in Springer
- M. W. A. Ashraf, Shivanshu Shrivastava, OJ Pandey, Arvind R. Singh, and Arif Raza, "DRL-Driven Optimal User Association and Load Balancing in Hybrid RF/LiFi based IoT Systems" in IEEE Transactions on Network and Service Management, 2025 vol. 22, no. 6, pp. 5503-5516, Dec. 2025 (IF: 5.4)
- Amit Kumar, A. Raza, Shivanshu Shrivastava, Pravallika Katragunta, Michel Barbeau, DP Kothari, and Tanya Verma, "A Novel DRT-Assisted Deep Learning-Based Channel Feedback Mechanism for Massive MIMO," IEEE Transactions on Consumer Electronics, vol. 71, no. 2, pp. 6734-6743, May 2025 (IF: 10.9)
- M. Rizwan, A. Hawbani, Xingfu Wang, Shivanshu Shrivastava, Pelin Angin Ulkuer, Liang Zhao, Saeed Hamood Alsamhi, and Zhu Han "An IOTA-based Energy Bartering Framework for Resilient and Scalable Vehicle-to-Grid Networks" in IEEE Transactions on Green Communications and Networking, vol. 10, pp. 681-696, Dec 2025 (IF: 6.7)
- Amit Kumar, Shivanshu Shrivastava, and Xiao-Zhi Gao, Enhanced CSI Feedback via Deep Learning Based Denoising in FDD Massive MIMO, AEÜ – International Journal of Electronics and Communications, Volume 204, Dec 2025, 156105, ISSN 1434-8411 (IF: 3.2)
- S. Shrivastava, A. Dubey, R. Pandey, A. S. M. Tripathi, and, "Activated carbon derived from natural fiber precursor for next generation electrode materials for supercapacitors," Journal of Materials Science: Materials in Electronics Shivanshu Shrivastava, vol. 36, article no. 1830, Oct. 2025.
- A. Chaurasiya, U. Mishra, A. K. Singh, D. Panda\*, "Ultra-fast humidity sensor for breath monitoring using Flexible and Organic Nanocellulose film derived from Banana Trunk" IEEE Sensors Letters (2025)

- Mohammad Zeeshan, Rahul Raj, Amit Anand, Ankur Pandey, Mohammad Tabrez Quasim, Joaquín Torres-Sospedra, Sudhir Kumar, Kapal Dev, Knowledge Distillation-Based AIoT Framework for Efficient Wireless Gesture Sensing in B5G/6G Networks, IEEE Network Magazine, (IF: 6.8, h5 index: 97)
- Mohammad Zeeshan, Ankur Pandey, Maryam Shojaei Baghini "EdgePlantNet: Lightweight Edge-Aware Cyber-Physical System for Plant Disease Detection Using Enhanced Attention CNNs" Pervasive and Mobile Computing, Elsevier, 2025 (IF: 3.0, h5 index: 39)
- Gaurav Rai, B.K.Jha, Sajal Agarwal, Ankur Pandey, Safeguarding Digital Content via Low-Cost cGAN and Vision-Transformer-based Model, IEEE Multimedia
- B. Chikondra, P. Kumar, A. Arzani and A. R. Beig, "An Open-Phase Fault-Tolerant DTC Scheme for Five-Phase Induction Motor Drives to Mitigate the XY Currents Due to System Asymmetries," in IEEE Transactions on Power Electronics, vol. 41, no. 4, pp. 5225-5236, April 2026.
- A. Tripathi, S. K. Pal, S. Patel, P. Singh, K.D.P. Nigam, K.G. Biswas, D. Panda, "Flow Chemistry of Gallic Acid Condensation in Coiled-Flow Inverter: Producing Highly Fluorescent Xanthene" ChemPlusChem (2025)
- U. Mishra, A. Ansari, A. Chaurasiya, A. K. Singh, D. Panda, "Transparent, Fluorophore-doped Cellulose Nanocrystals Film prepared from Crop-Residue: Superior Radiative Cooler and Organic Photodetector" ACS Sustainable Chemistry & Engineering (2025) 13, 2086–2096, Featured on the Front Cover page
- Shivangi Srivastava, Sajal Agarwal, "First-Principles Investigation of NO<sub>2</sub> Sensing via MoS<sub>2</sub>/PANI Heterojunction Transistor," INDICON 2025, International Institute of Information Technology, Bangalore
- Akash Srivastava, Sajal Agarwal, S. K. Singh, "Theoretical Modelling of Kretschmann SPR sensor to Analyse Refractive Index Shifts from Healthy to Cancer Cell," 2nd IEEE International Conference On Electrical, Electronics, Communication and Computers, IIT ISM Dhanbad
- Sajal Agarwal, Venkateswarlu Gonuguntla, Ankur Pandey, "Synergizing Photonics and AI: Toward Early and Accurate Cancer Diagnosis," SYMRESEARCH 2.0, Symbiosis International (Deemed University), Pune, Sept.18-20, 2025.
- Shivanshu Srivastava, "Transfer Learning Augmented PPO-Based Resource Allotment for Hybrid VLC/RF Systems" in 17<sup>th</sup> IEEE-CICN, NIT Goa, Dec. 20-21, 2025.
- Amit Kumar and Shivanshu Srivastava, "Deep Neural Network Denoising for Enhanced CSI Feedback in FDD Multi-User MIMO Systems", in 17<sup>th</sup> IEEE-CICN, NIT Goa, Dec. 20-21, 2025

#### Projects Awarded

- Design and Development of Adaptive Kalman Filter Based BPSK De modulator for Deep Space Mission from ISRO, PI: Dr. Ankur Pandey
- Edge AI for Precision Agriculture: Rust Disease Detection, Classification, and Management with Localized Datasets in a Climate-Resilient Framework, PI: Dr. Ankur Pandey, by CST-UP
- Design analysis & schematic optimization for rotor warning from HAL Korwa, PI: Dr. Ankur Pandey

## Conferences, Workshops and Training Programs

### 2-Day Workshop on 'Gas Paradigm 2025 - Strategies for a Gas-Based Economy'

The Department of Management Studies hosted the two-day "Gas Paradigm 2025" workshop, uniting academia, industry, and policymakers to discuss strategies for strengthening India's gas-based economy and advancing its energy transition.



### ICPHD 2025

ICPHD 2025 was inaugurated on November 7, 2025, at RGIPT Jais Campus, bringing together global experts to discuss advances in petroleum, hydrogen, and decarbonization for a sustainable energy future.



## Short-Term course on Corrosion in Petroleum Refineries and Petrochemical Industries

A short-term course on “Corrosion in Petroleum Refineries and Petrochemical Industries” was held on August 18, 2025, at RGIPT Bengaluru, covering corrosion mechanisms, monitoring, and prevention in refinery and petrochemical operations.



## Advanced Business Negotiation Skills Workshop

A 2-day workshop for the P&BD Group, IOCL, conducted by Dr. Jaya Srivastava, Head, Management Studies, September 08-09, 2025

## Empowering Futures through Skills!

Sivasagar campus organizes a Skill Development Program on Welding & Fabrication for Heavy Industries from July 14–18, 2025, as part of the Janjatiya Gaurav Varsh celebration!



- 5-day hybrid short-term course on Recent Advances in Electric Vehicle & Renewable Energy Integration, December 8-12, 2025 at the RGIPT Sivasagar Campus
- 4-days expert sessions on "Generative AI" (20-23 November 2025) at RGIPT Bengaluru Campus
- ANRF sponsored 5 days seminar on driving energy transition: the impact of digitalization (10-14 November 2025) at RGIPT Bengaluru Campus

## Internal Hackthon

### ENERGY-O-THON

#### Indo-Russian Bilateral Energy Hackathon

ENERGY-O-THON, an Indo-Russian energy hackathon by Go Bricks and RGIPT CSE, was launched as a two-phase initiative to promote innovation and cross-border collaboration in the energy sector.

#### Internal Hackathon for SIH 2025

RGIPT organized an Internal Hackathon on September 13–14 and 26–27, 2025 to select 50 teams for nomination to Smart India Hackathon 2025 by the Ministry of Education's Innovation Cell.

### Make-A-Thon 2025

The Department of Mechanical Engineering organized a team-based design and prototyping event on October 18–19, 2025, at RGIPT Jais, enabling students to solve real-world engineering challenges through hands-on innovation.



## Outreach Activities

### Education Tour under Samagra Shiksha Abhiyan, Vigyan Jyoti Scheme, & Rashtriya Avishkar Abhiyan

The institute organized educational tours under Samagra Shiksha, Vigyan Jyoti, and Rashtriya Avishkar Abhiyan to promote experiential learning and inclusive outreach.



Prof. Harish Hirani, Director, RGIPT, addressing the audience

### नगर राजभाषा कार्यान्वयन समिति (नराकास) का वर्ष 2025 की द्वितीय अर्द्ध-वार्षिक बैठक

वर्ष 2025 की द्वितीय अर्द्ध-वार्षिक बैठक का आयोजन शुक्रवार, 28 नवंबर, 2025 को राजीव गांधी पेट्रोलियम प्रौद्योगिकी संस्थान (RGIPT), जायस, अमेठी, उत्तर प्रदेश द्वारा किया गया। बैठक के दौरान संबंधित विषयों पर विस्तृत विचार-विमर्श किया गया तथा संस्थागत गतिविधियों, नीतिगत पहलुओं और भावी कार्ययोजनाओं पर सार्थक चर्चा करते हुए आपसी समन्वय और सहयोग को सुदृढ़ करने पर बल दिया गया।



## Our Alumni

### Distinguished Alumnus Visit

Mr. A Shubham, Airport Manager, Maharishi Valmiki International Airport, Ayodhya (Uttar Pradesh), and a distinguished alumnus of the 2014 batch, B. Tech (Petroleum Engineering), visited RGIPT Jais Campus and interacted with faculty members on 30<sup>th</sup> December 2025.



Prof. Harish Hirani, Director, RGIPT presenting a memento to Mr. A Shubham

### Alumni Meet at RGIPT Bengaluru Campus

Alumni Meet at RGIPT Bengaluru Campus was organized on 15 June 2025, bringing together alumni from diverse batches to reconnect with their alma mater and strengthen professional and institutional ties. The event provided a vibrant platform for interaction, experience sharing, and networking, while fostering continued engagement between RGIPT and its alumni community.



## Student Welfare & Support Systems

### Policy Formulated/Implemented

- RGIPT Students' Grievance Policy – 2025
- Students' Misconduct and Disciplinary Policy.
- Social Media Guidelines
- Breach of Social Media Guidelines and Disciplinary Actions
- UGC Regulation on Curbing the Menace of Ragging in Higher Educational Institutions, 2009
- RGIPT Security Protocols - For Students

These policies aimed to promote student safety, well-being, discipline, and active participation.

### Student Governance & Leadership

#### Constitution of Student Council

In August 2025, RGIPT completed the selection of student council representatives based on academics, extracurricular involvement, leadership, and aptitude. Applications were reviewed by faculty and approved by the Dean of Student Affairs, with selected students set to support welfare and institute activities.

## Campus Development and Infrastructure

### Jais Campus

#### New Laboratories

- Chemical and Bio-engineering: 1 new lab
- Petroleum and Geo-engineering: 5 new labs
- Energy and Human Sciences: 2 new labs
- Electrical and Electronics Engineering: 4 new labs
- Mechanical Engineering: 6 new labs
- Mathematical Sciences: 1 new lab

#### New Classrooms

- Mechanical Engineering: 5 classrooms
- Electrical and Electronics Engineering: 1 classroom
- Mathematical Sciences: 1 classroom

#### Space Reorganization and Aesthetics

- Aluminum partition works in CSE and research labs
- SS Railing work in Vivekananda Sabhaghar and RG Plaza

#### Construction Projects Completed

- Workshop Building (operational)
- Girls Hostel (operational)
- AB4 Building 4<sup>th</sup> Floor Renovation (operational)
- Two Boys Hostel towers (operational, third in progress)
- Directors Bungalow (near completion)

#### Construction in Progress

- AB5 Building structural work completed, interior finishing underway

#### Hostel Management Improvements

- Individual blocks renamed after eminent Indian personalities for effective governance
- Dedicated wardens assigned to each hostel
- Gym reorganization with new equipment and extended area
- Three new warden offices being created
- Facial recognition systems at student mess for streamlined entry

## Campus Development and Infrastructure

### Bengaluru Campus

Major Milestone: Relocated to permanent campus at Kambalipura, Hosakote, Bengaluru since October 1, 2024.

#### Academic Facilities

- 331 final-year students relocated for study and placement activities
- Modern classrooms with advanced audio-visual systems
- State-of-the-art laboratories: Electronics Lab, Computer Science/IT Labs, Research labs for Ph.D. scholars
- Renewable Energy Laboratory, IT Laboratory, EV Power Train facilities

#### Infrastructure

- Wi-Fi-enabled academic and residential spaces; Separate hostels with gymnasium facilities; Hygienic cafeteria; Enhanced sports facilities; and Green campus environment

#### New Departments

- Department of Sustainability Management
- Department of Robotics and Automation

### Sivasagar Campus

#### Academic Infrastructure

- Classrooms for 1,000 students and 300+ in laboratories
- Well-equipped mechanical workshop for practical learning and skill development
- Hostel for 400 students with dining hall
- Sports facilities including badminton court and cricket ground

#### Construction Projects (FY 2024-25) - Advanced Completion Stage:

- Girls Hostel; Dining Hall; Boys Hostels; Academic Building; and Faculty quarters (expected completion April 2026)

**Campus Footprint:** 100 acres total, approximately 35 acres currently developed for academic and residential use.

#### New Departments

- Department of Engineering Sciences
- Department of Petroleum Engineering
- Department of Mechanical Engineering
- Department of Chemical Engineering
- Department of Electrical & Electronics Engineering

### Newly Joined Faculty and Officers

Name	Designation	Department/ Section
Dr. Narendra Kohli	Visiting Professor	Computer Science and Engineering
Dr. Sushanta Kumar Sahoo	Visiting Assistant Professor	Mechanical Engineering
Dr. Hreetabh Kishore	Visiting Assistant Professor	Mechanical Engineering
Dr. Vasu Chaudhary	Visiting Assistant Professor	Chemical & Biochemical Engineering
Dr. Sanjoy Kumar Dam	Visiting Faculty	Corporate Relations and Teaching
Dr. Avneesh Kumar	Post-Doctoral Fellow	Mechanical Engineering
Ms. Ritu Nigam	Post-Doctoral Fellow	Mathematical Science
Dr. Riya Wadhwa	Visiting Assistant Professor	Energy and Human Sciences
Mr. Padam Singh Rawat	Purchase Officer	Administration

## Activities @ RGIPT

### B Tech Orientation Program 2025

The B.Tech Orientation Program 2025, held on August 09–10, welcomed new students and introduced them to academics, campus facilities, and student support systems at RGIPT.



### 9<sup>th</sup> Convocation Ceremony

RGIPT's 9<sup>th</sup> Convocation, held on November 23, 2025, at Jais Campus, conferred degrees on 321 graduates. The ceremony was graced by Chief Guest Dr. Shekhar C. Mande and Guest of Honour Ms. Sapana Srikanth.



## HR Dinner Meet @ RGIPT Bengaluru Campus

An HR Dinner Meet at RGIPT Bengaluru strengthened industry-academia synergy through collaboration, knowledge exchange, and strategic partnerships.



## 3<sup>rd</sup> URJA SHAKTI Award Ceremony

The 3<sup>rd</sup> URJA SHAKTI Awards, held on November 22, 2025, honored women's contributions to the energy sector, with the Lifetime Achievement Award presented to Ms. Rashmi Govil, Director (HR), IOCL.



## URJA SANGAM

### The Annual Fest Week of RGIPT

URJA SANGAM 2025 – The Ultimate Celebration of Energy & Excellence is set to light up the RGIPT Jais Campus from November 10–16, 2025. This week-long festival will bring together the best of sports, innovation, social harmony, and cultural activities, creating a vibrant platform for students, faculty, and participants to celebrate talent, teamwork, and creativity in a spirited and engaging environment.

### Energia

Sports Fest under URJA SANGAM 2025 Event, Organizing by the Sports Council of RGIPT, November 10-11, 2025



### Urjotsav

S&T under URJA SANGAM 2025 Event, Organized by the Science & Technical Council, November 12-13, 2025



### A magical night of poetry at "Souhardya"

Social Fest under URJA SANGAM 2025 Event, Organized by the Student Social Council of RGIPT, November 14, 2025



### Kaltarang 2025

Cultural Fest under URJA SANGAM 2025 Event, Organized by the Student Cultural Council of RGIPT, November 14-16, 2025



## Other Collaborative Events

### International Yoga Day Celebration

Eleventh Edition - June 21, 2025



### Shyamotsav 2025 Celebration

Organized by the Student Cultural Council - August 16, 2025



### Swachhata Pakhwada 2025 - 01<sup>st</sup> to 15<sup>th</sup> July 2025



### Special Campaign 5.0 - 2025 - October 03-04, 2025



### Anti-Ragging Day & Week Awareness Campaign



### Institute Joins the Nationwide Celebration of National Sports Day 2025



### Swachhata Pakhwada Campaign at RGIPT Sivasagar Campus



### 76<sup>th</sup> Constitution Day Celebration at RGIPT Bengaluru



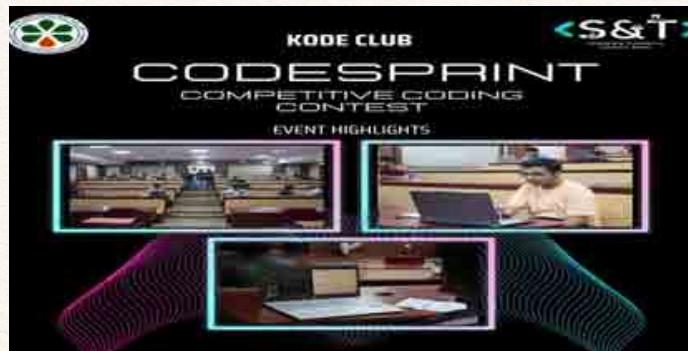
## Independence Day 2025

The 79th Independence Day was celebrated with patriotic zeal, featuring literary, dance, music, and drama events organized by the Student Cultural Council, showcasing talent and promoting unity and nationalism.



## Coding Contest 23<sup>rd</sup> August 2025

The Code Club launched the academic year with the first Codesprint Coding Contest, fostering problem-solving skills and setting the tone for technical excellence and innovation.



## IOT Coding & Product Development Workshop

The Tinkering Club began the year with an IoT Coding and Product Development Workshop, promoting hands-on innovation, prototyping, and problem-solving skills.



## Teacher's Day Celebration

The Cultural Council celebrated Teacher's Day with performances and gratitude, concluding with the Director's address and a vote of thanks.



## Pottery Workshop

The Cultural Council organized a pottery workshop, where students learned clay modeling and wheel throwing, celebrating Indian craftsmanship and creativity.



## Poetry Competition

A Poetry Writing Competition on "Save Water" was held online on 1 September 2025, promoting creativity and awareness on water conservation.

## Poster Making Competition

On 6 September 2025, the Social Services Council held a poster competition on water-saving technologies, promoting sustainability and conservation.

## Constitution of the Apex Disciplinary Committee

The Institute constituted the Apex Disciplinary Committee (ADC) to ensure fair and transparent handling of campus disciplinary matters.

## Student Discipline Committee (SDC)

The Institute established the SDC to impartially and transparently address student disciplinary matters and maintain campus discipline.

## Participation in Udgosh'25

RGIPT participated in Udgosh'25 at IIT Kanpur (3–5 October 2025) with 33 students, winning Gold (Himanshu Yadav, 66 kg) and Bronze (Shantanu Mondal, 71 kg) in Powerlifting.

## Participation in Spardha'25 (IIT BHU, Varanasi)

RGIPT participated in Spardha'25 at IIT (BHU) Varanasi (10–12 October 2025), with both Boys' and Girls' Table Tennis teams reaching the Quarterfinals.

## Participation in Techfest, IIT Bombay

RGIPT students participated in Techfest, IIT Bombay (21–24 December 2025), gaining exposure to advanced technologies, competitions, and workshops at a national platform.

## Google Summer of Code Session by S&T Council

The S&T Council held a GSoC session on 13 October 2025, where GSoC 2025 selectee Harsh Mishra shared insights on open-source contributions and application strategies.

## ROBO QUEST Workshop in collaboration with IEEE Student Branchat RGIPT

RGIPT hosted the four-day RoboQuest 2025 with 250+ participants, featuring robotics challenges that promoted hands-on learning and innovation, with top teams earning advanced training and TechFest IIT Bombay 2025 opportunities.

## Coding Competition conducted by Code Club, S&T Council – 27 October, 2025

The Code Club organized Code Sprint, a two-hour coding contest with 100+ participants showcasing their problem-solving skills.

## Water Rocket Pre-Event for Urjotsav 2025

The Maker's Club of the Science & Technology Council organized a Water Rocket competition on 5th November 2025 as a pre-event for Urjotsav 2025, witnessing enthusiastic participation and showcasing students' design thinking and aerodynamic skills.

## Participation in FFINITY'25 (AIIMS Raebareli)

RGIPT participated in AFFINITY'25, the annual sports festival of AIIMS Raebareli, held from 18th–22nd December 2025.

The institute was represented in Table Tennis (Boys & Girls) events.

### Key Achievements:

- Women's Singles: 🏆 Winner
- Mixed Doubles: 🥈 Second Runner-Up
- Men's Singles: Quarterfinalist

The contingent displayed strong teamwork, sportsmanship, and competitive spirit, marking one of RGIPT's most successful campaigns at AFFINITY'25.

## Industry Visit to GAIL Petrochemical Plant, Pata

B.Tech (3rd year) Chemical Engineering students explored the GAIL Petrochemical Plant, Pata, and gained valuable insights into petrochemical operations during a two-day visit on November 18–19, 2025. Special thanks to GAIL, and to Mr. Ajay Tripathi (Executive Director), Mr. J. R. Singh (DGM), and Mr. Diwanshu Agarwal (GM) for their guidance and warm hospitality.



## Celebration of Ganesh Chaturthi at RGIPT Jais Campus, organized by Social Service Council



## World Environment Day Celebration - June 05, 2025



## Mini Marathon



## TECH SUMMIT 2025

TECH SUMMIT 2025, held at the Bengaluru International Exhibition Center, saw active participation from RGIPT, highlighting the Institute's contributions in research, innovation, and technology development. The summit provided a platform for RGIPT to engage with industry leaders, experts, and innovators, showcase its initiatives, and explore collaborative opportunities to drive technology-driven growth and academic-industry synergy.



## RGIPT participated in 33<sup>rd</sup> CII Excellence Summit-2025, Taj Airport Bengaluru

RGIPT made a significant impact at the 33rd CII Excellence Summit 2025, held on November 18–19, 2025, at Taj Airport, Bengaluru, by actively participating in deliberations on excellence, innovation, and institutional best practices. The summit provided a valuable platform for engagement with industry leaders and experts, highlighting RGIPT's commitment to quality, continuous improvement, and alignment with national and global benchmarks of excellence.



## Newly Introduced Programmes

### Bachelor of Business Administration RGIPT Bengaluru Campus

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