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IIT DHARWAD

INDIAN INSTITUTE OF  
TECHNOLOGY dhArwAD

# NEWSLETTER

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VOLUME 2 | ISSUE 4 | OCTOBER 2024

IIT dhArwAD Hosts Fifth Annual Convocation,  
Emphasizing on Reorientation and Innovation for Future Success





IIT dhArwAD celebrated its fifth annual convocation on Monday (22.7.2024), with a keynote address delivered by the Chief Guest Prof. Shrinivas Ramachandra Kulkarni, GE Hale Professor of Astronomy and Planetary Science at CalTech, Pasadena, California, USA. Speaking to the fresh graduates, Prof. Kulkarni highlighted the importance of adapting to the rapidly changing world by reorienting and reinventing oneself. "Industries are evolving, and the types of workers they require are shifting. To stay relevant and to succeed, it is crucial to continuously reorient and reinvent yourselves," he advised the graduates.

In addition to professional success, Prof. Kulkarni underscored the significance of staying fit and addressing broader global challenges like climate change. He noted that South Asia is predicted to face a substantial rise in temperature over the next three decades. "The only way to eradicate poverty is by fostering rapid economic growth while addressing simultaneously the impacts of climate change. I hope that you, the graduates, will work diligently, think creatively, and diversify the Indian economy to tackle both poverty and climate change," he urged.

The convocation also featured remarks from Prof. Venkappayya R. dEsAi, Director of IIT dhArwAD, who shared the updates on the Institute's progress. He

praised the students for their dedication and excellence in academics as well as groundbreaking research initiatives. "Our aim is to equip students with a broad skill set that enables them to pursue their entrepreneurial dreams with confidence and determination," Prof. dEsAi said.

He also announced an exciting academic milestone for IIT dhArwAD: for the first time in the institute's eight-year history, the Department of Electrical, Electronics, and Communication Engineering (EECE) will offer two new four-year BTech programs in Electrical and Electronics Engineering, as well as Electronics and Communication Engineering.

In total, 195 graduates received their degrees, with special awards and accolades given to the top performers. The event marked a momentous occasion for the IIT dhArwAD community as it continues to grow and make strides in both education and research.



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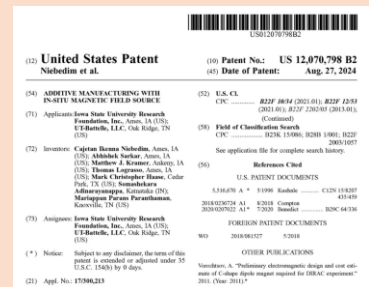
## Congratulations to our medal winners!!



Shri Shashank P., Computer Science and Engineering (CSE) - President of India Gold Medal, Shri Aditya Kalyani [EECE] - Director's Gold Medal, Shri Arvind Kumar M. [CSE] - Institute Silver Medal [CSE], Shri P. Nitin Srinivas [EECE] - Institute Silver Medal [EECE], Shri Lokesh B. Jogi, Mechanical, Materials and Aerospace Engineering (MMAE) - Institute Silver Medal [ME] and {Ms. Kavali Sri Vyshnavi Devi [CSE] - Om Prakash Goyal and Sevati Devi Goyal Award - Not in the picture}

## Inventor's Triumph: Patent Grant Announcement

Prof. Somashekara M A [MMAE], IIT dhArwAD, karnATaKA, is one of the innovators of a patent recently granted by the United States Patent Office. This invention provides an electromagnet alignment system for Additive Manufacturing (AM) or 3D printing technology. It enhances in-situ alignment of magnetic particulate material during deposition, allowing for precise control, either unidirectional or multidirectional, as the material forms a 3D structure.



## Premier Research: High-Value Publications

Dr. Sushanta K. Sethi [MMAE], Prof. Yuvraj Singh Negi and Prof. Kaushik Parida from IIT Roorkee have published a collaborative work in the journal Nano Energy [Impact Factor: 16.8, Q1 Journal]. This work explores a universal framework for recycling plastic waste into high-performance energy-harvesting devices, achieving remarkable stability and efficiency over multiple recycling cycles. DOI: <https://doi.org/10.1016/j.nanoen.2024.110168>



## Director's Major Engagements

Addressed the Teachers' Day event as Chief Guest at KLE Academy of Higher Education and Research (KAHER), BeLagAvi on 5.9.2024, commemorating the Prof S. Radhakrishnan Jayanti (i.e. ShiKShak divas) and the 'Saptarshi' founders of KLE Society. In the National conference on 'Ved Vijnana Vimarsh (VVV-2024)' at IIT (BHU) VaraNasi on 22.9.2024 and delivered a plenary talk on "Plants (Vriksha), stars (nakshatra) for ensuring climate resilience through voluntary afforestation". Additionally, he delivered a lecture on "Health and Wellness Through Indian Knowledge System" at the launch of "Voice of Kalaburagi Academicians" organised by the akhil Bharatiya RAShtriya ShaikShik MahAsangha (ABRSM) in association with SharaNbasava University in Kalaburagi on 28.9.2024.



Prof Ramjee Repaka [Dean, Student Welfare and MMAE Professor] graced the Engineers' Day event organized by BKG Group of Institutions, SaNDUr, BaLLAri Dt. as the Chief Guest. He addressed the students and faculty, for the Engineers' Day on 15.9.2024, the Jayanti of BhArata Ratna Sir MOkShagundam ViSveShvaraya. Additionally, Prof. Ramjee Repaka addressed the Freshers' Day event of Jain College of Engineering, BeLagAvi, as Chief Guest. In his address, he dwelt on the current opportunities in Mechanical Engineering.

He also received the Best Paper Award for the paper titled for "Numerical Investigation: Thermal Management of Lithium-Ion Batteries in Electric Vehicles Operating at High Discharge Rates" at the SAENIS TTTMS Conference, jointly organized by SAE International, TTTMS and SAE India at GurugrAm, Dehli NCR during 19 - 21 September 2024.



IIT dhArwAD's Prof. S. M. Shivaprasad [Visiting Prof, Physics and Dean Outreach] delivered the Convocation Address at the Twelfth Annual Convocation of Vijayanagara Shri kriShNadEvarAya University, BaLLAri, on 6.9.2024. The Convocation Ceremony was presided over by the Hon'ble Governor of karnATaKA, Shri Thawarchand Gehlot and graced by Dr. M.C. Sudhakar, Hon'ble Minister for Higher Education, karnATaKA Govt. Prof. Shivaprasad shared his valuable insights on the critical role of interdisciplinary research in driving societal progress through Science & Technology.





Prof. Amarnath Hegde Civil & Infrastructure Engineering (CIE) has been placed among the Top 2% Scientists in the World for the single year category (2023), as per the latest data released by Stanford University in association with Elsevier publishers. This marks his consecutive recognition for four years (2021-2024). This recognition is based on citation metrics, including the h-index and a composite c-score, which emphasize on citation impact over publication volume. Additionally, in September 2024, he was honored with the Prof. Satish Dhawan Young Engineers State Award in Engineering Sciences by the KarnATAkA State Council for Science & Technology (KSCST), In BengalURu, karnATAkA.

Prof. Sushanta Sethi [MMAE] has also been placed among the Top 2% Scientists in the World for the single-year category (2023), as per the latest data released by Stanford University in association with Elsevier publishers. This recognition is based on citation metrics, including the h-index and a composite c-score, which emphasize on citation impact over publication volume.



Prof. Ramesh Nayaka [CIE] visited the University of Manchester, UK, as a winner of the Global Sustainathon, jointly organized by the Centre for Masood Entrepreneurship, University of Manchester, UK and Deshpande Startups, HubbaLLi, from 23 - 30 July 2024. Additionally, served as a Sessions Chair for the "Alternative Aggregates" session and presented a paper titled "Experimental Study on PCM-Infused Wall Panel and Its Evaluation for Energy Efficiency and Carbon Footprint Using a BIM Model" at the International Conference on CONSEC, held at the Research Park, IIT Madras, during 25 - 27 September 2024.

Dr. Satish Naik Banavath [EECE] and Dr Giovanni De Carne from Karlsruhe Institute of Technology (KIT), Germany, have been awarded by the Indo-German Science & Technology Centre (IGSTC) with a Paired Early Career Fellowship in Applied Research (PECFAR) Call-2024. Their pair is expected to undertake a project on "Safety Solutions for Low-Voltage DC Grids".



## Funding Secured / Granted

Research Projects					
Sl. No.	Principal Investigator [Dept]	Co Principal investigator, [Dept] If any,	Title of the Project	Sponsoring Agency	Value of Project [in lakh ₹]
1	Dr. Sudhanshu Shukla [BSBE]	Dr. Surya Pratap Singh [BSBE]	Decoding the role of oncofetal lncRNA LINC01456 in cancer development a and it clinical relevance	DBT	42.35
2	Dr. Rahul J. Pandya [EECE]	-	cGAN Enabled Resource allocation Strategies for Six G Semantic Communication	TTDF-TCoE	45.37
3	Dr. Rajshekhar V Bhat	-	AI-Native Radio for 6G Semantic Communications: From Theory to Chips	TTDF-TCoE	247.50
4	Dr. Koteswararao Kondepudi	-	SMART-RIC6G: Smart Drift-Handling Enabler for RAN Intelligent Controllers in 6G Networks	TTDF-TCoE	138.03
Consultancy Projects					
Sl. No.	Principal Investigator [Dept]	Co Principal investigator [Dept]	Title of the Project	Industry/Company/Institute	Cost of the Project [in lakh ₹]
1	Prof. V. R. dEsAi [Civil]	Dr. Sanatkumar p. Rajamane [PoP Civil], Dr. Amarnath Hegde [Civil] and Dr. Ramesh Nayaka [Civil]	Proof checking of structural design and drawing for proposed district office complex, Belagavi	Jalavahini Management Services Pvt. Ltd., Dharwad	17.09
2	Dr. Amar K. Gaonkar [MMAE]	-	Method development for FEM vibration assessment	Man Energy Solutions India Private Limited	26.13
3	Prof. Ramajee Repaka [MMAE]	-	Vetting of Design and Drawing of AC Plant work for site at common hospital Chandimandir, Chandigarh	A.S. Construction Co.	2.95
4	Dr. Ramesh Nayaka [Civil]	-	Preliminary visit to site to check stability of structure to make sure feasibility of proof checking of extended proposed construction of Academic Buildings, Veterinary College, Gadag	P Ravindranath Construction Pvt. Ltd.	0.64
5	Dr. Sai Ram Boggavarapu [EECE]	-	Modeling and analysis of bearing currents and partial discharges for assessing the reliability of traction motors	L&T Technology Services Ltd.	4.50
6	Dr. Ramesh Nayaka [Civil]	Dr. Amarnath Hegde [Civil]	Proof Check of extended proposed construction of Academic Buildings, at veterinary College, Gadag	P Ravindranath Construction Pvt. Ltd.	6.00
7	Dr. Omkar B. Bembalge [MMAE]	Dr. Hiranya Deka [MMAE]	Aerodynamic shape optimization of ceiling fan blades for energy efficiency	Crompton Greaves Consumer Electricals Limited, Experience and Innovation Centre	8.23
8	Prof. Ramajee Repaka [MMAE]	-	Vetting of HVAC Design of Storage ACCN at AF station Leh	Shiva Sharan Gupta & Sons	1.80
9	Dr. Amarnath Hegde [Civil]	Dr. Ramesh Nayaka [Civil]	Stability analysis of Panam Dam in Gujarat	Panam Project Division, Gujarat	29.50
10	Dr. Nikhil Hegde [MMAE]	-	Development of Domain-Specific Language (DSL) for Radio Access Network (RAN) Software	Saankhya Labs Private Limited	11.53

Note: The above data pertains to the last quarter i.e, from July to September 2024





A Workshop on Design and Analysis of Magnetics for Electric Power Applications was held on 24.08.2024 at IIT dhArwAD focusing on magnetic components in electric systems, featuring the latest advancements in Magnetics. This workshop was supported by Technology Innovation Hub on Autonomous Navigation (TiHAN), IIT HyderAbAd, the Power and Energy Group [EECE Department, IIT dhArwAD], and the IEEE Student Branch [IIT dhArwAD].

On Teachers' Day (5.9.2024), we had 4 distinguished speakers who shared their experiences and insights. Prof. K.V. Venkatesh from IIT Bombay discussed how research can be translated into market applications. Prof. Ganapati from IISc shared emphasized the importance of staying young at heart, encouraging everyone to spread knowledge. Prof. Pushpavanam from IIT Madras shared his experiences as a student, motivation provided by his teachers and significance of interactions beyond classroom. Prof. Venkappayya R. dEsAi, Director of IIT dhArwAD, shared his memories with his teacher mentors, from his high school to Ph.D. days.



On 24.8.2024 IIT dhArwAD had its 8th Foundation Day Event with a lecture by Prof. T.G. Sitharam, Chairman, AICTE, on the topic "Unlocking the Potential of Technical Education to Shape Tomorrow." Prof. Sitharam's insights on innovation and skill development were inspiring especially for future generations. The event also had the presentation of the 8th Foundation Day Awards, honoring excellent students of IIT dhArwAD.

The National Sports Day, commemorating Major Dhyan Chand Jaynati, was celebrated on 28.8.2024 with a range of activities promoting sports and fitness including 6 km run for students, a 4 km run for staff / faculty. Our women's Badminton Team won against KarnATakA Univ and both of our Basketball, TT Teams secured the 1st place.



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"Swachhata Hi SEvA" (SHS) fortnight was organized during 17th September to 2nd October 2024, as a national campaign initiated by the Govt of India, Ministry of Housing and Urban Affairs. IIT dhArwAD organized a variety of activities under this campaign, including a cleanliness drive at the lake other initiatives like pledges and public awareness programs.

Prof. Jean-Christophe Nallatamby and Dr. Raphael Sommet from eXperimental Laboratory for Innovative Materials (XLIM) Laboratory, Joint Research Unit (UMR) 7252, National Center for Scientific Research (CNRS), University of Limoges, France visited IIT dhArwAD during 20 - 22 August 2024. They gave seminar talks on "Comprehensive Trap Characterization and TCAD Physics-based Simulation Studies for High Electron Mobility Transistors (HEMTs)," and "Thermal characterization and simulation studies for AlGaIn/GaN HEMTs" and interacted with our research scholars.



IIT dhArwAD's Biosciences and Bioengineering (BSBE) Department conducted an Indo-Finnish joint course on "Circular Economy and Sustainability" during 19-23 August 2024. The course, having master's and PhD students in it, covered sustainability theories, circular economy, and interdisciplinary research, with case studies from India and Finland. The event which was held in collaboration with IIT Delhi, IIT Guwahati, and the University of Eastern Finland aimed at equipping attendees with future environmental technologies through featured lectures by experts from both the nations.



On the eve of Hindi Diwas, i.e., on 13th September 2024, in collaboration with the Rajbhasha VibhAg, IIT dhArwAD, a Hindi writing competition titled "Srijan." was organized.

The Formal Methods (FM) Update Meeting, organized annually by the FM community in India, was held at IIT dhArwAD during 11-12 July 2024. FM researchers from industry and academia came together to present and discuss developments in the areas of verification, program design and theoretical computer science.



## E-Summit '24: Nurturing Future Entrepreneurs at IIT dhArwAD



IIT dhArwAD's Institute Innovation Council (IIC) successfully hosted E-Summit '24 on 24 - 25 August 2024. This Fest featured a range of activities including talk shows, workshops and competitions on entrepreneurial skills in students. Participants from IIIT dhArwAD, KLE Tech Univ HubbaLLi etc. The event was inaugurated by Dr. Jitendra Kumar, MD of Biotechnology Industry Research Assistance Council (BIRAC). Key events included Ideate'24, a pitching competition with 600 participants, and Genesis, a brand-building event in

collaboration with dhaRti BioNEST Incubation Centre (BIC). Other highlights included Find-the-Bug 2.0, a biotech case study competition, and Strategix '24, a cricket-themed strategy game. Workshops on Design and Creativity led by Prof. Badri Narayan [IIT Madras] and Shri Saksham Chhimwal [IIT dhArwAD] drew over 100 participants. A talk show on "Finance for All 2.0", by Chartered Accountant and Company Secretary Ms. Akshata Amar, offered personal finance advice, while mountaineer Nandita Nagangoudar inspired with her speech. The summit concluded with a cultural night, featuring Sapphire Dance Club, IIIT dhArwAD students and Moh Musical Band.



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## Welcome to IIT dhArwAD



From Left to Right: Prof. Venkappayya R dEsAi, Director, Shri Nagaraj Naikar, EA, Public Relations Office, Shri Gurumurthy N, Junior Superintendent, Infrastructure, Planning and Support Section (IPS) and Prof. S M Shivaprasad, Dean Outreach.



# Student achievements



Shri Jack Benjamin, an EECE master's student, had his conference paper titled "Enhanced Fault Current Utilization by Grid-forming Inverter using Non-linear Transient Virtual Resistance during Symmetrical Faults" accepted for in the 23rd National Power System Conference (NPSC) 2024 scheduled at IIT Indore during 12 - 14 Dec 2024.

Ms. Vaidehi Vijay Painter, a Ph.D. student from EECE, visited the XLIM Laboratory during May - July 2024 as part of the Joint CNRS International Research Project (IRP) between XLIM, France, and IIT dhArwAD. During her visit, Vaidehi acquired expertise in advanced simulation techniques and device characterization.

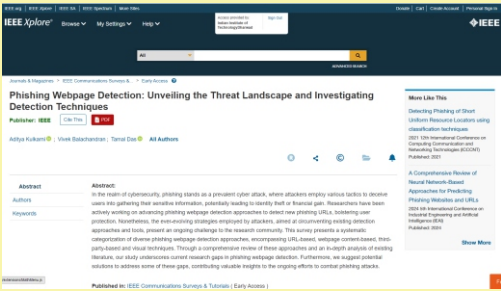


Shri Md Inzamamul Haque, a 2nd-year UG student, embarked on an incredible research internship at Siemens, BengalURu during 20 - 26 July 2024. Here, Md Inzamamul delved into Lithium-ion battery technology by simulating time-varying, 1D models of drying process.

Shri Aditya Kulkarni a CSE Ph.D. student and Prof. Tamal Das, CSE, Asst Prof, IIT dhArwAD published an article in the IEEE Communications Surveys and Tutorials (<https://ieeexplore.ieee.org/document/10633701>).



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Shri Shubh Agarwal from the CSE Department was awarded the DAAD WISE 2024 Internship at Technische Universität Dresden, Germany, during 3 May to 27 July 2024. He worked on integrating quantum simulations into Open Air Interface.

Total Donations received till June 2024 are ₹ 24,57,501

## List of Donors to IIT dhArwAD

S NO.	DATE	DONOR'S NAME	AMOUNT [₹]	S NO.	DATE	DONOR'S NAME	AMOUNT [₹]
1	17-Sep-24	Prof. Ramjee Repaka	10,000	8	08-Jul-24	Prof. Tejas P Gotkhindi	10,000
2	21-Sep-24	Shri Ravindra V. Hulyalkar	4,50,000	9	08-Jul-24	Prof. Amar Keshav Gaonkar	10,000
3	21-Sep-24	Smt. Radhika R. Hulyalkar	5,00,000	10	09-Jul-24	Prof. Somashekara M A	10,000
4	21-Sep-24	Shri Hrishikesh R. Hulyalkar	10,00,000	11	15-Jul-24	Prof. Anantha Padmanabha	20,000
5	21-Sep-24	Smt. Akshata H. Hulyalkar	50,000	12	21-Jul-24	Shri Vasudevarao Pavuluri	20,000
6	17-May-24	Prof. Satyapriya Gupta	10,000	13	30-Jul-24	Prof. Shivaprasad S M	10,000
7	21-Jun-24	Prof. Gopal S Parashari	10,000				



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In August 2024, the Career Development Cell (CDC) at IIT dhArwAD participated in JETRO's University Connect 2024 event in Bengaluru, represented by Dr. Konjengbam Anand and Shri Sameer Joshi. This networking event aimed to foster collaboration between Indian academic institutions and Japanese companies. Some notable Japanese companies include AWL, AGC Group, CAL Co. Ltd., TOMATO Co. Ltd, and MANAC Chemical Partners Co. Ltd. The event was successful in strengthening ties between IIT dhArwAD and Japanese firms, and both parties look forward to deepening their collaboration in the future.

The IIT dhArwAD HR (Human Resources) Conclave and the opening of Alumni Association Bengaluru Chapter was organized on 31st August 2024, organized by the Career Development Cell (CDC) in collaboration with the IIT dhArwAD Alumni Association, was a dynamic event featuring insightful talks, networking opportunities, and discussions on the institute's growth. One of the key highlights was the engaging addresses delivered by three distinguished speakers: Prof. S. Mukherji, Dean of Alumni Relations at IIM Bengaluru; Mr. Nathan S V, CEO of Visara HR Consulting, Bengaluru; and Mr. Uday Naik, COO of Man Energy, Bengaluru.



In early July 2024, IIT dhArwAD recently got into a MoU with KLE Academy of Higher Education and Research (KAHER), Belagavi for undertaking joint R&D activities, focused on innovation and development of advanced MedTech solutions. An IIT Dharwad faculty team having Prof Pratyasa Bhui [Dean, R&D], Prof Ramjee Repaka [Dean, SW] along with 6 other faculty colleagues from BSBE, EECE & MMAE participated from IIT dhArwAD [viz., Profs. S P Singh, S Mehto, B K Choubey, Naveen MB, Naveen K & S S Raut].

## Institute Staff pursuing Ph.D in IIT dhArwAD selected under Institute Staff Category.

1. Mr. Vinayak B Patil, JS [C&S] - pursuing Ph.D in HSS Department.
2. Mr. Harsha N, JS [Director's Secretariat] - pursuing Ph.D in MMAE Department.
3. Mr. Bhimsen Karadin, JTS [MMAE] - pursuing Ph.D in MMAE Department.

**Credits : Public Relations Team, IIT dhArwAD**

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