

INDIAN INSTITUTE  
OF TECHNOLOGY DHARWAD

# NEWSLETTER

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IIT DHARWAD

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JANUARY 2026



## IIT DHARWAD Unveils dhaRti and BioNEST (BIC) to Accelerate Deep-Tech & Bio-Innovation



# Inauguration of DHARWAD Research and Technology Incubator (dhaRti) and BioNEST Incubation Centre (BIC) – IIT DHARWAD

IIT DHARWAD inaugurated the DHARWAD Research and Technology Incubator (dhaRti) and the BioNEST Incubation Centre (BIC) on Tuesday, 14th October 2025, on its campus, marking a significant step in strengthening the regional innovation and startup ecosystem.

The incubation ecosystem has been enabled through combined financial support of ₹5.29 crore under the MPLADS contributed by Smt. Nirmala Sitharaman, Honorable Union Minister of Finance & Corporate Affairs and Rajya Sabha Member from Karnataka, and ₹5 crore from Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India. The facilities were inaugurated by Hon'ble Smt. Nirmala Sitharaman, Minister of Finance & Corporate Affairs, Government of India (Gol).



Addressing the gathering, the Honorable Minister highlighted that India is at an inflection point, with sustained investments in digital infrastructure, research and development, and innovation over the last several years creating a strong enabling environment for startups and R&D. She noted that this ecosystem is playing a crucial role in retaining talent within the country and channelising it towards national progress. She also encouraged young innovators to prioritise creativity and innovation, with profitability following in due course.

The programme was attended by several distinguished leaders and dignitaries, including Dr. Jitendra Kumar, Managing Director, BIRAC, along with stakeholders from government, academia, as well as faculty members, researchers, and students.

## Director's Major Engagements



PROF. VenkappayyA R. dEsAi, Director, IIT DHARWAD, participated in several national and international academic, policy, and outreach engagements during the period 1st October 2025 to 31st December 2025. He served as Key Speaker at ShikshA SamvAd UttarAkhAnD, hosted by the Department of Higher Education, Government of UttarAkhAnD, on 8th October 2025. He participated as Eminent Speaker at the 34th World Education Summit at Chennai, TamiLnADu, on 1st November 2025, and as Distinguished Speaker at the BengaLuru Skill Summit 2025, organized by the Department of Skill Development, Entrepreneurship & Livelihood (SDEL), Government of KarnATakA, on 5th November 2025.

He was an Eminent Speaker at the ICAM-SEEi Conference at IITRAM(Institute of Infrastructure, Technology, Research and Management), ahmedAbAd, on 26th November 2025, and also at the Bharat Higher Education Summit organized by SGT(Shree Guru Gobind Singh Tricentenary University) University, GurugrAm, on 23rd December 2025. Internationally, he participated as Eminent Speaker at the Australia-India Water Centre (AIWC@5) Partner Forum and International Symposium held at Sydney, Australia, during 17-19 November 2025.

He served as Chief Guest at the 62nd Institute Day of NITTTR(National Institute of Technical Teachers Training and Research) Chennai on 14th December 2025, and he also received the Veterans India Nation Pride 2025 Award on behalf of IIT DHARWAD on 16th December 2025. He also participated as Session Chair and Theme Speaker at the BhAratiya VigyAn SammelAn (BVS 2025) at National Sanskrit University, tirupati, on 27th December 2025, and as Guest of Honour at the WETWAR 2025 Conference at NIT PATnA on 29th December 2025. Alongside these engagements, PROF. dEsAi actively participated in various institute-level events at IIT DHARWAD during the same period.

# Awards and Engagements



IIT DHARWAD has been conferred the Pride of Nation Award 2025 under the Premier National Institution Honour category for excellence in recognition of impactful initiatives that promote patriotism, leadership, community service, youth empowerment & value based education, enhancing the national unity and patriotism.

The award was presented by Veterans India on the occasion of Vijay Diwas, 16 December 2025, at the NDMC Convention Centre, New Delhi, in collaboration with AICTE, NBA, AIU, EPSI, and over 1000 higher education institutions across India.

Contents lists available at ScienceDirect

International Journal of Heat and Mass Transfer

journal homepage: [www.elsevier.com/locate/ijheatmasstransfer](http://www.elsevier.com/locate/ijheatmasstransfer)

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Impacts of flow velocity and microbubbles on water flushing in a horizontal pipeline

Mohammadhosseini Golchin , Siyu Chen , Shubham Sharma , Yuqing Feng ,  
Georgi Shum , Petri Nikiriyuk , Somasekhara Goud Sontti , Xuehua Zhang 

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**ARTICLE INFO**

Keywords: Water flushing; Microbubbles; Horizontal pipeline; Efficient flushing strategy; water velocity; coagulation and flocculation; water shear; water coarsening; floccability.

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**ABSTRACT**

Water flushing to remove particle residue is essential for safe and continuous transport of water in industrial slanted horizontal pipelines. Efficient flushing strategy and water velocity constraints and the role associated with water shear, and water coarsening for floccability. In this study, a computational fluid dynamics (CFD) model modelled with the lattice theory of granular flow for the flocculation process is presented. The CFD model

PProf. Somasekhara Goud Sontti,  
Department of Chemical Engineering, IIT  
DHARWAD, in collaboration with Prof.  
Xuehua Zhang from the University of  
Alberta, Canada, has published a research  
article in the International Journal of Heat  
and Mass Transfer (Q1, Impact Factor: 5.8).

PROF. SOMASEKHARA GOUD SONTI,  
DEPARTMENT OF CHEMICAL ENGINEERING, IIT  
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PROF. Dhiraj V. Patil, Dean (Outreach, Alumni & Corporate Relations) and Head, Centre of Excellence in Affordable and Clean Energy, IIT DHARWAD had a meeting with the Korean delegation in HubbaLLi on 26th November 2025. The meeting included His Excellency Mr. Chang Nyun Kim, Consul General of the Republic of Korea and representatives of the KarnAtaka Chamber of Commerce and Industry(KCCI). Discussions focused on exploring business opportunities for Korean companies in HubbaLLi-DHARWAD region, identifying potential collaboration avenues between Korean industries, local businesses and academic institutions.

PROF. K. V. Jayakumar, Visiting Professor & Outreach Advisor, IIT DHARWAD, addressed the faculty of Government Engineering College, thriSSur on "Preparing Research Proposals for External Funding" on 24th October 2025. He also interacted with students of PMShri Jawahar Navodaya Vidyalaya, bAgalkOTe, on 29th October 2025. He delivered keynote and invited talks on AI in education, SDGs and OBE, sustainable urban water & waste management, and disaster mitigation at institutions including Basaveshwar Engineering College, BAgalkOTe, Mar Athanasius College of Engineering, Kothamangalam, KErALA, NICMAR, Delhi, and Sree Chaitanya College of Engineering, Karimnagar, and addressed students from Government Science College, MajalatTi and Bailahongal.



PROF. SOMASHEKARA M. A, Department of MMAE, IIT DHARWAD, participated in the Academic & Research Governance Meetings of GM University at dAvaNagere, including the 3rd Academic Council and 3rd RIC meetings, marking his first engagement as a Council Member. He delivered invited talks at "Pharma Excellence 2025" at KLE Technological University, highlighting how Additive Manufacturing and 4D Printing are enabling personalized pharmaceuticals (Pharmacy 4.0). He has also been selected for the IIT HyderAbAd Alumni Excellence Award for Achievement in Academics & Research, to be conferred on 3rd January 2026, and was an Invited Speaker at the Annual Research Conclave 2025 at Dayananda Sagar College of Engineering, Bengaluru.

# Awards and Engagements



A paper titled "Enhancing the Climatic Resilience of Agriculture under Different Policy Scenarios: Evidence from Odisha" authored by Prof. Gopal Parashari, Dr. Janamejaya Panda and PROF. Mahadev G. Bhat has been selected for the Best Paper Award at the JETNET Annual Conference 2025 held from 7th – 8th October 2025 at the International Centre, Goa.

PROF. Amarnath Hegde delivered an invited Theme Lecture titled "Influence of Jute and Polypropylene Geotextiles on Internal Erosion of Clayey Soil" at Geotech Asia 2025, an international conference held at PaNaji, GoA, during 7–10 October 2025. Organized by IIT Bombay in association with the Indian Geotechnical Society.

Dr. Supriya Rej, Ramanujan Fellow, Dept of Chemistry, has co-edited the book "Directed C-H Bond Functionalization: Concept and Application", with Wiley-VCH. He has also published an invited review in Chemistry – An Asian Journal titled "BX<sub>3</sub>-Mediated Arene Borylation: Concepts, Scope, and Mechanistic Insight."



Prof. Rakesh Lingam from the Department of Mechanical, Materials and Aerospace Engineering delivered a talk on "Challenges in Sheet Metal Forming and Mitigation Technics" at AGM Rural College of Engineering and Technology (AGMRCE), Hubballi.



Prof. Vandana Bharti, Associate Head, CSE, Subject Matter Expert and delivered an expert talk titled "Navigating the Future: AI for Safer and Smarter Maritime Operations" at INS(Indian Naval Ship) Valsura during the 7th Artificial Intelligence Workshop of the Indian Navy, held from 8th–10th October 2025.

PROF. Ridhima Tewari was invited as a Resource Person for three distinct sessions in the Faculty Induction Programme for new faculty of English, organized by the Karnataka State Higher Education Academy, DHARWAD

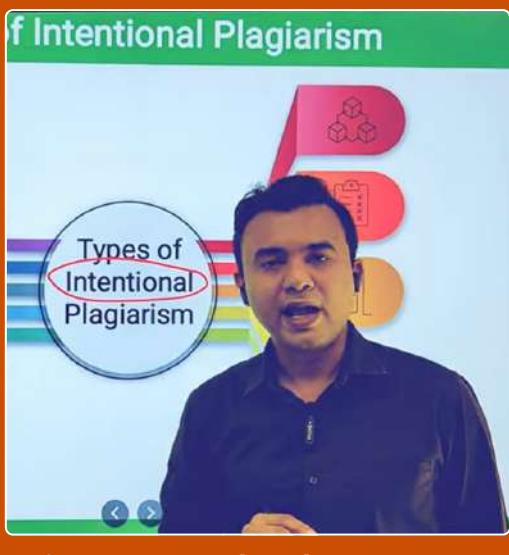
Prof. Nilkamal Mahanta has attended and delivered an invited talk in the Global Scientific Conference (GSC)-Chemistry for health, an international conference organized by the American Chemical Society (ACS) and IIT Bombay from 8th-11th October, 2025 at Victor Menezes Convention Centre, IIT Bombay. The title of the talk was "Biochemical characterization of the early enzymes involved in promysalin biosynthesis, a promising antibiotic against *Pseudomonas aeruginosa*".



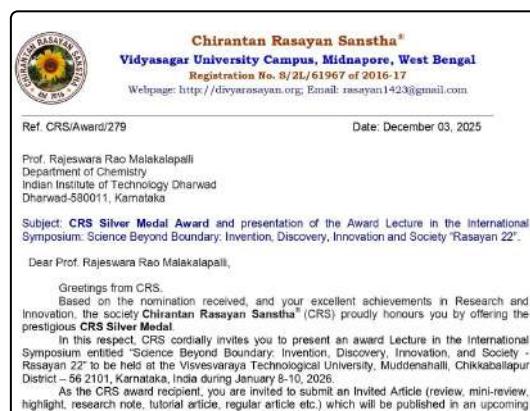
# Awards and Engagements

PROF. Pradeep Yammiyavar has been conferred the Lifetime Achievement Award and Fellowship of the Design Research Council – India (DRCI) in recognition of his pioneering leadership and four decades of impactful contributions to the field of Design in India. The honour was presented during an event held in KolkAtA during 1–3 November 2025.

He has delivered an invited talk on “Designing with AI” and interacted with B.Des students, discussing emerging trends in AI-enabled creativity and design practices, at the Academic Advisory Committee meeting of the School of Planning and Architecture(SPA) Bhopal on 5th December 2025,



Prof Rahul Pandya, [EECE], coordinated the National Capacity Building Program on Research and Publications, a two-week evening course held during 8–19 December 2025.



PROF. Rajeswara Rao from the Department of Chemistry has been selected for the Silver Medal Award by Chirantan Rasayan Sanstha® (CRS). He was invited to deliver a Lecture at the International Symposium “Science Beyond Boundary: Invention, Discovery, Innovation and Society – Rasayan 22”, scheduled from 8th to 10th January 2026 at Visvesvaraya Technological University, Muddenahalli campus.

Prof. DEBALINA CHAKRAVARTY was invited as a resource person in the Indian Council of Social Science Research (ICSSR)-Sponsored Capacity Building Program on the Economics of Climate Change, held on 6th November at the Institute for Social and Economic Change, Bengaluru (ISEC).



A research paper titled “A Framework for Life Cycle Assessment and Sustainability Audit of construction materials by Building Information Modeling approach”, authored by Prof. Ramesh Nayaka, Nandimandalam Dinesh, Helena Gervasioáio, and Anitha Nayak, has been honored with the Best Paper Award at the IEEE Conference on Engineering Informatics (ICEI 2025) held during 7–9 November 2025 at the IIT DHARWAD.



Prof. Rajshekhar V. Bhat, Dept of Electrical, Electronics and Communication Engineering, participated in a panel discussion at ASEP Edvention – 5th Edition, a national-level education technology event, held on 13th December 2025 at the NESCO Convention Centre, Mumbai. He also delivered an Industry Expert Talk on “AI for Engineers: How Artificial Intelligence Is Transforming Every Branch of Engineering” on 19th December 2025 at the Department of Mechanical Engineering, Gogte Institute of Technology, BeLagAvi, KarnAtaka.

# Awards and Engagements

Exceptional performance by AM4DP LAB and MPC LAB members led by PProf. Somashekara M A and Prof Anbukarasi Rajendran in the Dept of Mechanical Materials and Aerospace Engineering, at ICEI(IEEE Conference on Engineering Informatics) 2025, IIT DHARWAD! We celebrate the success of our researchers who received top honors:

Best Paper: Rituraj and Harsha

Best Workshop Talk: Dr. Pavithra and Prachi Savita

Best Poster: Deepak Mudakavi, Sujata Sahoo, and Vinayaka E Bodur



The Wide Bandgap Semiconductor (WBGS) Devices Group, IIT DHARWAD, participated in the IEEE 7th International Conference on Emerging Electronics (IECC-2025), held in Bengaluru from 13–16 December 2025, with one invited talk and four student presentations on SiC and GaN devices. The group acknowledges the support of XLIM Laboratory and Ampere Laboratory in France



Dr. Kalyan Bhattacharjee, Registrar, IIT DHARWAD, clinched the Gold Medal in the 100 m sprint (55+ category) at the 30th Inter-IIT Staff & Faculty Sports Meet 2025, hosted by IIT Hyderabad.

- IIT DHARWAD Faculty Members Secure ANRF(Anusandhan National Research Foundation) Advanced Research Grants
- Prof. Mahesh Gudem (Co-PI) – Polaritonic Chemistry as a Tool for Control of Chemical Reactivity and Intermolecular Interactions in Molecular Devices
- Prof. Hiranya Deka (PI) – Viscoplastic Drop Impact on a Solid Substrate: Effect of Yield Stress on Spreading, Bouncing and Splashing
- PProf. Dhiraj V. Patil (PI, ARG MATRICS) – Numerical Convergence Acceleration of Multiphase Lattice Boltzmann Algorithm using Multigrid and Preconditioning Techniques
- Prof. Mohana Rao Balaga (PI, ARG MATRICS) – From Traditional Banks to Digital Currencies: How CBDCs Exacerbate the Threat of Bank Run
- Prof. Suvamay Jana (PI) & Prof. Nilkamal Mahanta (Co-PI) – Lanmodulin's Metal Sensing and Protein Engineering for Rare Earth Separation
- PProf. Sudhanshu Shukla (PI) & Prof. Kundan Kumar Singh Sagar (Co-PI) – UBA6–p53 Axis as a Therapeutic Target in Wild-Type p53-Deficient Cancers
- Prof. Aniket Kataware (PI) – Mix Design Protocols for Cold In-Plant Recycled Bituminous Mixtures with Emulsified Bitumen
- Prof. Satyapriya Gupta (PI) & PProf. Somashekara M. A. (Co-PI) – Creep and Thermomechanical Fatigue in Additively Manufactured Ni-Based Superalloys
- Prof. Ashok Kumar Ummireddi (PI) – CO<sub>2</sub>-Permeable Cathode Ionomers for Electrochemical Conversion of Industrial Flue Gas
- PProf. Amlan Barua (PI, ARG MATRICS) – Analytical and Numerical Investigation of Selected Hele–Shaw Flows
- Prof. Ravi Chandra Dutta, (Co-PI) - Multiscale Interface Engineering of NASICON Solid Electrolytes for High-Energy, Dendrite-Free Anode-Free Sodium-Ion Batteries.
- PProf. Sudhanshu Shukla, (Co-PI) - Total Synthesis of Leptochelins and Related Analogs towards Identification of Anti-proliferative Therapeutic Agents.

# Awards and Engagements

Indian PI



Prof Animesh K Sahoo  
IIT Dharwad, India

Indian Co-PI



Prof Sarasij Das  
IISc Bangalore, India

Foreign PI



Prof Marta Molinas  
NTNU, Norway

Foreign Co-PI



Prof Sujer Foyen  
NTNU, Norway

Prof. Animesh K. Sahoo [EECE] has secured funding under the SPARC 2025 research program. In collaboration with [Indian Institute of Science (IISc) Bengaluru, India], [Norwegian University of Science and Technology (NTNU), Norway], and [NTNU, Norway]. On "Modelling, Control, and Stability Analysis of Type IV Grid Forming Offshore Wind Turbine in Weak Grid."



Prof. Sri Sivakumar, [Chemical Engineering], IIT Kanpur, delivered an insightful talk on "Designing Nanomaterials for Targeted Drug Delivery and Organ-on-a-Chip Systems" at the Department of Chemical Engineering, IIT DHARWAD, during the ANRF-Sponsored Symposium on "Smart Interfaces: Colloids in Medicine, Energy, and Materials" on 9th October 2025.



Prof. Satish Naik and Prof. Sairam Boggavarapu secured DRDO funding for the project titled: "Optimization of I/P Filter Requirement and Design of Pulsed Power Supply Unit for the TRMs."



Dr. Muniramaiah Reddivari, Junior Technical Superintendent, Physics, is part of the author team of a recently published research article titled "Bankable Large Area Transparent Conducting Nb and Sb Co-doped SnO<sub>2</sub> Thin Films" in *Surfaces and Interfaces* (Elsevier), with contributors from NIT Warangal, IIT DHARWAD, Yeungnam University [South Korea], University of Hyderabad, VIT Chennai, and SRM Institute of Science and Technology Chennai.

# Funding & Donations

## Sponsored Projects

Sl.No	Prinicpal Investigator With [Dept]	Co Prinicpal investigator With [Dept]	Title of the Project	Sponsoring Agency	Sanction date	Value of Project [in lakh ₹]	Duration of the project (years)
1	Dr. Supriya Rej	NA	Boron Beyond Boundaries: Innovating Boron-Based Ditopic Electrophiles and its Application in Late-Stage Drug Functionalization	ANRF-PMECRG	17.06.2025	65.87	3
2	Prof. Debalina Chakravarty	NA	Mediating Role of Marginalized Womens autonomy and access to clean cooking fuel in India: A longitudinal study on multy-dimentional perspective on empowerment	ICSSR	17.07.2025	100.00	4
3	Prof. Chintapalli Hemanth Kumar	NA	Designing and Development of Engineering Module to reduce air Pollution in the open-air occupational environment	ICMR	07.11.2025	70.62	3
4	Prof. Animesh Kumar Sahoo	NA	Modelling, Control and Stability Analysis of Type 4 Grid Forming Offshore Wind Turbine in Weak Grid	SPARC	01.12.2025	124.36	2

## CSR(Corporate Social Responsibility) Projects

Sl.No	Principal Investigator With Dept	Co Principal investigator With Dept	Title of the Project	Industry/Company/ Institute	Sanction date/ Agreement date	Duration of the project (months)	Cost of the Project [in lakh ₹]
1	PROf. Pratyasha Bhui	Prof. Animesh Kumar Sahoo	Modelling and Control of Grid forming inverter (GFMI) with Fault ride Through (FRT)	TOSHIBA Software India Pvt. Ltd.	14.10.2025	17.5	15

## List of Donors to IIT DHARWAD [01.10.2025 to 31.12.2025]

Sl.No	Donar's Name	Affiliation	Designation	Donation Amount (₹)	Donation Date
1	DIXSHANT KUMAR JHA	IIT DHARWAD	Student	1,500	09.10.2025
2	SOURAV BANERJEE	IIT DHARWAD	Student	3,000	09.10.2025
3	RAJAT JOSHI	IIT DHARWAD	Student	1,500	09.10.2025
4	SREE NAGA MANIKANTA KATTA	IIT DHARWAD	Student	500	09.10.2025
5	PRAJWAL BIRADAR	IIT DHARWAD	Student	300	09.10.2025
6	POMAJE RISHABH SHARAD	IIT DHARWAD	Student	3,000	09.10.2025

# Funding

## Consultancy Projects

Sl.No	Principal Investigator With [Dept]	Co Principal investigator With [Dept]	Title of the Project	Industry/Company/Institute	Sanction date/Agreement date	Duration of the project [months]	Sanctioned amount of the Project [Lakh ₹]
1	Prof. Animesh Kumar Sahoo [EECE]	Prof. Pratyasa Bhui [EECE]	Harmonic Norton Equivalent for FIMER Inverters.	FIMER India, Bengaluru	06.10.2025	3 weeks	0.75
2	Prof. Animesh Kumar Sahoo [EECE]	NA	Fast frequency response and asymmetrical low voltage ride through FIMER inverters.	FIMER India, Bengaluru	06.10.2025	1.5 weeks	0.40
3	Prof. Aniket Vasantrao Kataware [CIE]	NA	Performance Grading High and Low Temperature Performance Evaluation of Unmodified and Modified Asphalt Binders	SSPI Industrial LLP	27.10.2025	1.00	0.59
4	PROF. VenkappayyA R dEsAi [CIE]	PROF. Sanathkumar Rajmane [CIE]	Proof checking and peer review of structural design and drawings of Nandi hills of Bengaluru.	Dynamicx Ropeway Private Limited	28.10.2025	3.00	7.8
5	PROf. Pratyasa Bhui [EECE]	Prof. Animesh Kumar Sahoo [EECE]	To develop high-fidelity PSCAD simulation models for two STATCOM systems	Delta Electronics	12.11.2025	2.00	11.38
6	Prof. Nikhil D Hegde [CSE]	NA	A Course on Compilers Optimizations using the LLVM Compilers Framework.	M/s. Qualcomm India Pvt Ltd	17.11.2025	3.00	7.08
7	PROf. Amarnath Hegde [CIE]	Prof. Ramesh Nayaka [CIE]	Third party quality audit for construction of Kendriya Vidyalaya School at Gauribidanur	Aryan Constructions	21.11.2025	12.00	9.05
8	PROf. Amarnath Hegde [CIE]	Prof. Ramesh Nayaka [CIE]	Structural design vetting for the permanent campus of NFSU DHARWAD.	National Forensic Sciences University DHARWAD (NFSU)	29.11.2025	3.00	14.75
9	PROF. VenkappayyA R dEsAi [CIE]	PROF. Sanathkumar Rajmane [CIE]	To verify NDT test results carried out on 2 U-Girders and RCC raft foundation at Doddajala (BMRCL airport line project) and release strength certificate.	NCC Ltd	08.12.2025	0.50	2.71
10	PROf. Satish Naik [EECE]	Prof. Sai Ram Boggavarapu [EECE]	Optimization of I/P Filter requirement & design of power supply unit for the TRMs	DRDO	09.12.2025	27.00	46.93
11	PROF. VenkappayyA R dEsAi [CIE]	PROF. Sanathkumar Rajmane [CIE]	Proof checking of steel roof goods shed at Shivamogga Railway Station SWR.	Gounder and Baby JV	10.12.2025	0.50	3.54
12	Prof. Ramesh Nayaka (CIE)	PROf. Amarnath Hegde (CIE)	Expert advise on structural drawings for proposed Block II building at Karnataka Veterinary, Animal and Fishers Sciences University Gadag Campus.	Ravindranath Construction Pvt. Ltd.	13.12.2025	1.00	5.06
13	Prof. Surya Prakash Ramesh [MMAE]	NA	Drop size analysis of a rotary atomizer spray.	Krushaka unmanned and airborne solutions private limited	22.12.2025	2.00	1.59
14	PROF. VenkappayyA R dEsAi [CIE]	PROF. Sanathkumar Rajmane [CIE]	Proof checking and peer review of structural design and drawings of rope ways and steel walkway bridge at Adichunchangiri, Nagamangala Taluk	Gajananaa Enfratainment	30.12.2025	3.00	9.15

# Events



A Workshop on KErala Martial Arts on Self-Defence (KaLaripayaTTu) was conducted at IIT DHARWAD on 11th October 2025. The session was led by Ashan Nikhil Varagiri, who introduced participants to the fundamentals of KaLaripayaTTu, including basic combat techniques, body control, and the philosophy of discipline and focus.

Participants actively engaged in hands-on demonstrations and interactive exercises, gaining practical insights into personal safety and well-being. The initiative was organized by the Student Welfare(SW) Office, IIT DHARWAD and was well received.



An Industry Interaction Session for ME102C: Introduction to Mechanical Engineering was held on 10th October 2025 at CLT(Central Learning Theatre), IIT DHARWAD. The session featured Mr. Nitin Kanwade, Head—Operations, and Mr. Avijit Sen, Head—Quality Assurance, Tata Motors, DHARWAD.

ANRF(Anusandhan National Research Foundation) Sponsored National Symposium on "Smart Interfaces: Colloids in Medicine, Energy, and Materials" was organized by the Department of Chemical Engineering, IIT DHARWAD, KarnATAkA, on 09–10 October 2025.



IIT DHARWAD was honoured to host Prof. Rabibrata Mukherjee, IIT Kharagpur, Joint National Coordinator, Scheme for Promotion of Academic and Research Collaboration (SPARC).



IIT DHARWAD observed Vigilance Awareness Week from 27th October to 2nd November 2025 under the theme "Vigilance: Our Shared Responsibility."

As part of the observance, a talk on 30th October 2025. The session was delivered by Prof. Vishwanath M. on the topic "Vigilance A Road to Welfare State was organized"

The Wellness Centre, IIT DHARWAD, organized a workshop titled "The Balance Within: A Journey Into Thyroid Health" on 30th October 2025. The session was conducted by Homopathy Dr. Geeta Bagewadi, who shared valuable insights on understanding thyroid function, its impact on overall well-being, and holistic approaches to maintaining thyroid health.



On November 6th - 7th 2025, Department of HEART, IIT DHARWAD, hosted PROF. Gurumurthy Neelakantan, IIT Kanpur and PROF. Sathyaraj Venkatesan, NIT Trichy, for two insightful sessions on ' Academic Communication and Research Writings '.



# Events

On 12th November 2025, a team of scientists from Indian Space Research Organisation (ISRO), Liquid Propulsion Systems Centre (LPSC), Bengaluru, visited IIT DHARWAD to explore research collaboration and academic engagement. The delegation Dr. Ram S. N., Dr. Ramprasad B., and Dr. Kamran Ahmed discussed ISRO outreach programmes, RESPOND(Sponsored, Research)-funded research proposals, student internships, and the ICRB examination. The meeting was attended by PROF. Shiva Prasad S. M., PROF. Ravikumar C., Prof. Vijeth Kotagi, and PROF. K. V. Jayakumar from IIT DHARWAD, with discussions also considering a future MoU for sustained collaboration.



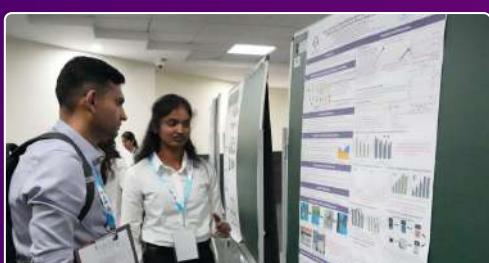
PROf. Nirmalya Bachhar, Department of Chemical Engineering, IISc, delivered an insightful talk titled "Understanding the Effect of Alkylation on Drug Design, Transport, and Aggregation" at the ANRF-Sponsored National Symposium on "Smart Interfaces: Colloids in Medicine, Energy, and Materials", held on 9th October 2025 at IIT DHARWAD. The symposium was convened by PROf. Ravikumar C and co-convened by Prof. Dr. Ashok Ummireddi, Department of Chemical Engineering, IIT DHARWAD.

Prof. Rakesh Lingam [MMAE] has conducted an industrial visit to Aequus Limited., BeLagAvi as part of a CNC and Additive Manufacturing course taught by him for the students of IIT DHARWAD had an opportunity of visualizing and experiencing world class manufacturing facilities like Flexible Manufacturing System, Hot forging of heavy parts, Plastic Injection Molding and assembling of sophisticated toys, Chemical treatment and testing of aerospace parts, etc.



A new Lab & Studio facility was made operational for Design Thinking & Creativity course in temporarily allotted space at CLT 213. It has a Utility & mechanical engineering product sample repository cum exhibition display, UI-UX & Graphic content creation corner, Creativity, puzzles & toy design corner, a Sustainability- Built Environment display desk, Design books Library, Electronics projects & elementary Robotics kits, Elementary VR-AR facility, and an Ergonomics-Automotive design section. This novel facility was equipped via donations received in kind & as product samples.

Department of Civil and Infrastructure Engineering, IIT DHARWAD, organized a five-day GIAN course on "Characterization and Numerical Modeling of Cementitious Materials" during 10-14 Nov 2025, By Prof. Ramesh Nayaka in collaboration with TU (Technical University) Darmstadt.



Prof. Pramod P. Pillai, Indian Institute of Science Education and Research Pune, was hosted by the Dept of Chemical Engineering, IIT DHARWAD, on 9th October 2025 as part of the ANRF-Sponsored National Symposium on "Smart Interfaces: Colloids in Medicine, Energy, and Materials." He delivered talk on "Solar Energy Utilization with 'Hot Charges' and 'Hot Surfaces', highlighting advances in plasmonic nanoparticles and quantum dots for solar-to-chemical fuel conversion.

The IEEE Conference on Engineering Informatics (ICEI 2025) was held at the IIT DHARWAD from 7–9 November 2025, bringing together researchers, academicians, and industry professionals to share advances in AI, ML, IoT, Industry 4.0, 5G/6G, and Smart Systems.



# Events



Prof. Ramchandra (Ram) Achar, IEEE Fellow and Engineering Institute of Canada (EIC), Carleton University, visited IIT DHARWAD and delivered an Institute Lecture on “Fundamentals & Emerging Trends in High-Speed Signal & Power Integrity Analysis” on 4th November 2025.



IIT DHARWAD hosted the Foundation Stone Laying Ceremony for the development of Three Cascading Lakes and a Jack Well on 27th Nov 2025, in collaboration with ICICI Foundation and ICICI Bank. The event was inaugurated by PROF. Venkappayya R. dEsAi, Director, IIT DHARWAD, and attended by senior faculty, administrative personnel, and campus staff.



Prof. Rakesh Lingam[MMAE] has conducted an industrial visit to Airtech Pvt Ltd., DHARWAD as part of "Manufacturing Processes and Metrology Lab" for BTech, Mechanical Engineering, 2nd year students.



On 26th Nov 2025, IIT DHARWAD observed Constitution Day, highlighting on the guiding values of responsible citizenship within the community. The observance highlighted constitutional awareness, democratic engagement, and the duties that unite us as citizens.

# Events



On 9th December 2025, IIT DHARWAD had the privilege of hosting Dr. Rahul Singhvi, CEO of Axella Bio, USA, who delivered a talk titled "Exploring Engineering Leadership: From Executive to Entrepreneur". Dr. Sridevi Kambampathi, CEO of Shilpa Biologicals, accompanied him during the visit. The event was jointly organized by the Departments of Chemical Engineering and Biosciences & Bioengineering(BSBE), and was smoothly coordinated by Prof. Ravikumar C, Dr. Ravi Dutta (Chemical Engineering), and Prof. Swanand Marathe(BSBE).



A cardiac training session was conducted on 18th October 2025 at the Wellness Centre, IIT DHARWAD, for nurses and ambulance drivers. By Dr. Akhil from Hyderabad and focused on enhancing knowledge and practical skills in managing cardiac and emergency situations.

The Wellness Centre, IIT DHARWAD, KarnatakA, successfully organized a workshop titled "Inside Your Gut: The Key to Wellness" on 22nd December 2025. The session was conducted by Dr. Geeta Bagewadi, [Homeopath], who provided valuable insights into the importance of gut health and its role in overall well being.



dhaRti Foundation(DHARWAD Research Technology Innovation) – IIT DHARWAD, is section 8 Company, has signed a [MoU] with Enerzi Microwave Systems Private Limited, a deep-tech manufacturing and clean-energy company based in BeLAGAvi. Under the MoU, Enerzi will be incubated at dhaRti Foundation, enabling close collaboration with IIT DHARWAD faculty, researchers, and students, and access to advanced research infrastructure, including the Sophisticated Central Instrumentation Facility (SCIF), for joint R&D, modelling, validation, and scale-up.

# Events



A GIAN(Global Initiative of Academic Networks) Workshop on "Functional Materials Manufacturing & Additive Manufacturing for Energy and Biomedical Applications", jointly organized by Virginia Commonwealth University and IIT DHARWAD, was successfully concluded.



ShOdhaYAntri 2025 was the 5th Annual Research Symposium hosted by the Department of Mechanical, Materials & Aerospace Engineering (MMAE) at IIT DHARWAD, held on December 1-2, 2025, focusing on innovation, research, and industry collaboration in Mechanical, Aerospace, AI/ML, and interdisciplinary fields, featuring paper/poster presentations from students, researchers, and industries.



IIT DHARWAD has signed a Memorandum of Understanding (MoU) with Toshiba Software (India) Pvt. Ltd. (TSIP) for research collaboration on grid integration of renewable energy.



The Dept of Biosciences and Bioengineering(BSBE), IIT DHARWAD, conducted MolMedBio 2025: Cancer Biology [an ANRF Sponsored Program] during 5–6 December 2025. The event featured distinguished speakers from IISc, Advanced Centre for Treatment, Research and Education in Cancer, Homi Bhabha Centre for Science Education(HBCSE), Mayo Clinic, National Centre for Cell Science, National Institute of Biomedical Genomics, many IITs, sharing cutting-edge insights.

# Student Achievements



## Inter IIT Cultural Meet 8.0 at IIT Kanpur

### Students from IIT DHARWAD achieved commendable positions across multiple events:

- 2nd Position – English Story Writing: Aayushi Singh, Vangapandu Sai Venkata Naga Harshit
- 4th Position – Classical Solo Singing: Siddhant Mahindra Pai
- 4th Position – English Poetry Writing: Ashmit Singh, Sudhakar Shivanand Dalawayi
- 6th Position – Pair on Stage: Kaushik Das, Trisham Bepari
- 8th Position – Vocal Solo: Apratim Das, Tanish Verma
- 10th Position – Monoact: Partha Sarathi Roy, Krishna Mishra
- 11th Position – Debate: Utkarsh Sengar, Sudhakar Shivanand Dalawayi, Siddhant Dinesh Wagh, Balamurali V. B.

Contents lists available at ScienceDirect  
Microelectronics Reliability  
journal homepage: [www.elsevier.com/locate/microrel](http://www.elsevier.com/locate/microrel)

Research paper  
Source-connected and gate-connected field-plate influence on thermal resistance of AlGaN/GaN HEMT with varying passivation thickness and field-plate length  
Vaidehi Vijay Painter<sup>a,\*</sup>, Raphael Sommet<sup>b</sup>, Jean-Christophe Nallatamby<sup>b</sup>, P. Vigneshwara Raja<sup>a</sup>

Ms. Vaidehi Vijay Painter has published two journal papers on AlGaN/GaN HEMTs in Microelectronics Reliability and *Physica Status Solidi (a)* – Applications and Materials Science, in collaboration with Prof. Jean-Christophe Nallatamby and Dr. Raphael Sommet from the XLIM Laboratory, France. She also undertook a six-month research visit to XLIM Laboratory, France, under the Raman–Charpak Fellowship 2024, gaining hands-on experience in ANSYS electro-thermal modelling and thermoreflectance measurements for GaN HEMT devices.



Ms. Dhwani Shah, Department of Chemistry, IIT DHARWAD, received the Best Poster Presentation Award at the 44th Annual National Conference of the Indian Council of Chemists, held from 22–24 December 2025 at KLE Technological University, Hubballi.



Mr. Bikash Kumar Sahoo, HEART PhD scholar, IIT DHARWAD, working under of Mohana Rao Balaga, received the Second Best Paper Award in Economics at the Management Doctoral Researchers Colloquium 2025, hosted by the Indian Institute of Foreign Trade Kolkata, for his paper "Fiscal and Monetary Policy Nexus and Current Account Dynamics: Evidence from Formal and Informal Economies."

# Student Achievements



Shri. Jiro Karlo, PhD student [BSBE] working under Prof. Surya Pratap Singh, on publishing in Trends in Analytical Chemistry [Impact Factor: 12; Q1], titled 'Raman Stable Isotope Probing (SIP): A Novel Bio-Analytical Tool'. He also has been awarded the prestigious Japan Science and Technology Agency (JST) supported LOTUS fellowship. He will be working on of his thesis work at the Shimane University, Japan with Prof. Hemanth Noothalapati, Associate Professor, Faculty of Life and Environmental Sciences.



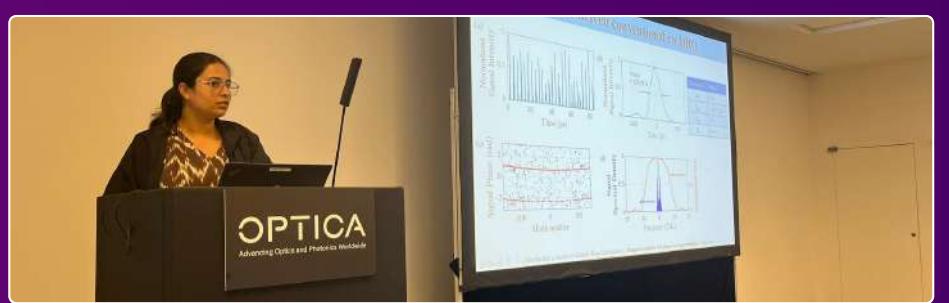
Shri. Gopal Prasad Sahu, PhD scholar, Dept of Physics, IIT DHARWAD, received the 2nd Best Poster Presentation Award at SCOPESIS 2025 (joint decadal SCOP and 48th OSIS), held from 8–12 December 2025 at the Physical Research Laboratory, Ahmedabad. His poster titled "Hong-Ou-Mandel Interferometry for Fiber Optic Quantum Gyroscope" presents advanced quantum interferometric techniques for next-generation gyroscopes. The work was carried out at PRL in collaboration with Dr. G. K. Samanta (PRL) and Dr. Kavita Devi (IIT DHARWAD).



Mr. Vinayak B. Patil, PhD Scholar [Institute Staff Category], under the guidance of Prof. Debalina Chakravarty and Prof. Dhiraj V. Patil, presented his paper titled "Solar-Driven Railway Electrification for Energy Transition: A Case Study from Bengaluru, India" at the Annual Conference organized by JETNET-IIT Kanpur at the International Centre, Goa during 7-8 Oct, 2025



Ms. Dhwani Shah [Chemistry PhD scholar] received the Poster Award at the ANRF Sponsored National Symposium on Next-Gen Functional Materials, organized by the Department of Chemistry, held from 31st October to 1st November 2025.



Shri. Harsh Kumar Rai, a Ph.D research scholar under Prof. Dhiraj V. Patil and Prof. Hiranya Deka, Dept of [MMAE], was awarded the Springer Best Poster Award for the work on droplet dynamics using lattice boltzmann(LBM) at the International Conference on Micro and Nano Fluidics (ICOM 2025) during 31<sup>st</sup> Oct 2025-2<sup>nd</sup> Nov 2025 at IIT Guwahati.

# Student Achievements



Mr. Harsha Nagappa PhD under [Institute Staff Category] in Dept of MMAE under the supervision of PProf. Somashekara M A and PProf. Amar K Gaonkar has won the Best Paper Award for the paper titled "Exploring the Applications of DfMA + DfAM principles for the Additively Manufactured Parts with the integration of Digital Twins - A Review" in the IEEE Conference on Engineering Informatics (ICEI) 2025 held at IIT DHARWAD during 7-9th November 2025.



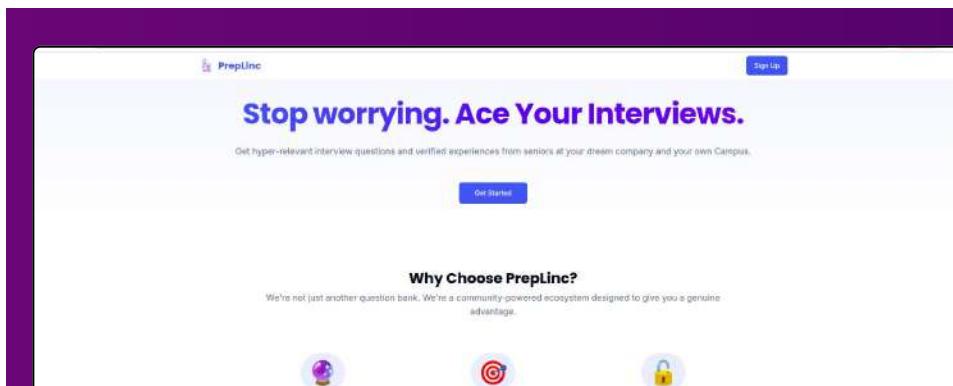
Mr. Tonmay Das, a HEART Dept, Ph. D. Research Scholar working under PProf. Ridhima Tewari, has successfully completed the NPTEL Course in Film Studies with an outstanding score of 96%, becoming a topper in the course with a class level of Elite+Gold.



Mr. Jack Benjamin has received the Grid India Power Systems Award (GIPSA) 2025–26 for his work on "Improved Fault Ride-Through by Stationary Reference Frame Controlled Grid Forming Inverter Using Hybrid Over-Current Limiter," recognized by the Grid Controller of India (formerly POSOCO) and SIIC IIT KAnpur



Mr. Souvik Das has received the Grid India Power Systems Award (GIPSA) 2025–26 for his thesis titled "Design and Development of Electromagnetic Energy Scavenging System for Transmission Line Inspection Robots," recognized by the Grid Controller of India (formerly POSOCO) and SIIC IIT KAnpur.



Shri. Priyanshu Jayswal, a student from Dept of EECE is developing Preplinc, a community-driven platform designed to help students learn from real, college- and company-specific preparation experiences shared by peers and seniors. After presenting the idea to the IIT DHARWAD E-Cell, the project received strong appreciation for its early traction — 35+ users, 15+ verified posts, and over 1,000 visitors within two days of internal testing.

## Department of Physics – Awards & Achievements

Shri. Gopal Prasad Sahu [PhD student; Supervisor: Prof. Kavita Devi] received the 2nd Best Poster Award from the Optical Society of India at student conference on optics and photonics & the 48th OSIS 2025, held at Physical Research Laboratory(PRL), AhmedAbAd.

Shri. Ashish Malik [PhD student under PProf. Dhriti Sundar Ghosh] received the Best Oral Presentation Award at ICAER(International Conference on Advances in Energy Research) 2025, held at IIT Bombay, in December 2025.

# Student Achievements



Mr. ASHISH MALIK, a PhD student from the Department of Physics, has been honoured with the Best Oral Presentation Award at 'The 10th International Conference on Advances in Energy Research (ICAER)', held at IIT Bombay, Mumbai, India, from 16-19 Dec 2025.

## Development and Validation of TCAD-based Neutron Radiation Damage Model for 4H-SiC SBD Alpha-Particle Detectors

Publisher: IEEE

Cite This

PDF

Vivek Jaiswal ; P. Vigneshwara Raja All Authors



Mr. Vivek Jaiswal has published an IEEE Transaction Paper titled "Development and Validation of TCAD-based Neutron Radiation Damage Model for 4H-SiC SBD Alpha-Particle Detectors" in IEEE Transactions on Nuclear Science. This radiation damage model establishes a linear relationship between trap concentration and 1 MeV neutron fluence, thus enabling predictions of 4H-SiC SBD detector performance across fluence levels and radiation hardness.



The Quantitative Finance team secured a Gold Medal and Trophy for a High Prep Problem Statement by Ebullient Securities. The team was led by Nidhish Doshi, with Dileepan S. K., Anant Tripathi, Swarup Sahoo, Trisham Bepari, Samarth M., Sudhakar Shivanand Dalawayi, and Swastik Malani. Other notable performances include 5th place in Aerial Robotics (Low Prep) by Drona Aviations; 9th place in VLSI Design (Mid Prep) by ISRO VLSI; and 10th place in NLP & Conversational Intelligence (Mid Prep) by Observe.ai. These achievements reflect the strong technical depth and teamwork of IIT DHARWAD students at the Inter IIT Tech Meet 14.0, organized by IIT Patna, from 11–15 December 2025.

Mr. Deepak Mudakavi and Mr. Vinayaka E. Bodur, PhD research scholars from the Additive Manufacturing and 4D Printing Lab, IIT DHARWAD, delivered an invited talk on 12th December 2025 at the IEEE Magnetics Society – Richmond Chapter as Exchange Research Scholars at Virginia Commonwealth University. They are currently working as Visiting Research Scholars under PROF. Ravi Hadimani and PROF. Radhika Barua at VCU as part of the Scheme for Promotion of Academic and Research Collaboration (SPARC) project sponsored by the Ministry of Education, Government of India.



Mr. R. Mahender Reddy, Department of Civil & Infrastructure Engineering, participated in the Indian Geotechnical Conference 2025 (IGC-2025), held from 18–20 December 2025 at Dr. B. R. Ambedkar National Institute of Technology, JALAndhAR. As part of the technical programme, he presented a research paper titled "Cutoff Wall Performance in a Layered Buffer–Aquifer System under Uniform Inflow Contaminant" (Paper ID: 564), highlighting the containment performance of vertical cutoff wall systems

# Student Achievements



Ms. Yashaswini L, Department of Computer Science and Engineering, IIT DHARWAD, was awarded the Dr. Bishweshwar Dayal and Prakshwati Dayal Award on the occasion of the 9th Foundation Day of IIT DHARWAD, held on 28th August 2025. The award recognizes overall excellence, encompassing academic performance, general proficiency, and co-curricular and extracurricular contributions during the 2024–25 academic year.



Shri. Parikshit Gehlaut, a final-year undergraduate student, has presented to the Student Research Symposium track at the 32nd IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC 2025), held in Hyderabad during 17–20 December 2025. He presented a poster and delivered a talk, showcasing his research at the symposium.



IIT DHARWAD is proud to introduce in-house developed SAM (Security and Management System). SAM is a paperless out-pass solution designed to streamline coordination between students, wardens, and security guards, ensuring efficient record-keeping and enhanced student safety.

It is developed in-house by UG students - Ms. Mukta Vedpathak and Mr. Satyam Kumar in close collaboration with faculty and staff members from Computing and Communication Services (CCS) Center and Student Welfare (SW) Section.

Shri. Nilanjeeb Das, PhD scholar, Dept of Physics, received the Best Presentation Award at the 3rd International Conference on Nanoscience and Nanotechnology (ICNAN'25), held from 16–19 December 2025 at Vellore Institute of Technology, Vellore. He presented his research titled "Reassessing the Role of ITO Thickness to Optimise Device Performance in Perovskite Solar Cells", conducted at the Thin-Film and Photovoltaics Laboratory under the supervision of PProf. Dhriti Sundar Ghosh.



# Welcome to IIT DHARWAD



From Left to Right: PROF. VenkappayyA R dEsAi, Director, Dr. Rimi Banerjee, Ramanujan Fellow, Physics, Prof [Ms] Kavita Devi, HoD, Physics and PROF. Ramjee Repaka, Dean [Faculty Welfare (FW)].

From Left to Right: PROF. VenkappayyA R dEsAi, Director, Dr Anmol Kumar, Ramanujan Fellow, Chemistry, Prof. Nilkamal Mahanta, HoD, Chemistry, PRof. Rajeswara Rao M, Associate Dean, Students Welfare(SW) - Gymkhana, Sports, Clubs & Technology and Prof. Mahesh Gudem, Faculty In-Charge Seminars & Colloquium



From Left to Right: PROF. VenkappayyA R dEsAi, Director, Ms. Shreya S, Junior Technical Superintendent [CCS Dept.], Shri Mallesh Hanamappa Gunari, Junior Assistant [Internal Audit Section], and PROF. Dileep A D, Dean [Administration].



Credits :

Public Relations Team, IIT DHARWAD

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