



॥ सा विद्या या विमुक्तये ॥

ಭಾ.ತಂ.ಸಂ. ಧಾರವಾಡ
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IIT DHARWAD

INDIAN INSTITUTE OF
TECHNOLOGY dhArwad

NEWS LETTER

ಸಂಖ್ಯೆ | ಸಂಬಂಧ | SAMBANDH

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IIT dhArwad unveils FIRE RESCUE ASSISTANT DRONE



The Indian Institute of Technology dhArwaD hosted a two-day workshop titled “Drone Design and Autonomous Navigation in Fire Rescue (DDANFR 2024)” on May 31 and June 1, 2024. This event, organized by the Fire and Thermal Research Laboratory (FTRL) and the Control Systems and Robotics Laboratory, featured the unveiling and demonstration of the world’s first fire rescue assistant drone. The drone is developed at IIT dhArwaD by a team led by Prof. Sudheer Siddapureddy and Prof. Ameer Mulla, with funding from the TiHAN Foundation, IIT Hyderabad (NMICPS, Govt. of India).

The workshop is inaugurated by Prof. Pratyasa Bhui (Dean R&D), in the presence of Prof. Somashekara, Head of MMAE, and Prof. Naveen Kadayinti, Head of EECE. Keynote speakers included Prof. Bhaskar Dixit of Jain University, and Dr. Siva Bathina, a postdoctoral researcher from IIT Madras. The first day focused on fire safety, drone design, and various navigation algorithms. The second day featured hands-on demonstrations by Mr. Arvind Pandit (Senior R&D Engineer at Indrones Solutions Pvt. Ltd.) and Mr. Rajat Joshi, on the fire-evacuation and the navigation software. The event successfully inspired young minds towards research, demonstrating that simple but innovative ideas can have a global impact.

Prof. Sudheer Siddapureddy, faculty-in-charge FTRL, highlighted the significance of the new drone for the fire safety community, noting the challenges in designing a drone small enough to navigate indoor spaces and capable of withstanding high temperatures. The FTRL has made significant contributions to the fire research community, including identifying sensors that can operate in sooty environments and creating flexible protective

shields for the drone after numerous fire experiments. This research team continues to explore other critical aspects of fire safety, such as evacuating people during emergencies. Prof. Ameer Mulla explained how their group at the Control Systems and Robotics Laboratory overcame the challenge of navigating the drone in smoky conditions. This breakthrough has applications beyond fire safety, including crowd management at large gatherings like railway stations, malls, and pilgrimages.

Prof. Venkappayya R dEsAi, the Director of IIT dhArwaD, shared his insights on the historical establishment of IITs and highlighted IITs significantly contributed to the development of biotoilets for InDian Railways. He emphasized the exceptional quality of research conducted at IITs, illustrating the pivotal role these institutions play in fostering technological advancements and innovative solutions for real-world problems. In line with the green campus initiative led by Prof. dEsAi the workshop emphasized sustainability by minimizing waste and reuse practices. The workshop, DDANFR 2024, fostered innovation and collaboration, reinforcing IIT dhArwaD’s commitment to advancing fire rescue technologies through pioneering research.



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Inventor's Triumph: Patent Grant Announcement

Prof. Somashekara M.A., Head of the Department of MMAE at IIT Dharwad, together with Shri Rakshith B. Sreeshha and Shri Saiyad Ladakhan, has been granted an Indian patent titled "An assembly for creating programmable Shape Memory Alloys (SMA) for the process of 4D printing." This achievement underscores the outstanding research and development efforts at IIT Dharwad. Prof. Somashekara's work holds the promise of revolutionizing 4D Printing and its applications across diverse industries.



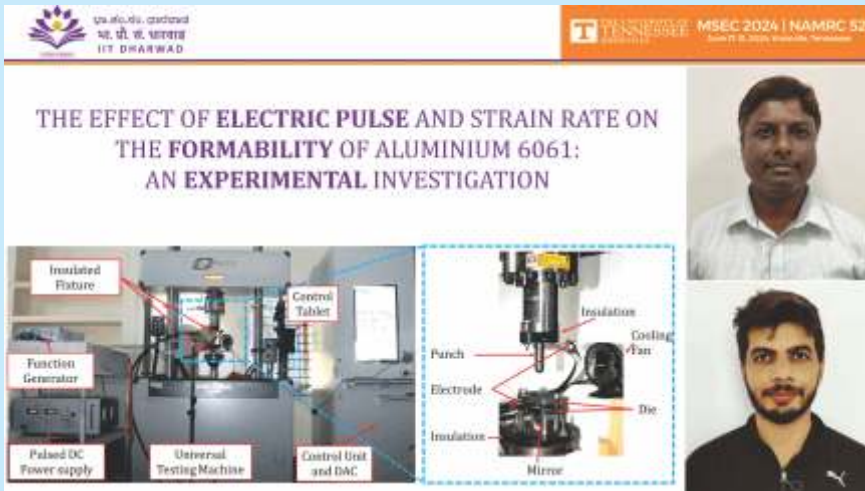
Premier Research: High-Value Publications

A research team from IIT dhArwad has had their work accepted by the highly prestigious, peer-reviewed journal Biosensors and Bioelectronics: X (Impact factor: 12.6). The team consists of Shriyut Shivam Kumar, B.Tech (EE) student, KumAri Nikita Bhandari, Ph.D. scholar (BSBE), Dr. Sudhanshu Shukla, Associate Professor (BSBE), and Dr. Ruma Ghosh, Assistant Professor (EECE). They developed a resistive sensor for detecting a superior RNA marker of prostate cancer. This breakthrough in cancer research promises significant impacts on the healthcare industry.



Director's Engagements

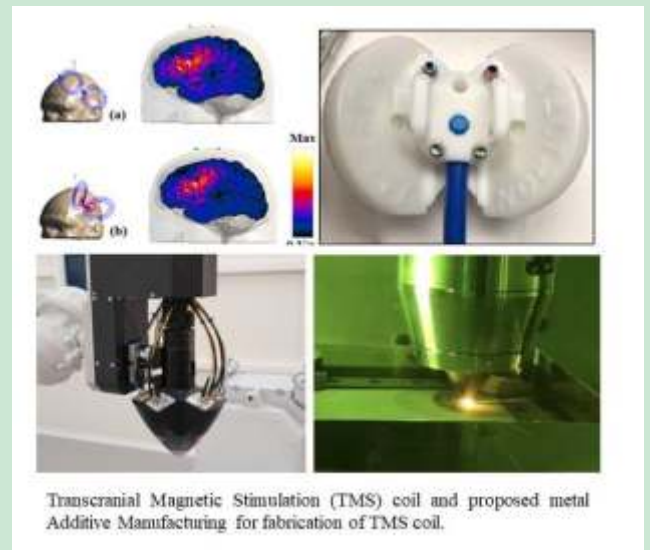
The Director served as the chief guest at a one-day national seminar on "Technology and Entrepreneurship in Forensics," conducted by the National Forensic Sciences University, Dharwad. He was an invited resource speaker at the national seminar on "Envisioning New Bharat -- Educational Reforms and Indigenous Systems," organized by The Akhil Bharatiya Rashtriya Shaikshik Mahasangh (ABRSM), in collaboration with the Tamil Nadu Higher Education Teachers Association (THETA) and Unnatha Vidyabhyasa Adhyapaka Sangham (UVAS) at Vivanta Coimbatore on June 8 and 9, 2024. Additionally, he delivered a keynote address at a seminar on "How to Be an Influential Leader," hosted by the Karnataka Law Society's Institute of Management Education and Research (KLS IMER) Toastmasters Club on May 11, 2024.



Dr. Rakesh Lingam, Assistant Professor, MMAE, presented a paper titled 'Effect of electric pulse and strain rate on the formability of aluminium alloy 6061: an experimental investigation' at the prestigious Manufacturing Science and Engineering Conference (MSEC 2024) organized by the American Society of Mechanical Engineers (ASME). In this work, a fundamental study on electric-assisted biaxial deformation is done by the research scholar Shriyut Amit Anand with financial support received from Science and Engineering Research Board (SERB), Start-up Research Grant (SRG) project.

Funding alert!

Profs. Somashekara M A and Anbukarasi Rajendran from IIT dhArwaD, in collaboration with Profs. Ravi Hadimani and Radhika Barua from Virginia Commonwealth University (VCU), USA, have secured funding from the Scheme for Promotion of Academic and Research Collaboration (SPARC), Phase-3, Apex Committee, Ministry of Education (MoE), Govt. of India. Their project focuses on advancing Transcranial Magnetic Stimulation (TMS) technology by developing personalized, focal, and deep TMS coils using metal additive manufacturing (AM). This innovative approach has the potential to revolutionize TMS treatments, enhancing precision, effectiveness, and safety. The project's objectives include improving magnetic field distribution and penetration depth through coil design, modeling, and fabrication. Additionally, it aims to optimize parameters for both single and multi-material deposition via AM, selecting the most suitable AM process.





We joyfully celebrated the 10th International Yoga Day with a series of events conducted by our Physical Education and NSS Unit which highlighted the physical, mental, intellectual, and spiritual benefits of yoga. Participants from all age groups joined together for a community yoga session, embracing the practice's power to promote health and well-being.

NSS Unit of IIT dhArwAD planted trees in the permanent campus near the Knowledge Resource and Data Centre (KRDC) building to mark World Environment Day. The Vriksha nakshatra plantation (vegetation-constellation) program signifies a commitment to creating a better future for all deriving inspiration from the traditional Indian Knowledge System (IKS).



Faculty Development Program on "Full Custom Design and Field Programmable Gate Array (FPGA) Design Flow" successfully conducted by Dr. Nagaveni, Assistant Professor, EECE, at IIT dhArwAD in collaboration with #CoreEL on 25th and 26th June 2024. Day-1 highlighted a Technical Workshop on FPGA design Flow using PynqZ2, with Day-2 featuring Analog Integrated Circuit (IC) design flow using Mentor Graphics.

Students achievement



Shriyut Manohar Jammula, a PhD scholar mentored by Prof. Somasekhara Goud Sontti, Department of Chemical Engineering, IIT dhArwaD, won the Best Presentation Award for presenting his work on "CFD Simulation of Droplet Generation in a Shear-thinning Fluid using Flow-focusing Microchannel" at International Conference on Fluid, Thermal and Energy Systems (ICFTES'24), NIT Calicut.

Shriyut Abhishek Josyula's paper on parallelizing an Eigensolver is accepted at the International Conference on Parallel Processing (ICPP), one of the oldest and premier forums in Parallel Computing. Abhishek is a graduating student from the Department of Computer Science and Engineering and this work was done along with Pritesh Verma (former Junior Research Fellow) and Profs. Amlan Barua, Amar Gaonkar, and Nikhil Hegde.



Shriyut Manohar Jammula, a PhD scholar mentored by Prof. Somasekhara Goud Sontti, Department of Chemical Engineering, IIT dhArwaD, won the Best Presentation Award for presenting his work on "CFD Simulation of Droplet Generation in a Shear-thinning Fluid using Flow-focusing Microchannel" at International Conference on Fluid, Thermal and Energy Systems (ICFTES'24), NIT Calicut.

Shriyut Chirag Singh Jadon, a BTech student of MMAE Department, has been admitted to Indian Institute of Management Indore's (IIM Indore) post graduate programme for 2024-26, achieving a Common Admission Test (CAT) 2023 percentile of 99.43.



KumAri Supriya H, a B.Tech student in the EECE Department, won a state-wide essay writing competition held in celebration of Global Wind Day 2024. The event was organized by Karnataka Renewable Energy Development Limited (KREDL), and the topic was "Wind Power Development and Its Impact on 'NET ZERO'."

Shriyut Miriyala Pranay Kamal, a B.Tech student in the EECE Department, has been accepted into The University of Texas at Dallas (UT Dallas) as a PhD student. He will work as a research assistant at Texas Analog Center Of Excellence (TxACE), the world's largest university-based analog facility, starting July-August 2024 in Richardson, TX. Pranay has also been awarded the TxACE Promising Researcher Scholarship for his exceptional undergraduate achievements and contributions to research.



Growing with IIT dhArwaD has been an enriching journey. Initially, my family was concerned about the quality of education at a new institute, but the enthusiasm and plans of the professors reassured us. The small batch size fostered close relationships among students and faculty, with professors showing personal concern for our progress. We had 24/7 access to resources and were treated as responsible adults. The faculty support for student-led projects was particularly inspiring, helping us build confidence despite failures. We engaged in real-world projects, workshops, and extracurricular activities, enhancing both technical and non-technical skills. The institute's environment allowed us to explore hobbies and grow personally. My experiences at IIT dhArwaD, filled with successes and challenges, have shaped me into a confident and self-assured individual, ready to graduate as more than just an engineer.

– Rohan Deshpande, BTech Mechanical Engg, 2016 - 2020, IIT dhArwaD



Welcome to IIT dhArwaD



From Left to Right: Prof. Venkappayya R dEsAi, Director. Prof. Amarnath Hegde, Dean IPS. Prof. Amarkumar Ayodhyasingh Kushwaha, Assistant Professor, EECE. Prof. Bal Krishna Chaube, Assistant Professor, BSBE. Mr. Ammanola Praveen Kumar, Assistant Executive Engineer, IPS. Prof. S M Shivaprasad, Dean Outreach. Prof. Amar Gaonkar, Associate dean R&D. Mr. Sundeep P, Executive Engineer, IPS. Prof. Sudhanshu Shukla, Associate Professor & Head of BSBE.

List of Donors to IIT dhArwaD (during April-June 2024)

Total Donations received till Dec. 2023 are ₹ 24,30,000

DONATIONS BY OUR ALUMNI FROM DEC, 2023-JUNE, 2024

S NO.	DATE	DONOR'S NAME	AMOUNT	S NO.	DATE	DONOR'S NAME	AMOUNT
1	28-Dec-23	Revankar Comforts Pvt Ltd	5,000.00	6	31-Dec-23	Amitkumar Gawas	2,000.00
2	29-Dec-23	Abhinav Gupta	5,000.00	7	31-Dec-23	Sonu Sourav	3,000.00
3	29-Dec-23	Ashish Raghav	501.00	8	1-Jan-24	Alok Divya	7,000.00
4	30-Dec-23	Subhamoy Rana	1,000.00	9	2-Jan-24	Rijul Kumar	500.00
5	31-Dec-23	Kunal Kumar	2,500.00	10	16-Jan-24	Saurabh Chauhan	1,000.00



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