

REPORT

National Level Medical Device Hackathon (MEDHA) 2025

Event Name: National Level Medical Device Hackathon (MEDHA) 2025 Stage-I

Event Date: 28th October 2025 and 04th November 2025

Event Venue: Gallery Hall, JSS College of Pharmacy, JSS AHER, Mysuru

Mentored By: Biomedical Engineering and Technology Innovation Centre (BETIC), IIT Bombay (IITB), Mumbai

Hosted/Organised By: JSS College of Pharmacy (JSSCP), JSS AHER, Mysuru in collaboration with SPARKLE CINE (Centre for Innovation and Entrepreneurship), IP Cell, JSS AHER, Mysuru

Medical devices are critical for a better healthcare system. Indigenous development of novel, suitable, reliable, and affordable devices lead to social impact as well as high-value jobs. National Level Medical Device Hackathon (MEDHA) 2025 was organized by JSS Academy of Higher Education and Research (JSS AHER), Mysuru, under the mentorship of Biomedical Engineering and Technology Innovation Centre (BETIC), IIT Bombay (IITB), Mumbai. MEDHA 2024 Stage-I was held on 28th October and 04th November 2025 at JSS College of Pharmacy (JSSCP), JSS AHER, Mysuru, in collaboration with SPARKLE CINE (Centre for Innovation and Entrepreneurship) and IP Cell, JSSAHER, Mysuru. The event was hosted in association with JSS Medical College (JSSMC) & JSS Hospital, JSS Dental College & Hospital (JSSDC), School of Life Sciences, JSS Science and Technology University, and Sri Jayachamarajendra College of Engineering (SJCE), Mysuru.

The objective of MEDHA 2025 was to establish a dynamic and multidisciplinary platform that unites innovative and aspiring young minds to brainstorm, collaborate, design, and propose solutions for unmet clinical needs through medical device innovations. The event acted as a collaborative hub, bringing together students, scientists, researchers, designers, medical device innovators, end-users, industry professionals, and policy makers from varied regions and professional domains. It aimed to foster the exchange of ideas, multidisciplinary collaboration, and discussions on emerging challenges and advancements in the medical device ecosystem.

Participants began by identifying genuine unmet clinical needs, in line with the MEDHA Phase I "Define" stage, by collaborating with local doctors and forming interdisciplinary teams comprising clinicians, engineers, designers, managers, and pharmaceutical professionals. Teams defined clear problem statements, validated user requirements, and developed solution concepts with early feasibility and risk analysis. Rapid prototyping and impactful presentations were prepared, with proof-of-concept models demonstrated before jury members during hackathons. Winners and runner-up teams will advance through MEDHA's innovation pathway — Clinical Need → Develop → Deliver → Deploy — to the Phase-II finale at IIT Bombay, where they will benefit from mentorship, awards, and fellowships

A total of 07 teams were formed for the Phase I presentations, out of which two teams were declared as the winners and runners-up based on novelty, potential impact, and value proposition of their proposed clinical solutions. The winning team, led by Mr. Yashwanth and Ms. Chaithra Lingaraju, presented an innovative solution titled "Develop an intelligent system for early detection of respiratory distress using physiological signal analysis and implement a real-time assistive mechanism to prevent escalation and improve patient outcomes." The project was adjudged Winner by the Jury Panel and was awarded a cash prize of ₹5,000, along with certificates of achievement and trophies. The Runner-up team, led by Mr Yashwanth, Mr. Madhusudhan and Ms. Sanhitha S, presented a clinical solution titled "Create a smart neonatal monitoring platform capable of predicting vital health parameters and detecting sleep apnea episodes to ensure continuous, non-invasive, and proactive newborn care." This team received the Runner-up award, which included a cash prize of ₹3,000, along with certificates of achievement and trophies. The Winner team earned the opportunity to present and pitch their ideas before an eminent jury panel during the Phase II event to be held in January 2026 at IIT Bombay, Mumbai. The BETIC team from IIT Bombay has further assured mentorship, guidance, and technical support to help the teams refine and translate their innovative ideas for the benefit of society.

The event organisers Dr. Gangadharappa H V and Dr. Asha Spandana, and the team from JSS College of Pharmacy, JSS AHER, along with Dr. K Bangarurajan from SPARKLE

CINE, JSSCPM, JSS AHER express their sincere gratitude to the Dr.T.M. Pramod Kumar, Principal, JSSCPM and leadership and management of JSS Mahavidyapeetha and JSS AHER for their continued guidance, support, and encouragement, which played a pivotal role in making the event a grand success. The organisers look forward to continuing this collaboration with BETIC, IIT Bombay, by hosting similar events annually. Such initiatives will contribute to identifying and curating clinical needs, training aspiring innovators, strengthening interdisciplinary collaborations, and sharing best practices among partner institutions — thereby fostering innovation and excellence in medical device development and affordable healthcare solutions.

MEDHA

MEDICAL DEVICE HACKATHON 2025

Bring Your Ideas to Life!

- Connect with doctors and engineers committed to affordable healthcare through medical device innovation.
- Identify & define unmet medical need create innovative solutions concepts fabricate prototypes and pitch to jury.
- Explore attractive opportunities for further product development along with fellowships and expert mentoring.














What is MEDHA? MEDHA is a hackathon together inter-disciplinary teams to explore medical device innovation.

Who is organizing? BETIC: Biomedical Engineering and Technology Innovation Centre IIT Bombay in collaboration with host/partner institutes.

When and where? 28th OCT & 04th Nov 2025: Phase-I Event at JSS CPM, JSS AHER, Mysuru
DEC-JAN 2025: Phase-II Event at IIT Bombay, Mumbai

What will happen?
Tue, 28th Oct: Team formation, need validation and problem definition
Tue, 04th Nov: Evaluation of clinical need, solution and proof of concept
Dec-Jan: Pitch the project to eminent jury panel in online mode/ at IIT Bombay

Who can participate? Working professionals/ Final year UG/ PG students with any of these background
Medical: Biomedical/ Medicine/ Physiotherapy/ Pharma/ Life Sciences
Design: Industrial Design/ Product Design/ Visual Communication Management
Engineering-I: Mechanical/ Manufacturing/ Materials/ Chemicals
Engineering-II: Electronics/ Communication/ Instrumentation/ Software
Each team must have at least one each of above backgrounds.
At least one of them must have professional industry or entrepreneurship experience.

Is there a selection? Yes, interested candidates need to register. They will be requested to send their biodata and portfolio of innovative project work based on which they will be short-listed, interviewed, selected and invited to participate.

Prizes & opportunities? Top teams at stage-1 will win prizes and invitation to stage-2. Final winners will have an opportunity for fellowships and support for working on their ideas.

How can I register? Contact: Dr. Asha Spandana KM at medha@jssuni.edu.in
Visit www.jssuni.edu.in MEDHA 2025 registration
Deadline: **25th October 2025**.
Registration Fee: **NO REGISTRATION FEE**
Shortlisted/ selected participants will be intimated via E-mail Before 27th October 2025



MEDHA 2025
Scan & Register

Register By: 25th OCT 2025

Phase-I JSSCPM, Mysuru	Phase-II IIT Bombay, Mumbai
OCT 28 th Team Formation	DEC 13 th Develop Stage (Online Mode)
NOV 04 th Clinical Need Evaluation	DEC 20 th Deliver Stage (Online Mode)
	DEC 27 th Deploy Stage (Online Mode)
	JAN 3 rd or 4 th Finale at IIT Bombay, Mumbai

Medical Device Hackathon (MEDHA) 2025 Phase-I

28th October & 04th November 2025

Participant Teams Details:

❖ Team 1-

Team	MEDHA-25-001
Clinical Problem/Project Chosen	Low-cost, non-invasive, paper-based diagnostic kit for early identification of Cholangiocarcinoma.
Mentor	Dr. Ram Mohan Ram Kumar
Participants	Mr. Abhay M Mr. Sindchakra K.Y Ms. Sanika D.M, Mr. Naitik Patel, Mr. Ranga M.Y

Team 2-

Team	MEDHA-25-002
Clinical Problem/Project Chosen	Develop an intelligent system for early detection of respiratory distress using physiological signal analysis and implement a real-time assistive mechanism to prevent escalation and improve patient outcomes.
Mentor	Mr. Yashwanth S.D
Participants	Ms. Chaithra Lingaraju Mr. Manoj Kumar S Mr. Manu N Ms. Meghana R. Ms. Sahana N.H

Team 3-

Team	MEDHA-25-003
Clinical Problem/Project Chosen	Design a sensor-based early detection system for identifying pressure ulcers in bedridden patients, integrated with a preventive response mechanism to enhance comfort and reduce hospital-acquired complications.
Mentor	Mr. Yash P. Jain
Participants	Mr. Adarsh Hegde Mr. Pranav Vashishta Mr. Vittal G.M.

❖ Team 4-

Team	MEDHA-25-004
Clinical Problem/Project Chosen	Create a smart neonatal monitoring platform capable of predicting vital health parameters and detecting sleep apnea episodes to ensure continuous, non-invasive, and proactive newborn care.
Mentor/s	Mr. Yashwanth S.D and Mr. Madhusudhan M P
Participants	Ms. Sanhitha S Ms. Yamuna Mr. Nithin N. P Ms. Pallavi S Ms. Shreya S

❖ **Team 5-**

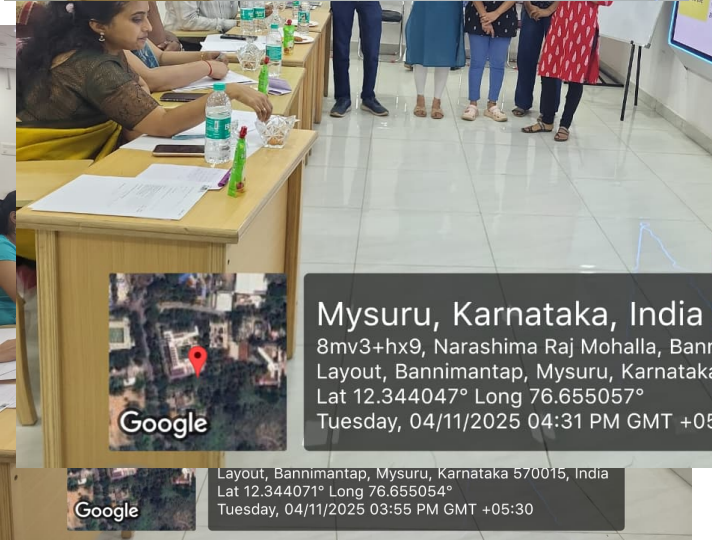
Team	MEDHA-25-005
Clinical Problem/Project Chosen	Early recognition of neonatal necrotizing enterocolitis (NEC)
Mentor	Dr. Shivu P
Participants	Mr. Sudarshan Hebbar Ms. Sushimtha KY Mr. Shrinivas B B

❖ **Team 6-**

Team	MEDHA-25-006
Clinical Problem/Project Chosen	Rural snakebite triage during transport
Mentor	Mr. Anshul V Phasi
Participants	Mr. Vaibav N S Ms. Sushma M Ms. Shalini H R

❖ **Team 7-**

Team	MEDHA-25-007
Clinical Problem/Project Chosen	Deep vein thrombosis (DVT) risk from immobility in wards
Mentor	Mr. Suravi B R
Participants	Ms. Sukruthi Rao Ms. Avani Ranade

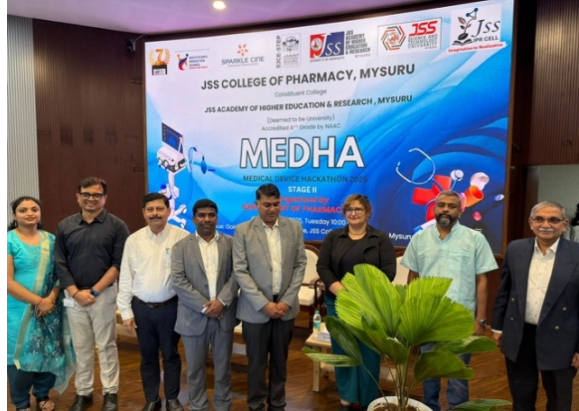


❖ **Group Photo of Teams-**



❖ **MEDHA 2025 Stage-I Selective Snaps-**





MEDHA Press/Media Coverage:



JSS Pharmacy College initiative on Medical Device Hackathon and Health Innovation Technologies

Mysuru, Nov. 6- JSS College of Pharmacy, Mysuru, in association with BETIC, IIT Bombay, SPARKLE CINE, the Department of Pharmaceutics and the Intellectual Property Rights (IPR) Cell, organised the Clinical Evaluation Stage of MEDHA 2025 (Medical Device Hackathon) and Phase II of HIT 2025 (Health Innovation Technologies) on Nov.3 and 4.

MEDHA 2025, conducted in collaboration with BETIC, IIT Bombay, is a national initiative promoting interdisciplinary medical device innovation. The Clinical Evaluation Stage marked a key milestone, where teams validated their identified clinical needs, engaged with clinicians



and refined their problem statements to ensure feasibility and clinical relevance.

Simultaneously, Phase II of HIT 2025 featured innovative project presentations by

Dr. Prashant M. Vishwanath, Dr. Muthu Dhandapani and R. Madhu Mohan were the guests of honour at the event presided over by Dr. G. V. Pujar, Vice-Principal, JSS College of Pharmacy and coordinated by Dr. K. Bangarurajan and Dr. V. Balamuralidhara.

Both HIT 2025 and MEDHA 2025 provided a platform for young innovators to receive expert feedback and strengthen their ideas.

The Stage II presentations were evaluated by a panel of experts and shortlisted teams will advance to the next stages scheduled for December 2025.

Anjali B. Gupta, Managing Director, Mysore Wifitronics Pvt. Ltd., was the chief guest.

MEDHA 2025 Medical Devices Hackathon – Winners and Runner-Up Team Details

Ranking	Team No.	Problem Statement	Team Leader/ Mentor	Members (Name & Discipline)	College	Email ID	Contact Number
1	2	Develop an intelligent system for early detection of respiratory distress	Yashwanth S.D	Sahana N.H (Pharmacy, JSSCPM) Chaithra (Biotech, JSSSTU), Manoj Kumar S (Design, JSSSTU), Manu N (Engg, JSSSTU), Maghana R (Engg, JSSSTU),	JSSSTU, JSSCPM	yashwanths@sjce.ac.in chaithra.biotech1000@gmail.com manojshambu4@gmail.com manumanu838@gmail.com maghamaiviojaba@gmail.com sahanahtilkan.fana23@gmail.com	9738006421 8861101348 9886936894 8194776116 9731673025 8105068414
2	4	Create a smart neonatal monitoring platform capable of predicting vital health parameters	Yashwanth S.D and Madhusudan M. P	Shreya S (Pharmacy, JSSCPM) Sanhiitha (Design, JSSSTU), Yamuna (Engg, JSSSTU), Nithin N (Engg , JSSSTU), Pallavi S (Engg , JSSSTU),	JSSSTU, JSSCPM	yashwanths@sjce.ac.in sanjitharesh3005@gmail.com yamunavagouda@gmail.com nithinnpradyek@gmail.com pallavi.9215@gmail.com shreyashresh@gmail.com	9738006421 9486134749 8660133780 817150296 9483769518 6387441490



MEDHA 2025 Medical Devices Hackathon — Winning Team Felicitation Ceremony



MEDHA 2025 Medical Devices Hackathon — Runner-Up Team Felicitation Ceremony