



BETIC, IIT Bombay

7th Medical Device Innovation Course

Learn how to navigate: Idea ▶ Invention ▶ Innovation ▶ Impact

MEDIC2022

2 Sep – 2 Oct, 2022

INVITATION

Med-tech industry professionals, clinicians, start-up founders, R&D managers, innovation or incubation center heads, teachers & mentors committed to medical device innovation!





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KEY FEATURES

OUTLINE

- Intensive training program in medical device innovation
- Fine-tuned over last 6 years with several success stories
- Smart blended experiential learning (online and offline)
- Inter-disciplinary team project and expert jury feedback.

FACULTY

- Expert lectures by faculty from different disciplines
- Project guidance by mentors with med-tech experience
- Interactive sessions with top industry professionals
- Peer learning with inter-disciplinary team members.

BENEFITS

- ISO 13485 certified process of clinical need definition, product development, validation and commercialization
- Immediate application through medical device project
- Networking with experts and diverse team members
- Course certificate and opportunity to win fellowships.

KEY DATES

- 15 Aug: Pre-registration deadline
- 25 Aug: Registration & fee payment
- 02 Sep: Course inauguration
- 01 Oct: Course conclusion.

[Click here to Pre-Register](#)



CONTACT: E-mail: events@betic.org | Website: www.betic.org



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FAQ & ANSWERS

What is MEDIC about?

MEDIC is a 4-week course covering the pathway from unmet clinical need identification to novel product development, pre-clinical validation and business venture planning.

Who can participate?

Med-tech industry professionals, clinicians, startup founders, R&D managers, innovation or Incubation center heads, teachers and mentors with any of these backgrounds:

Medical: Biomedical / Medicine / Physiotherapy / Pharma

Design: Industrial Design / Product Design / UI & UX / Graphic

Engineering-I: Mechanical / Manufacturing / Materials / Chemical

Engineering-II: Electronics / Electrical / Instrumentation / Computer

Time commitment?

The course is organized in *online* mode over four weekends and finale in *physical* mode. Saturdays will have expert lectures in morning and discussions in afternoon. Sundays are meant for team projects. The final presentations will be at IIT Bombay on Sat, 1 Oct.

What are team projects?

Participants will view clinical problem videos from expert doctors, form inter-disciplinary teams, brainstorm ideas, evolve concepts and fabricate prototypes. BETIC mentors will provide necessary guidance and support. Pre-formed teams and pre-selected problems are allowed as long as relevant criteria (unmet need, novelty, feasibility, etc.) are met.

Outcome & opportunities?

Knowledge about medical device innovation + Experiential learning through team project + Networking with faculty, experts and peers + Opportunity to win prizes and fellowships.

Is there a selection?

Interested candidates need to pre-register. They will be selected based on their biodata, portfolio of projects and commitment to med-tech innovation; then invited to register.

How can I register?

Contact: events@betic.org. Pre-register at [BETIC→Events→MEDIC](#). After selection, pay the registration fees (Rs. 27,500) using the link provided via email, to confirm the seat. Fees cover the course kit, access to all sessions and certificate from IIT Bombay.

Any other costs?

Participants need to make their own travel arrangements to IIT Bombay for the Finale. IIT-B guest house will be available on first-come basis, to be paid by the participants.

Sponsorships available?

Selected participants may approach their/other organizations to cover the course fees.



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SCHEDULE

Day, Date	Lecture Session (09:00-13:00)	Interaction (15:00-18:00)
Fri, 2 Sep		Course Inauguration
Sat, 3 Sep	Need Definition: Healthcare; Medical devices; Global med-tech industry; Market pull & technology push; 4D Innovation Process; Innovation team formation; Domain familiarization; Clinical immersion; Problem definition	Doctors Videos: Clinical problems and team formation
Sun, 4 Sep	Team project: Problem definition & specifications (offline)	
Sat, 10 Sep	Product Development: Concept evolution; Concept selection; Proof-of-concept & feedback; Product configuration; CAD, simulation & validation; Plastic, metal and electronics prototyping; Design verification	Case Study & Discussion Expert FAQ: Mechanical and electronics prototyping
Sun, 11 Sep	Team project: Concept design, Product design, CAD modelling (offline)	
Sat, 17 Sep	Product Delivery: Biocompatible materials; Medical-grade manufacturing; Quality system; Risk, failure modes & effects; Regulatory pathway; Pre-clinical lab testing; Human clinical studies; Manufacturing license	Case Study & Discussion Expert FAQ: Medical device manufacturing & testing
Sun, 18 Sep	Team project: Basic prototype fabrication, preliminary testing (offline)	
Sat, 24 Sep	Product Deployment: Patent filing & IPR; Technology licensing; Business venture planning & partners; Go-to-market; Supply chain & distribution channel; Funding avenues; Proposal pitching; Future roadmap	Case Study & Discussion Expert FAQ: Patenting, marketing & startup finance
Sun, 25 Sep	Team project: Pitch preparation (problem, solution, prototype & feedback).	
Sat, 1 Oct	Finale: Team project pitching, prototype demo and interaction with others.	Jury Discussion & Prizes
Sun, 2 Oct	Lab Visits: BETIC (Medical device design, prototyping and testing facility)	



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FACULTY & MENTORS



Prof. B. Ravi, Institute Chair Professor, Mechanical Engineering Dept., IIT Bombay; PI, Biomedical Engineering & Tech. Innovation Centre (BETIC); INAE Fellow; Member, expert committees of several organisations.



Arun G Krishnan, Senior Project Manager of Design at BETIC, IIT Bombay. Masters from IISc Bangalore; worked earlier at Godrej & Boyce, Altair Engineering and Cognizant Technology, as well as with Harvard University in med-tech.



Dr. Rupesh Ghyar, Senior Executive Officer, Biomedical Engineering & Technology Innovation Centre (BETIC); MS, Bioengineering, Strathclyde University UK; PhD, IIT Bombay; Industry experience (TJ Huges, Osim, Mark).



Bharti Dhaundiyal, In-charge of medical device quality management system and regulatory affairs at BETIC, IIT Bombay. She graduated from Mumbai University; worked earlier in industry as quality analyst and device certification planner.



Dr. Nishant Tikekar, Adjunct Associate Professor DS School of Entrepreneurship, IIT Bombay; MS & PhD, University of Utah, USA; Industry experience (Amedica Corp, DuPont, Cardinal Health, FieldGlobal and other organisations).



Sagar Talele, In-Charge of device prototyping, manufacturing and mechanical testing at BETIC, IIT Bombay, he also developed and patented several medical device projects. He has Masters in CAD/CAM & Robotics at KJSCE, Mumbai.



Chirag Tanna, Director, Patent & Trademarks, INK IDEE (India and Singapore); Partner, Intellectual Property Rights, Eight Mercatus, Singapore; Resident Expert, Intellectual Property Rights, Kofounderz Team.



Tapas Pandey, In-Charge of electronics design, PCB fabrication and electrical safety testing at BETIC, IIT Bombay. He has co-developed and patented several devices like smart stethoscope. He earlier worked in Intel, Hyderabad.

ABOUT BETIC

Biomedical Engineering & Technology Innovation Centre (betic.org) is an inter-disciplinary multi-institution network of engineering and medical institutes for indigenous development of affordable medical devices. It is supported by RGSTC, Mumbai, as well as DST, BIRAC and ICMR, Delhi. Since its inception in 2014, BETIC team gathered over 450 unmet clinical needs, developed 240 different proof-of-concepts, and filed 60 patents. Of these, 16 products have been licensed to start-ups incubated by researchers and 14 licensed to or developed for local industry partners. Products such as smart stethoscope, diabetic foot screener, hybrid plaster splint, prosthetic leg and surgery guides have won prestigious awards and have benefitted many patients. Many such inventors were trained at previous editions of Medical Device Innovation Course.