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MINDH
Medical Informatics
& Digital Health Lab

MALAVIYA MISSION
TEACHER
TRAINING PROGRAMME

భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Short-Term Programme on Medical Informatics and Digital Health (MMSTP)

DATE & VENUE: 17-21 March, 2025; IIT Hyderabad

Organiser:

Dr. Nagarajan Ganapathy,

INDIAN INSTITUE OF TECHNOLOGY, HYDERABAD

Event Overview

The *Short-Term Programme on Medical Informatics and Digital Health (MMSTP)* was organized by the **UGC - Malaviya Mission Teacher Training Centre** at **IIT Hyderabad** in February 2025. Under the coordination of **Dr. Nagarajan Ganapathy**, the event aimed to provide a strong academic platform for faculty and researchers to explore new advancements and interdisciplinary research in digital health and medical informatics.

The program brought together **distinguished experts** from premier institutions across India and abroad, including **IITs, NITs, IIITDM, and Harvard Medical School**, to share their insights on recent developments in the field. The 5-day short-term training program focused on key topics such as **biosignal processing, AI in medicine, multivariate iterative filtering, and medical device innovation**.

Event Highlights

Inauguration

The inaugural session began with a **traditional lamp-lighting ceremony**, followed by a welcome address from **Prof. Ramakrishnan Swaminathan (IIT Madras)** and **Dr. Aravind Rengan (IIT Hyderabad)**. The dignitaries emphasized the importance of medical informatics in transforming healthcare delivery and highlighted the role of inter-institutional collaboration in fostering innovation.

Technical Sessions

The sessions were structured to include lectures, demonstrations, and interactive Q&A rounds. Some of the prominent talks included:

- **Dr. Jaladhar Neelavalli** on MR image reconstruction

- **Dr. Navaneeth** (Harvard Medical School) on translational informatics

- **Dr. Rohini P.** on signal processing in digital health

- **Dr. Suhail Rizvi**, **Dr. Ram Bilas Pachori**, and others on machine learning applications in biomedical data

Each session facilitated active audience engagement and featured **live demonstrations**, such as the **MIF (Multivariate Iterative Filtering)** technique, which sparked a lively technical discussion among participants.

Speaker Panel

A stellar list of experts participated in the event:

- Dr. Ramakrishnan Swaminathan, IIT Madras
- Dr. Aravind Rengan, IIT Hyderabad
- Dr. Jaladhar Neelavalli, IIT Hyderabad
- Dr. Himanshu, Cleveland Univ, USA
- Dr. Nagarajan Ganapathy, IIT Hyderabad (Organiser)
- Dr. Jac Fredo, IIT BHU (Varanasi)
- Dr. Lokesh, IIT Indore
- Dr. Venugopal, NSS CEG, Kerala
- Dr. P. A. Karthick, NIT Trichy
- Dr. Navaneeth, Harvard Medical School, USA
- Dr. Suhail Rizvi, IIT Hyderabad
- Dr. Ram Bilas Pachori, IIT Indore
- Dr. Rohini P., IIITDM Chennai
- Dr. Kiran Marri, Movate, Bengaluru

Inauguration (10:00 am – 10:45 am)

The event commenced with a traditional lamp lighting ceremony symbolizing the pursuit of knowledge and enlightenment in the realm of digital health. The ceremony was graced by distinguished dignitaries and faculty members.

The inaugural address was delivered by **Prof. Ramakrishnan Swaminathan** (IIT Madras), who emphasized the transformative impact of digital health technologies on clinical practice and public health. He highlighted the need for interdisciplinary collaboration between engineers, clinicians, and data scientists, and encouraged participants to engage deeply with the evolving landscape of medical informatics.

Following his address, **Prof. Renu John** (Department of Biomedical Engineering, IIT Hyderabad) spoke on the strategic importance of translational research in biomedical engineering. She underlined the institute's ongoing initiatives in digital health and the role of such training programs in capacity building for educators and researchers.

Dr. Aravind Rengan (IIT Hyderabad) welcomed the speakers and participants, offering an overview of the program objectives. He elaborated on emerging trends in biosignal analytics

and the importance of foundational understanding in implementing advanced AI techniques in clinical workflows.

Session Details

The Short-Term Programme on Medical Informatics and Digital Health (MMSTP) was conducted from March 17 to 21, 2025, at IIT Hyderabad, with daily sessions held from 9:00 AM to 5:00 PM. The program was designed to offer a balanced mix of theoretical knowledge and practical exposure, catering to the needs of faculty, researchers, and postgraduate students.

Each day featured expert-led technical sessions, focusing on topics such as biosignal processing, AI in healthcare, multivariate iterative filtering (MIF), machine learning in biomedical engineering, and digital health systems design.

A key highlight of the program was the hands-on training session conducted by Analog Devices, where participants were introduced to state-of-the-art hardware and software tools used in biosignal acquisition and analysis. Attendees worked directly with development kits and signal processing modules, gaining practical insights into building and testing biomedical applications.

The sessions were interactive, with ample time allotted for Q&A, group discussions, and software demonstrations. Participants appreciated the application-oriented approach and the opportunity to explore real-world tools and datasets.

Valedictory Session

The program concluded with a valedictory session where each speaker was felicitated with a token of appreciation. Dr. Nagarajan Ganapathy delivered the vote of thanks, acknowledging the support of faculty, administration, and the MMSTP organizing committee.

A group photo session was held with participants and the organizing team to commemorate the success of the event. The feedback received from attendees reflected high satisfaction with both the academic content and the logistics of the program.

Summary and Feedback

The MMSTP 2025 witnessed participation from over 75 attendees, including faculty members, researchers, and postgraduate scholars from various institutions. The sessions were rated highly for their clarity, depth, and relevance to current trends in healthcare and technology.

Participants appreciated the opportunity to engage directly with speakers, ask questions, and explore collaborative avenues. The hands-on exposure and interdisciplinary discussions were highlighted as key strengths of the workshop.

Acknowledgements

We extend our sincere gratitude to all our esteemed speakers and guests for their participation and intellectual contributions. We are thankful to UGC - Malaviya Mission Teacher Training Centre and the Director of IIT Hyderabad for providing institutional support.

A special thanks to the student volunteers, administrative staff, and technical team whose dedication and efforts made the event a seamless success. We look forward to organizing similar academic exchanges in the future to advance the vision of innovation in digital health and biomedical research.

Gallery