**Dept. of Electronics and Communication Engineering
and
Dept. of Information Technology**

Organizes

One Week Faculty Development

Program

(Online)

on

AI-Driven Wearables and Robotics: Transforming the Future of Healthcare and Telemedicine

27th January to 1st February 2025

Sarvajanik University

*Sarvajanik College of Engineering and Technology
Dr. R.K. Desai Marg, Athwalines, Surat, Gujarat*

AICTE TRAINING AND LEARNING (ATAL) ACADEMY (ONLINE)

About the Institute

Sarvajanik Collegeof Engineering and Technology (SCET) is one of the prime Institutions offering technical education in the field of Engineering & MCA. It is one of the constituent institutes of Sarvajanik University, Surat. SCET being one of the institutes of the biggest Philanthropic society of the country has a strong base of values and commitments to create a progressive civilization.

SCET located in the heart of the city presently enrolls more than 2000 students in various disciplines of Engineering and MCA with 9 UG courses and 4 PG courses. Five of its undergraduate programsnamely Civil Engineering, Computer Engineering, Electrical Engineering, Electronics and Communication Engineering, Instrumentation and Control,are accredited by National Board of Accreditation.

Since 1995 SCET continuously keeps on upgrading its resources in terms of its human as well as infrastructure. It continues to foster the innovative minds who have carved a successful and a specialniche in this competitive world of academicsfor technical educationand is marching ahead to become one of the most premieracademic institutes in the country.

Vision of Institute

To evolve into centre of excellence by providing value based technical education, transformative research and innovations for creating a sustainable and advanced society.

Mission of Institute

To develop, train and nurture intellectually capable, innovative and entrepreneurial professionals to contribute to the growth of science and technology through education, research, global consultancy and industry-academia collaboration.

About the Departments

Electronics & Communication Engineering Department is actively contributing to quality research particularly in Image and Signal Processing and Pattern Recognition, Artificial Intelligence, VLSI, and Embedded System Design. The department has 13 faculty members actively involved in research and academic activities. Electronics and Communication Engineering department is Re-Accredited by National Board of Accreditation, New Delhi for 3 years w.e.f. July, 2022.

The Department of Information Technology has dedicated, fully-qualified and highly experienced teaching faculty who are committed towards nurturing young IT professionals of the next generation. The Department has 21 faculty members actively involved in research and academic activities.

Patron
Dr. Hiren H. Patel
Principal, SCET

HEAD OF THE DEPARTMENT
Dr. Chirag Paunwala
(Electronics and Communication Engineering)

Dr. Vivaksha Jariwala
(Department of Information Technology)

COORDINATOR
Dr. Chirag Paunwala, Professor, Electronics and Communication Engineering, SCET, Surat

CO-COORDINATOR
Dr.Vivaksha Jariwala, Professor, Department of Information Technology, SCET, Surat

Organising Committee

1) **Prof. (Dr.) Ketki C. Pathak**, Assistant Professor, Electronics and Communication Engineering Department, SCET.

2) **Prof. (Dr.) Vandana J. Shah**, Assistant Professor, Electronics and Communication Engineering Department, SCET.

3) **Prof. Chhaya P. Suratwala**, Assistant Professor, Electronics and Communication Engineering Department, SCET.

4) **Prof. Ankit Kharwar**, Assistant Professor, Information Technology Department, SCET

5) **Prof. Ankit Patel**, Assistant Professor, Artificial Intelligence Department, SCET

6) **Prof. Karishma Desai**, Assistant Professor, Artificial Intelligence Department, SCET

Technical Assistant

Ms. Khushbu Naik, Lab Assistant, Information Technology Department, SCET

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About Programme

The future outlook for AI and robotics in the healthcare sector is highly promising, with potential applications ranging from elderly care, drug discovery, and the diagnosis of life-threatening diseases to enhancing clinical trials, enabling remote patient monitoring, and predicting epidemic outbreaks. This convergence of technology is anticipated to revolutionize healthcare practices, becoming increasingly prevalent in the imminent future.

This FDP is mainly focused on the techniques like computer vision, pattern recognition, machine learning and deep learning for health care applications.It is aimed that trained faculties will be helpful to their students/researchers to fulfill the mission of government.

Objectives of FDP

- This FDP endeavors to inspire faculty members/PG Students/Research Scholars and Industry Professionals in the field of research and academia to foster innovative developments in wearable healthcare devices.
- The integration of robotics in healthcare is a transformative approach encompassing a spectrum of functions, including surgery, medication delivery, patient monitoring, and overall support and care.

FDP Contents

- Smart Wearable Technologies for Personalized Health Management
- Practical Exploration of Early Detection of Dyslexia using EEG Signal Analysis
- Transforming Healthcare with AI-Driven Thermal Imaging Technology
- Bluetooth ECG – opportunities and Challenges
- Touchpoints of Care: The interaction of User Technology and User Experience in Wearable
- Physical Prospective of Quantum Computing and Machine Learning
- Brain-Computer Interfaces – Are We There Yet?
- The Path of Medical Imaging Innovations: From Early Ideas to Product and Clinical Adoption
- Role of AI in Cancer and Cardiovascular Diseases Detection and Management
- AI and Peritoneal Dialysis
- Implications for diagnosis of AI based histopathology image classification
- Measuring presence in virtual reality using machine learning

Guidelines

- Faculty Development Program comprises of 13 sessions
- Timing will be from 6:00 PM to 9:00 PM
- The FDP v,ill beconducted in the online mode with three sessions per day:
  Session 1: 6.00 pm to 7.30 pm
  Session 2: 7.30 pm to 9:00 pm
- On the last day of the course, there will be an objective assessment test. Digital certificate by ATAL Academy will be awarded to participants who have an attendance of more than 80% and score more than 60%in the test.

Eligibility to attend FDP

- The programme is open to Faculty Members, Postgraduate students, Research scholars and Industry Professionals.

Registration Details

- There is No registration fee for participation. Participants can sign up and register for the program through the AICTE ATAL website using the following links:
  https://"www.aicte-india.org/ atal
  or
  https://atalacademy.aicte-india.org/signup

Important Dates

- Last date for Registration: **18th Jan, 2025**
- List of Eligible Candidates: **20th Jan, 2025**
  (E-mail will be sent to eligiblecandidates)

Resource Persons

Dr. Amit Joshi
Associate Professor, MNIT Jaipur

Dr. Shankar Parmar
Assistant Professor, GEC, Dahod

Dr. Siva Teja Kakileti
Principal Research Scientist and Director, Niramai, Bengluru

Dr. Utpal Pandaya
Professor, Instrumentation and Control Department and Dean R&D, SCET, Surat

Mr. Rahul Makahaniya
Founder of UserEx consulting

Dr. Monika Aggarwal
Professor, IIT Delhi

Ivan Tashev
Partner Architect at MicrosoftResearch (Distinguished Industry Speaker, IEEE Signal Processing Society)

Mariya Doneva
Senior Scientist at Philips Research Hamburg (Distinguished Industry Speaker, IEEE Signal Processing Society)

Dr. Rohit Thanki
Designation & Organization: CTO, DETMEDX, Wolfsburg, Germany

Mr. Akbar Doctor
Principal Engineer, Fresenius Medical Care

Dr. Hiren Mewada
Assistant Research Professor, Prince Mohammad Bin Fahd University, Al khobar, Saudi Arabia

Prof. Anubha Gupta
Professor, IIIT, Delhi

Schedule

Day 1	Day 2	Day 3
6.00 PM to 6.30 PM Inaugural Function **6:30 PM to 8:00 PM** **Session 1** Topic: Smart Wearable Technologies for Personalized Health Management Name of the Expert: Dr. Amit Joshi Designation &Organization: Associate Professor, MNIT, Jaipur Years of Exp: 18 years **8:30 PM to 9:30 PM** **Session 2** Topic: Practical Exploration of Early Detection of Dyslexia using EEG Signal Analysis Name of the Expert: Dr. Shankar Parmar, Designation &Organization: Asst Prof., GEC, Dahod Years of Exp: 20	**6:00 PM to 7:30 PM** **Session 3** Topic: Transforming Healthcare with AI-Driven Thermal Imaging Technology Name of the Expert: Dr. Shiva Teja Kakileti Designation &Organization: Principal Research Scientist and Director, Niramai, Bengluru Years of Exp: 10 yrs **7:30 PM to 9:00 PM** **Session 4** Topic: Bluetooth ECG – opportunities and Challenges Name of the Expert: Dr. Utpal Pandya Designation &Organization: Professor and Dean R&D, SCET, Surat Years of Exp: 30	**6:00 PM to 7:30 PM** **Session 5** Topic: Touchpoints of Care: The interaction of User Technology and User Experience in Wearable Name of the Expert: Mr. Rahul Makahaniya Designation & Organization: Founder of UserEx consulting Years of Exp: 15 **7:30 PM to 9:00 PM** **Session 6** Topic: Physical Prospective of Quantum Computing and Machine Learning Name of the Expert: Dr. Monika Aggarwal Designation &Organization: Professor, IIT Delhi Years of Exp: 25
Day 4	**Day 5**	**Day 6**
6:00 PM to 7:30 PM **Session 7** Topic: Brain-Computer Interfaces – Are We There Yet? Name of the Expert: Dr. Ivan Tashev Designation &Organization: Partner Architect at Microsoft Research Years of Exp: 35+ **7:30 PM to 9:00 PM** **Session 8** Topic: The Path of Medical Imaging Innovations: From Early Ideas to Product and Clinical Adoption Name of the Expert: Dr. Mariya Doneva Designation &Organization: Senior Scientist and a Team Lead at Philips Research, Hamburg, Germany. Years of Exp:20+	**6:00 PM to 7:30 PM** **Session 9** Topic: Role of AI in Cancer and Cardiovascular Diseases Detection and Management Name of the Expert: Dr. Rohit Thanki Designation &Organization: CTO, DETMEDX, Wolfsburg, Germany Years of Exp: 20+ **7:30 PM to 9:00 PM** **Session 10** Topic: AI and Peritoneal Dialysis Name of the Expert: Mr. Akbar Doctor Designation &Organization: Principal Engineer, Fresenius Medical Care Years of Exp: 15+	**2:00 PM to 3:30 PM** **Session 11** Topic: Implications for diagnosis of AI based histopathology image classification Name of the Expert: Dr. Hiren Mewada Designation &Organization: Assistant Research Professor, Prince Mohammad Bin Fahd University, Al khobar, Saudi Arabia Years of Exp: 20+ **3:30 PM to 5:00 PM** **Session 12** Topic: Measuring presence in virtual reality using machine learning Name of the Expert: Prof. Anubha Gupta Designation &Organization: Professor IIIT Delhi Years of Exp:25+ **5:00 PM to 6:00 PM** Feedback and Online Test **6:00 PM to 6:30 PM** Valedictory Session