



3rd SYMPOSIUM ON INDUSTRIAL-BASED BIOMEDICAL ENGINEERING RESEARCH (SIBER-2025) PROGRAM

The 3rd IBTec/IEEE Symposium on Industrial-based Biomedical Engineering Research (SIBER) will be held this year in response to the growing interaction between the field of Biomedical Engineering and Healthcare Industries. The symposium will provide a national/international technical forum for experts from the industry and academia to exchange ideas and present ongoing research results in state-of-the-art biomedical engineering.

Come along to hear from Keynote Speakers, Researchers, Postgraduate Students and Industry Leaders.

*Host:	SCHOOL OF ENGINEERING, COMPUTER AND MATHEMATICAL SCIENCES- IBTEC IEEE NEW ZEALAND NORTH SECTION – EMBS CHAPTER
*Contact person:	HAMID GHOLAMHOSSEINI
*Contact email:	HGHOLAMH@AUT.AC.NZ
Contact phone:	09 921 9999 EXT. 8755
*Date:	WEDNESDAY 10 SEPTEMBER
*Start time:	8.30AM
*End time:	5PM
*Venue:	WZ416

10 September – WZ416 – AUT City Campus- St Paul St

TIME	MORNING SESSION ONE- 8:30 TO 10:30 Chair: Professor Andrew Lowe	EVENT
8:30 – 9:00	In-person registration, Arrival Tea, Coffee and Water	Registration
9:00 – 9:10	Professor Tek Tjing Lie – Head of School of Engineering, Computer and Mathematical Sciences, Auckland University of Technology & Past Chair of IEEE New Zealand North Section	Welcome
9:10 – 9:40	Keynote 1 – Steve Leftly – Myovolt Limited Engineering Frequency Controlled Wearable Focal Vibration for Remote Neuromuscular Rehabilitation	Keynote #1
9:40 – 9:55	Speaker 1, Usman Shaikh , Anubha Kalra, Andrew Lowe and Imran Niazi Automatic Eye-Blink Artifact Removal from Single-Channel EEG With Variation Mode Decomposition and Machine Learning	Submission #13
9:55 – 10:10	Speaker 2, Ehsan Ullah , Muhammad Afridi, Ghulam Rasool, A Mukund, A Waqas, P Poombal, A Parwani and M Bui Quantifying Uncertainty to Improve Tissue Detection in Digital Pathology: Comparative Evaluation of Evidential Deep Learning, Monte Carlo Dropout, and Ensemble Methods	Submission #18
10:15 – 10:30	MORNING TEA	Q&A

TIME	MORNING SESSION TWO – 10:30 TO 12:30 Chair: Dr Gautam Anand	EVENT
10:30 – 10:45	Speaker 3, Rayner Swartz and Ranpreet Kaur Multimodal Detection of Depressive States using Facial Expressions, and Speech Emotion Analysis: A Mental Health Monitoring Approach	Submission #11
10:45 – 11:00	Speaker 4, Arunima Ballav , Dr. Anubha Kalra, Dr. Gautam Anand and Dr. Ali Seyfoddin An Integrated Sensor Platform for Multi-Modal Chronic Wound Monitoring	Submission #6
11:00 – 11:15	Speaker 5, Helena Bahrami and Samaneh Madanian A Two-Stage Graph-Temporal Framework for Robust Multimodal Fusion and Treatment-Aware Modelling in Dementia Diagnosis and Subtyping	Submission #4
11:15 – 11:30	Speaker 6, Hong Thuy Christina Nguyen and Jeff Kilby A comprehensive review of the history and development of iPPG	Submission #14

11:30 – 11:45	Speaker 7, Tharika Weerakoon , Boris Bacic and Hamid GholamHosseini Cross-Domain Perspectives on Quantifying Anticipatory Decision-Making	Submission #15
11:45 – 12:00	Speaker 8, Ameya Mahale , Anubha Kalra, Gautam Anand and Farhaan Mirza A Multi-Modal Sensing Approach to Monitoring Heart Arrhythmias for Assessing Heart Failure Risk	Submission #7
12:00 – 12:30	Speaker 9, Mohammad Shariful Islam and Md Jahidul Islam Cardiac-SAM: A Specialized Fine-Tuning Framework for Cardiac-MRI Segmentation	Submission #17
12:30 – 13:30	LUNCH AND TECHNOLOGY SHOWCASE (60 MINS)	Q&A

TIME	AFTERNOON SESSION ONE – 13:30 TO 15:00 Chair: Professor Hamid GholamHosseini	EVENT
13:30 – 14:00	Mika Joronen, Dr Mirza Baig, Dedalus Healthcare, NZ	Keynote #2
14:00 – 14:15	Speaker 10, Hari Sannamuri Sustainable Bites: Leveraging AI to Decode Food Emissions and Nutrition for Conscious Consumption	Submission #2
14:15 – 14:30 Online	Speaker 11, Santosh Kumar Camgaze.js: Browser-Based Eye Tracking with Standard Cameras	Submission #1
14:30 – 14:45 Online	Speaker 12, Ashok Kumar Reddy Kuturla Enhancing Therapeutic Antibody Development: A Machine Learning Approach to Predicting CDR-H3 Loop Structural Quality	Submission #5
14:45 – 15:00	Speaker 13, Somayeh Khamoushi , Jeff Kilby, Kartikay Lal and Reilly Dunn Knee Joint Movement Using Stepper Motor and Microcontroller	Submission #10
15:00 – 15:30	AFTERNOON TEA	Q&A

TIME	AFTERNOON SESSION TWO – 15:30 TO 17:00 Chair: Dr Anubha Kalra	EVENT
15:30 – 15:45 Online	Speaker 14, Shereen Afifi , Ranpreet Kaur and Aya Salama Next-Generation Skin Monitoring with AI-Powered Extended Reality (XR) Solutions	Submission #9

15:45 – 16:00 Online	Speaker 15, Kerollos Habib , Nader Rezallah, Shereen Afifi and Aya Abdelhady Automating Dental Nomenclature with AI: Tooth Identification and Labeling in Radiographs	Submission #16
16:00 – 16:15	Speaker 16, Tanuj Wadhi Online Electrocardiogram Compression on Edge Devices	Submission #12
16:15 – 16:30 Online	Speaker 17, Kareem Osama , Shereen Afifi, Mohamed Salem and Syed Fawad M. Zaidi Leveraging Virtual Reality for Persistent Postural-Perceptual Dizziness	Submission #8
16:30 – 16:45	Speaker 18, Hamid GholamHosseini Closing Remark	
16:45 – 17:00	CLOSING REMARKS AND PRIZE-GIVING	

Symposium Information and Abstract Submission:

SIBER-25

