2nd SYMPOSIUM ON INDUSTRIAL-BASED BIOMEDICAL ENGINEERING RESEARCH (SIBER-2024) PROGRAM

10 September - WA224 – AUT City Campus

TIME	MORNING SESSION ONE- 9:00 To 10:30 Chair Prof Andrew Lowe	EVENT
8:30 – 9:00	In-person registration	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	**Richard Scott** - Uscom New Zealand Title – BP Plus Story	Keynote #1
9:40 – 9:55	**A. Adebanji***, S. Madanian and A. Olayinka Emotion Detection in Short Speech Through Wavelet Decomposition: A Mental Health Monitoring Perspective	Submission #1
9:55 – 10:15	**Ibtisam A. Abbas Al-Darkazly** Development of A Power-Efficient CMOS Active Electrode for Low-Frequency Biomedical Signal Processing and Stimulation	Submission #2
10:15 – 10:30	MORNING TEA	Q&A

TIME	MORNING SESSION TWO – 10:30 TO 12:30 Chair Dr Mirza Mansoor Baig	EVENT
10:30 – 10:45	**C. Feng***, B. Bacic, and W. Li Open-Source Arduino-Based IOT IMU Sensor Prototyping Framework for Biomechanists	Submission #3
10:45 – 11:00	**Dunja Vajsakovic*,** Amit Barde, Andrew Lowe, and Grant D. Searchfield Your Head Is Humming, and It Won't Go: Development of An Artificial Intelligence (AI) Driven Wearable Electroencephalography (ECG) Array for Guiding Tinnitus Treatment	Submission #4

TIME		EVENT
11:00 – 11:15	**Barry Faamoana Rerecich***, Ranpreet Kaur, Rajendra Singh and Ehsan Ullah A Chatbot for Skin Pathology Based on GPT 3.5 Model: A Proof of Concept & Preliminary Findings	Submission #5
11:15 – 11:30	*David Leach**, Kahn Kemp-Boyle, and Ranpreet Kaur Generative AI System for Prison Inmates to Assist Health Solutions: Preliminary Findings	Submission #6
11:30 – 11:45	*Gulfeshan Parween**, Adnan Al-Anbuky, Grant Mawston, Andrew Lowe IoT-based Human Movement Monitoring System: Prospect for Conceptual Digital Twin	Submission #7
11:45 – 12:00	*Matin Khalili**, Andrew Lowe, Hamid GholamHosseini ECG Monitoring from The Neck Using Capacitive Elec Electrodes	Submission #8
12:00 – 12:30	**Nia Williams**, Sales Director - North Island NZ & **Carey Cambell**, Clinical Director – Orion Health Title: Banished to SIBERia? Bringing nurses back in from the cold; The real value of clinical input in technology development	Keynote #2
12:30 – 13:30	**LUNCH AND TECHNOLOGY SHOWCASE (60 MINS)**	Q&A

TIME	AFTERNOON SESSION ONE – 13:30 TO 15:00 Chair Dr Anubha Kalra	EVENT
13:30 – 14:00	**Dr Sandra Grau-Bartual,** Founder & CEO, RespirAq Title – Testing and research to help progress regulatory and business	Keynote #3
14:00 – 14:15 Online	*Minh Hoang Quach**, Dr. Samaneh Madanian, and Upeka Madhavi De Silva Kalumith Speech Analysis as a Decision Support System in Healthcare for Detecting Mild Traumatic Brain Injury	Submission #9
14:15 – 14:30	**Mirza Baig***, Hamid GholamHosseini, Ehsan Ullah and Shereen Afifi The role of Gen AI in patient monitoring - Challenges and Opportunities	Submission #11
14:30 – 14:45	**Priyadarshini Natarajan***, Rajesh Sirigireddy, Suresh Munuswamy and Samaneh Madanian Can Oral Conditions Be Visualized Better When Illuminated With Custom-Built Multispectral LED's And Imaged With Regular Cameras?	Submission #15
14:45 – 15:00 Online	*Weifan Zhao**, Samaneh Madanian Speech Analysis for Diagnosis of Sports-Related Concussion	Submission #17
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	**Karol Adel Kamal Abdo*,** Shereen Afifi, Radwa Taha, and Ranpreet Kaur Multiple Skin Lesion Detection and Diagnosis By Applying Transformer Framework: Experimental Findings	Submission #18
15:45 – 16:00 Online	**Youssef Magdy Samy Poulis***, Radwa Taha, Shereen Moataz Afifi, Mohammed Salem Generative-AI Model for Noise Detection in Breast Cancer Ultrasound Images	Submission #10
16:00 – 16:15 Online	**George Sherif George Nicola***, Shereen Moataz Afifi, Nader Nabil Fouad AI Model for Diagnosis of Periodontal Bone Loss	Submission #12
16:15 – 16:30 Online	**Rana Sabry*,** Shereen Moataz Afifi, Mohamed Salem and Radwa Taha Generative Deep learning model for Data augmentation of Ultrasound Breast Cancer scans	Submission #13
16:30 – 16:45 Online	**Abdelrahman Samy*,** Shereen Moataz Afifi, Nader Nabil Fouad Generative-AI for detection of dental caries	Submission #14
16:45 – 17:00	**CLOSING REMARKS AND PRIZE-GIVING**	

Symposium Information and Abstract Submission:

AUT INSTITUTE OF BIOMEDICAL TECHNOLOGIES

IEEE

EMBS - NZ North Section

AUT