

17 - 20 NOVEMBER

MELBOURNE

**ABEC · 2019 ·**

AUSTRALIAN BIOMEDICAL ENGINEERING CONFERENCE

*Technology & Research in Australian Medical Science*

SUNDAY 17 NOVEMBER			
16:45-18:30	Delegate Registration		
17:00-18:30	WELCOME RECEPTION Pre-Registration & Exhibition Preview: Canapés & Refreshments Served Dress Code: Smart Casual		
MONDAY 18 NOVEMBER			
07:30-09:00	Delegate Registration		
09:00-09:45	Opening Plenary Session Speaker: Karen Reynolds		
09:45-10:30	MORNING TEA		
10:30-11:00	<table border="1"> <tr> <td> <p>Biomaterials and Tissue Engineering Invited Speaker Dr. Claudia Di Bella</p> <p><i>3D printing and Bioprinting in the surgical world, from dream to reality</i></p> </td> <td> <p>Beyond the Shakes in Parkinson's Disease: Symptom Monitoring Devices and Brain Computer Interfaces Invited Speaker Dr. Thushara Perera</p> <p><i>Movement disorders research at the Bionics Institute</i></p> </td> </tr> </table>	<p>Biomaterials and Tissue Engineering Invited Speaker Dr. Claudia Di Bella</p> <p><i>3D printing and Bioprinting in the surgical world, from dream to reality</i></p>	<p>Beyond the Shakes in Parkinson's Disease: Symptom Monitoring Devices and Brain Computer Interfaces Invited Speaker Dr. Thushara Perera</p> <p><i>Movement disorders research at the Bionics Institute</i></p>
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15:45-17:15	Poster Presentations & Networking Event Afternoon Tea & Refreshments will be served throughout		
18:30-23:00	ABEC 2019 CONFERENCE DINNER University House, Professors Walk Dress Code: Business		

**TUESDAY 19 NOVEMBER**

08:00-09:00	Delegate Registration	
09:00-09:45	Plenary Session Speaker: Prof. Mark Cook Epilepsy: New Approaches to Management	
09:45-10:30	MORNING TEA	
10:30-11:00	Machine Learning and Big Data, AI and Robotics Invited Speaker Dr. Dean Freestone <i>Bridging the Technology Gap in Healthcare: The Application of Machine Learning at Seer for Epilepsy Diagnostics and Management</i>	Clinical Engineering and health technology Invited Speaker Dr. Rebecca Bailey <i>Clinical Engineering and Health Technology Management in Public Health</i>
	Parallel Session 3A	Parallel Session 3B
11:00-11:20	Xiao (Demi) Gao Unifying information theoretic method and machine learning model of electrode discrimination in cochlear implant stimulation	Hossein Hadi Najafabadi Measurement of the Smoke Generation Rate During Monopolar Electrosurgery
11:20-11:40	Daniel Payne Towards seizure forecasting with external factors and deep learning	Michael Sheedy Auditing patient monitor layout and colour allocations with a view to standardisation
11:40-12:00	William Hart Models for combined optogenetic and electrical stimulation of auditory neurons	Chris Morison Reducing the Time Spent Looking for Clinical Equipment with Wi-Fi Asset Tracking and a Custom-Made Website
12:00-12:20	Syeda Zehra Automated classification of VI visual neurons spike shapes	Igor Tyshchenko A Simple On-line Work Request System for The Small Biomedical Engineering Team
12:30-13:30	LUNCH	
13:30-14:00	Rehabilitation Engineering and Assistive Technology, Biomechanics and Computational Bio-Engineering Invited Speaker: Lloyd Walker <i>The changing role of the Rehabilitation Engineer - facilitating personalised technology for inclusion</i>	International Federation of Medical and Biological Engineering (IFMBE) Panel Presentations and Discussion  Chair: Michael Flood, Biomedical College, Engineers Australia
	Parallel Session 4A	Parallel Session 4B
14:00-14:20	K M Anamul Hossain A novel fracture fixation bone plate to reduce the stress-shielding effects in long bones	James Goh Effectiveness of an Authentic Learning Environment in BME program
14:20-14:40	Melissa Louey Kinematic elbow analysis in children with inertial measurement units	Ratko Magjarevic TBC
14:40-15:00	Thomas Beltrame Respiratory Rehabilitation through an Accessible Electronic Trumpet	Shankar Krishnan TBC
15:00-15:20	Chinthaka Jacob The role of mean streaming and turbulent mixing for gas transport during high-frequency ventilation	
15:30-16:00	AFTERNOON TEA	
16:00-17:00	Poster Presentations & Networking Event Afternoon Tea & Refreshments will be served throughout	

## WEDNESDAY 20 NOVEMBER

08:00-09:00	Delegate Registration	
09:00-09:45	Plenary Session Speaker: Sam John Stentrod: The Journey to the First-in-Human Clinical Trial	
09:45-10:30	MORNING TEA	
10:30-11:00	Surgical Technology, Implantables and Cardiovascular Devices Invited Speaker Prof. Jeffrey Rosenfeld  <i>The past, present and future of the human brain computer interface</i>	Industry Standards and Regulatory Processes Invited Speaker Prof. Sally McArthur  <i>Medical Device Partnering Program and resources to support companies in the development of new medical devices</i>
	Parallel Session 5A	Parallel Session 5B
11:00-11:20	Khalid Alonazi Simulation of Aortic Valve State During Ventricular Support	Lee Walsh Regulation of Emerging Medical Device Technology
11:20-11:40	Sanjiv Gunasekara Flow Analysis in a patient-specific arteriovenous fistula	Itsu Sen (Yi Qian) Certification of Clinical Engineers in Japan
11:40-12:00	Joanne Tipper Neural Cell Responses to Wear Debris from Metal-on-Metal Total Disc Replacements	Tim O'Meara Partnering in MedTech
12:00-12:20	Socrates Dokos A 3D Fluid-structure Interaction Model of Mitral Valve/Left Ventricular Dynamics	Panel Discussion
12:30-13:45	LUNCH	
13:45-14:15	<i>Digital Health, Cybersecurity and Clinical Engineering</i> Invited Speaker Prof. Trish Williams	<i>Biomedical Engineering Education</i>
14:15-15:45	Parallel Session 6A	Parallel Session 6B
14:15-14:35	Stewart O'Connor What Strategies Does Your Hospital Have in Place to Support Patient Monitoring Network Uptime and Superior Performance?	Presentations and Open Discussion
14:35-14:55	Luke Ryan Cuffless Blood Pressure Monitoring in Children and Adolescents - A Proof-of-Principle Study	
14:55-15:15	Tbc	
15:15-15:35	Tbc	
15:30-16:00	AFTERNOON TEA	
16:00-17:00	CLOSING REMARKS	