

<p>QRW Programme Medical Devices and Technology Thursday 5 September – Friday 6 September, 2019 Rydges Hotel, Queenstown, New Zealand</p>
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Thursday 5 September		
Time	Details	Location
10.00am-10.30am	Morning Tea	Trades Area
10.30am-10.45am	Welcome: Simon Malpas University of Auckland	Queenstown Room
Implant Technology Chaired by Dr Ata Meshkinzar (AUT)		
10.45am-11.15am	Key Note: Robert Shepherd (M1) Medical Bionics, University of Melbourne <i>Implantable devices: lessons in taking devices to the clinic</i>	Queenstown Room
11.15am-11.30am	Reza Sedehi (M2) University of Auckland <i>A transcutaneous energy transfer method for deeply implanted miniaturised biomedical devices</i>	Queenstown Room
11.30am-11.45am	Sameer Bhat (M3) University of Auckland <i>A Novel Passive Stoma Output Recycling Device for Managing Ileostomies: Design and Feasibility Study</i>	Queenstown Room
11.45am-12.00pm	Shun Long Cyril Au (M4) University of Auckland <i>Safety of a Wireless Power Transfer System for Powering Heart Pumps</i>	Queenstown Room
12.00pm-12.15pm	Bryon Wright (M5) University of Auckland <i>Package-integrated MEMs sensors for long-term implantation: Use of nanoscale profilometry to verify performance</i>	Queenstown Room
12.15pm-12.30pm	Maziar Ramezani (M6) Auckland University of Technology <i>Design and Manufacturing of Alginate-Polyacrylamide Hydrogel Matrix Composites as Minimally Invasive Cartilage Implants</i>	Queenstown Room
12.30pm-1.30pm	Lunch + Poster Session 1	Trades Area
Primary Health Technology Chaired by Dr Sandra Grau-Bartual (AUT).		
1.30pm-2.00pm	Daniel McCormick (M7) University of Auckland <i>Networks of implants: the future of electroceuticals?</i>	Queenstown Room
2.00pm-2.15pm	Yang Yu (M8) Auckland University of Technology <i>A review of PWV-based cuffless blood pressure measurement</i>	Queenstown Room
2.15pm-2.30pm	Kenzie Baer (M9) University of Otago	Queenstown Room

	<i>Site specific bone mineral density assessment using MARS spectral photon-counting imaging</i>	
2.30pm-2.45pm	Carrie Burgess (M10) TOKU Eyes <i>Lasers, Hot Glue, and Legos: Designing a Device to Predict Myopia in Children</i>	Queenstown Room
2.45pm-3.00pm	Sabarinath Prasad (M11) University of Otago <i>Monitoring masticatory muscle activity by a smart-phone assisted wearable device</i>	Queenstown Room
3.00pm-3.15pm	Laura Pedofsky (M12) University of Auckland <i>A novel biofeedback device to prevent and treat pelvic floor muscle disorders in women</i>	Queenstown Room
3.15pm-3.30pm	Nada Signal (M13) Auckland University of Technology <i>Buzznudge: Augmenting Stroke Rehabilitation Through Haptic Nudging</i>	Queenstown Room
3.30pm-4.00pm	Afternoon Tea	Trades Area
Quickfire Presentations Chaired by Dr Anubha Kalra (AUT).		
4.00pm-4.10pm	Mostafa Nikpour (M14) Auckland University of Technology <i>Enhancement of a two-wheeled robotic wheelchair's battery life through a novel stability mechanism</i>	Queenstown Room
4.10pm-4.20pm	Fatemeh Asghariomababd (M15) University of Otago <i>Reducing motion artefacts in in vivo MARS imaging</i>	Queenstown Room
4.20pm-4.30pm	Huiyang Zhang (M16) Auckland University of Technology <i>Comparison of Antimicrobial Activity of Silver, Graphene and Copper Nanoparticles as Filler to PDMS Substrate</i>	Queenstown Room
4.30pm-4.40pm	Quinn Boesley (M17) University of Auckland <i>Developing implantable light sources for optogenetics</i>	Queenstown Room
4.40pm-4.50pm	Solmaz Rastegar Moghaddam Mansouri (M18) Auckland University of Technology <i>A novel method for continuous systolic blood pressure monitoring using convolutional neural network</i>	Queenstown Room
4.50pm-5.00pm	Ata Meshkinzar (M19) Auckland University of Technology <i>Vibration Analysis of Piezoelectric Cylindrical Transducers with Circumferential Step-Thickness</i>	Queenstown Room
5.00pm-6.30pm	Poster Session	Marquee
7.00pm	Social and Networking Function	Smiths Craft Beer House 53 Shotover St, Queenstown

Friday 6 September		
Time	Details	Location
8.30am-10.00am	Workshop: <ul style="list-style-type: none"> • Medical devices risk assessment • How to establish a medical device QMS from within an academic environment Facilitated by Bryan Ruddy and Laith Hermez (Auckland)	Queenstown Room
10.00am-10.30am	Morning Tea	Trades Area
Devices Chaired by Dr Daniel McCormick (Auckland).		
10.30am-11.00am	Key Note: Greg O'Grady (M20) Auckland City Hospital & University of Auckland <i>Commercialising research: a clinical scientist's experience</i>	Queenstown Room
11.00am-11.15am	Chiara Lowe (M21) University of Otago <i>MARS imaging of microfractures with targeted nanoparticles for early risk assessment of osteolysis</i>	Queenstown Room
11.15am-11.30am	Tommy Hayes (M22) University of Auckland <i>Validation of high-resolution electrogastrography against gastric emptying scintigraphy as predictor of symptoms of functional gastrointestinal disorder</i>	Queenstown Room
11.30am-11.45am	Jardin Green (M23) Auckland University of Technology <i>Development and Evaluation of Dry-Contact, Wearable, Biopotential Sensors</i>	Queenstown Room
11.45am-12.00pm	Xiyong Huang (M24) Auckland University of Technology <i>Investigation into the Mechanisms of UV Transmission to Follicular Stem Cells and Implications for Melanoma Development</i>	Queenstown Room
12.00pm-12.15pm	Neelam Hari (M25) TOKU Eyes <i>Designing a device to monitor for early myopia in children</i>	Queenstown Room
12.15pm-12.30pm	Ali Adil Ali (M26) Auckland University of Technology <i>An investigation into improving the CPAP for the Obstructive Sleep Apnea treatment</i>	Queenstown Room
12.30pm-1.30pm	Lunch	Trades Area
Therapy and Physiology Chaired by Dr Rob Gallichan (Auckland).		
1.30pm-2.00pm	Key Note: Sally McArthur (M27) Swinburne University of Technology & CSIRO, Australia <i>Creating the tool boxes for 4D cell culture systems</i>	Queenstown Room

2.00pm-2.15pm	Denise Taylor (M28) Auckland University of Technology <i>Enhancing brain plasticity: exciteBCI</i>	Queenstown Room
2.15pm-2.30pm	Jennifer Knopp (M29) University of Canterbury <i>Quantifying Insulin Adsorption in Hospital Delivery Systems</i>	Queenstown Room
2.30pm-2.45pm	Sandra Grau-Bartual (M30) Auckland University of Technology <i>Airflow Model to Investigate the Effect of Positive Airway Pressure on Human Epithelial Cells</i>	Queenstown Room
2.45pm-3.00pm	Bryan Ruddy (M31) University of Auckland <i>Design and safety considerations for a portable jet injection controller</i>	Queenstown Room
3.00pm-3.15pm	James McKeage (M32) University of Auckland <i>Jet Injection of Local Anaesthetic</i>	Queenstown Room
3.15pm-3.30pm	Prizegiving and Closing Remarks	Queenstown Room
3.30pm-4.00pm	Afternoon Tea	Level 5

Summary of Abstracts for the Poster Session

No.	Title	Presenter	Institution
Poster Sessions			
M33	Hermeticity testing of implantable devices via optical leak testing	Dixon Leung	University of Auckland
M34	Development of a finite element model of the ovine stifle for biomechanical evaluation of TTA implants	Josephine Shum	University of Otago
M35	A dynamical tuning circuit for wireless power to optogenetic stimulator	Rui Jin	University of Auckland
M36	Application Specific Integrated Circuit Design for Implantable Device: Challenges and Opportunities for Academic Research	Robert Gallichan	University of Auckland
M37	A Low Power Capacitance to Frequency Converter in 180nm CMOS for an Implantable Capacitive Pressure Sensor	Chaoping Zhang	University of Auckland
M38	Optimizing analog front end for non-contact biopotential sensing	Anubha Kalra	Auckland University of Technology
M39	General-Purpose Stimulator IC for Optical and Electrical Stimulation	Stepan Lapshev	University of Auckland
M40	STAR-GRYPHON in the Neonatal ICU: Achieving Safe and Successful Glycaemic Control	Jennifer Knopp	University of Canterbury
M41	Interpretable deep learning for mortality prediction inside the ICU	William Caicedo	Auckland University of Technology
M42	A Direct-drive Linear Actuated Assistive Device for the Shoulder	Soroosh Haji Hosseinnejad	University of Auckland
M43	System Identification Techniques to Diagnose Rotator Cuff Injuries	Yahya Z Yahya	University of Auckland
M44	A Hybrid Ankle Foot Orthosis to Augment Walking	Mahsa Momtahan	University of Auckland
M45	An EMG-based torque estimation method for Robot-assisted rehabilitation with an assist-as-needed control approach	Homayoon Zarshenas	University of Auckland
M46	Optimization of multi-channel body-surface mapping electrode array materials for electrogastrography (EGG)	Atchariya Sukasem	University of Auckland
M47	Novel method of measuring pudendal nerve and external anal sphincter function	Chris Varghese	University of Auckland
M48	High-resolution Slow Wave Mapping of the Lower Gut in Rabbits	Kiara Miller	University of Auckland

M49	Novel microelectrode arrays for measuring bioelectrical activity in the gut	Nipuni Nagahawatte	University of Auckland
M50	Organic electrochemical transistor for measuring blood glucose concentration in a jet injector	Bahareh Madadkhahsalmassi	University of Auckland
M51	A needle-free jet injection device for blood release	Jiali Xu	University of Auckland
M52	Biodegradable polymer blends/composites, with high performance characteristics, for packaging application	Srinivasan Govindan	Auckland University of Technology
M53	Eliminating effect of air-gap through multi-channel ECG acquisition	Gautam Anand	Auckland University of Technology