

# ISBS 2018 Auckland Conference

## Sports Technology Showcase Programme

Friday 14<sup>th</sup> September 13:00-14:50, WG401

The coordinators Amber Taylor (AUT Ventures), Rosanne Ellis (AUT Research and Innovation Office), and Ryan Archibald (ATEED) have selected companies with new products to be explored by biomechanists. We hope you gain ideas for your research and learn how to commercialise your products at this showcase.

ISBS 2018 Auckland Conference Industry Partner Tekscan are supporting the lunch during the showcase.



1	AUT Strain-gauge	Jono Neville	Jono.neville@aut.ac.nz
		Farhan Tinwala	Farhan.tinwala@gmail.com
		Shelley Diewald	Shelley.diewald@aut.ac.nz
2	Myovolt	Steve Leftly	steve@myovolt.com
		Farshid Sarmast	farshid.sarmast@gmail.com
3	Avice	Parn Jones	parn@avicewearables.com
		Eric Helms	eric@avicewearables.com
		Wilson Huang	wilson@avicewearables.com
4	Pressure Mat	Xiaoyou Lin	xiaoyou.lin@aut.ac.nz
		Bandt Li	brandt.li@aut.ac.nz
5	Beta Energy Drink	Holly Sutich	holly@sutich.biz
		Bradley Phagan	bradleyphagan@gmail.com
6	MyBio Motion	Arien Hielkema	arien@mybiomotion.com
		Yasir Al-Hilali	yasirhilali@gmail.com
7	Circuband	Daniel Thomson	danielthomson@circuband.com
		Emily Coates	emily.coates@hotmail.co.nz
8	Physio Wear	Colin Anderson	isinfier@gmail.com

## AUT Strain-gauge

AUT Strain gauge allows for a valid and reliable assessment of the strength of an entire class or team in a relatively short amount of time. Increasing strength is fundamental to most athlete development programs as an individual's maximal force production capability underpins several qualities including power, speed and change of direction ability. Given the significance of the qualities above, practitioners are wise to include regular force and rate of force development monitoring. The development of an isometric strain gauge system allows maximal and explosive strength assessment to occur in a safe and effective environment. Dr Jono Neville, Shelley Diewald, and Farhan Tinwala will be showcasing AUT Strain Gauge.



**Farhan Tinwala** is a Research Officer with AUT University working under the Sports Technology Research Group. Farhan is also a PhD Student with Goldmine, High Performance Sport New Zealand. His current research topics include; the design, development and validation of a horizontal eccentric towing device to improve sprinting performance; measuring the effects of wearable resistance on sprinting performance using inertial measurement units; and the development of a wireless isometric strength measurement device.



**Strain gauge strength competition:** Shelly Diewald and Farhan Tinwala will run the strain gauge strength competition. Test your strength with the AUT isometric strain gauge system that allows maximal and explosive strength assessment to occur in a safe and effective environment.

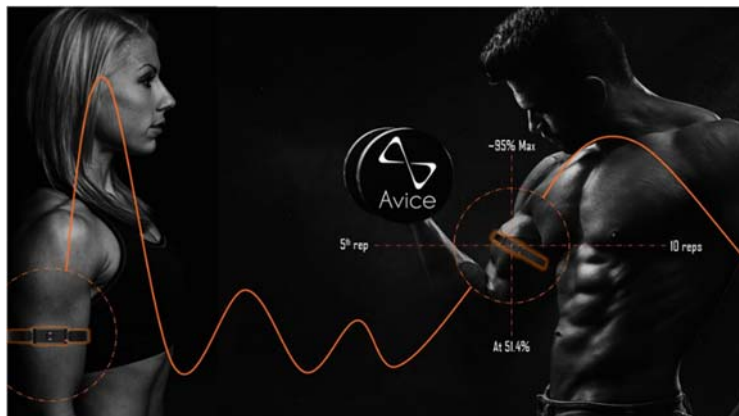
## Myovolt

Myovolt is a breakthrough muscle massage system that you wear. It delivers vibration therapy to any part of the body, it's easy to use, lightweight and has benefits backed by clinical research. The innovative soft wearable design is flexible, slim-line and can target vibration on any part of the body. It's comfortable to wear anytime and does not restrict movement. Convenient to use while walking, sitting, standing, lying down or exercising by wrapping Myovolt over clothing or using directly against the skin. <https://www.myovolt.com>. **Steve Leftly** and **Farshid Sarmast** will be showcasing Myovolt.



## Avice

Avice is a patent-pending wearable device that gives you real-time actionable feedback during weight training. It measures changes in muscle performance to inform you how close to muscular failure you are – providing motivation and immediate guidance to either continue or stop performing repetitions to ensure your training is effective in every workout. <https://www.avicewearables.com/>



**Parn Jones** (Director & Chief Technology Officer), is the engineer for Avice. His role is applying knowledge of design, mechanical, electronics, and biomedical engineering to make an idea become an end-user product. He has industrial engineering experience from working at Festo NZ, proven ability to execute engineering projects based on the progressive experience with a Master of Engineering project, and an MBIE project.



**Dr. Eric Helms**, Head of Strength & Conditioning, is an AUT SPRINZ Research Fellow. He has extensive industry and research experience in applied strength and conditioning. Eric is also the co-founder of two other fitness-related start-ups. He is the president of North Sports Olympic weightlifting based at AUT Millennium and has over a decade of experience as a personal trainer. With over 50,000 social media followers and connections to online fitness influencers, Eric will be driving the initial marketing and sales growth.



## Pressure Mat

Force Mat (Prototype) is a new resistive-sensing contact mat for detecting the pseudo force, of sports activities such as running, jumping, stepping. The mats have the potential to be used for health and physiotherapy applications. The structure of the sensors enables the technology to detect pressure values equivalent to 300 kPa. Results are mapped using a colour scheme, allowing for easy interpretation of results.



**Xiaoyou Lin** received the Bachelor of Engineering degree from Jiangnan University, Wuxi, China, and the Masters of Engineering Studies degree (with Distinction) from Auckland University of Technology, Auckland, New Zealand, in 2005 and 2014, respectively. He was employed as a Test Engineer in Sanmina and then as a Hardware Engineer at ZTE Corporation, both with a focus on mobile devices. Currently, he is working toward a PhD in telecommunications at Auckland University of Technology. His research specialties are in flexible RF circuit modelling, RF circuit design, and fabrication for smart textile applications.

**Brandt (Erfeng) Li**, a current PhD candidate at AUT University, has obtained a BEng at NTU in Singapore and a MEng at Auckland University of Technology. He is now focusing on the research topic of flexible antenna design for 5G applications. His research includes antenna and antenna array design, dielectric flexible material and conductive ink characterisation. Brandt is also a research assistant currently working on the programming and electronics part of a smart pressure sensing mat for healthcare and rehabilitation.

## Beta Energy Drink

Beta-Energy is a healthier natural energy drink that provides sustainable energy so you don't get the crash that you do from a normal energy drink. It provides double the antioxidants as green tea providing a natural, smooth blend and also has one of the lowest sugar levels for a natural energy drink on the market. **Holly Sutich** and **Bradley Phagan** will be showcasing Beta-Energy.



## MyBio Motion

MYBio Motion is a smart wearable knee sleeve that provides support for rehabilitation from post-operative or knee trauma, and prevention from a knee injury, especially in athletes. <https://mybiomotion.com/>



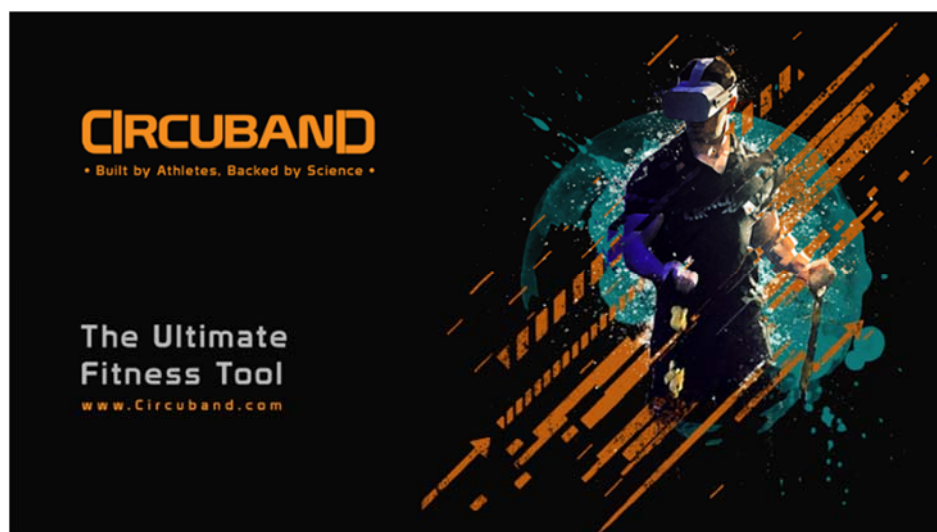
**Arien Hielkema** (inventor, product development and clinical validation) has a Masters Degree in Creative Technologies from AUT with a thesis focussing on the utilisation of wearable technology to help the athletic community to address issues pertaining to rehabilitation and prevention of injury. Arien has a background in 3D animation, rapid prototyping and programming. He brings a unique combination of knowledge that informs, inspires and challenges conventional technological solutions.



## Circuband

Circuband is used by some of the top exercise enthusiasts in the world including Gunnar Peterson (trainer to the Kardashians, The Rock and the LA Lakers), influencer Casey Neistat, the All Blacks, the NZ Military and many others. Furthermore, Circuband has successfully paired Virtual Reality with Resistance Training to make fitness more engaging and stimulating for both athletes and the public. <https://www.circuband.com/>

**Daniel Thomson** is Founder and CEO of Circuband, a company that has been changing the way athletes monitor and track performance. Daniel created Circuband out of a garage after seeing that there was a problem with people not getting out an exercising enough through resistance training. With his pro-athlete brother, Nick, he set out to build the ultimate fitness product.



## Physio Wear

Contact Colin Anderson at [isinfier@gmail.com](mailto:isinfier@gmail.com) about Physio Wear.