



ISPO 17th World Congress, 5th to 8th October 2019 , Kobe, Japan

Laura Ritchie – Prosthetist



I've been a prosthetist for the last 16 years and recently completed a MSc in Biomechanics from the University of Roehampton. While going back to University was difficult to manage, it did satisfy a thirst for knowledge and gave me renewed enthusiasm to gather information in order to improve the lives of amputees.

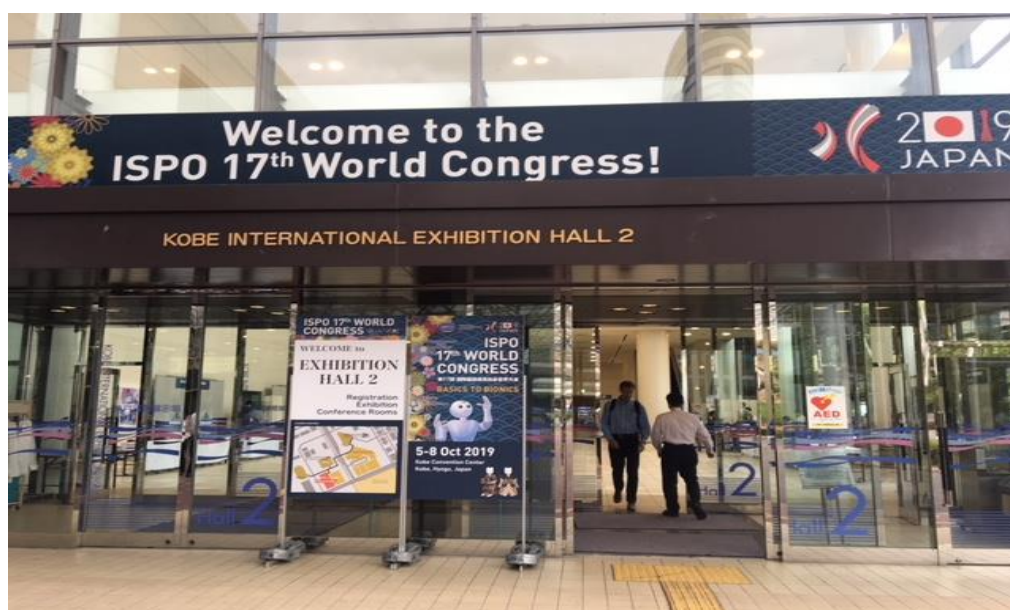
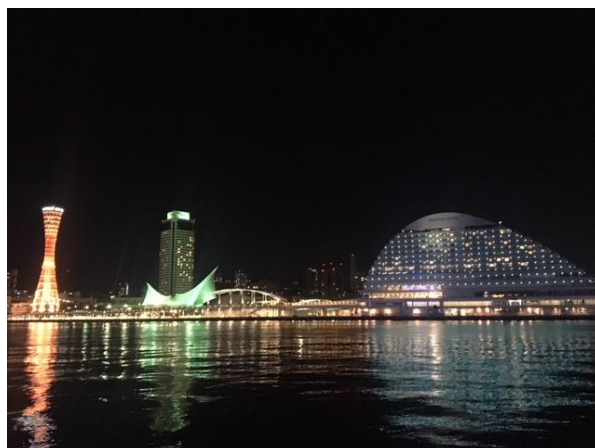
I went to Japan to present two papers. The first was an analysis of high and low technology for trans-femoral amputees and was titled "Differences in task completion in K2 and K3 unilateral trans-femoral amputees with and without microprocessor knee and hydraulic ankle technology" where a comparison of amputee reported scores on everyday tasks was made. The second paper was an analysis as part of my MSc dissertation, where I studied how amputees performed a change of direction movement using a BladeXT foot. This paper was titled "Does spring stiffness affect symmetry in a change of direction movement in unilateral trans-tibial amputees".

Japan has always been a country that I've wanted to visit, so I was excited at having the opportunity to go and was not disappointed! Everywhere was extremely clean, tidy and ordered and the attitude of the Japanese people towards their fellow citizens and their environmental space was something to aspire to. The conference theme was Basics to Bionics, which I thought was a good reflection on the variety of care offered throughout the world, when considering prosthetics, orthotics and wheelchairs. The conference covered a wide variety of topics and as expected there were some session clashes, therefore I couldn't go to everything I wanted. Both my sessions had great presentations and I found myself presenting my MSc findings to a few authors whose work I reviewed when doing my own research, which left me a little star struck!

One free paper presentation which stood out was from a student at the Prosthetics school in the Philippines, titled "Natural fibre with leaf extract (PSPO sock) as an alternative material to cotton used in Philippine school of P and O". I really enjoyed this presentation for a few reasons. The presenter was engaging, enthusiastic and very well prepared, but the topic was extremely relevant throughout the world. Amputees sweat! There are different liners on the market to help to control this, however the cost of these liners makes them an unlikely prescription choice for many markets. I was encouraged that people around the world are trying to find solutions for the same problems, within the means of what the end users can afford. I was also humbled by the presenter's passion and thought that maybe I need to also go back to basics – not so much on prosthetic solutions but on my enthusiasm for what I do day to day. On the other end of the scale from a technology perspective, Dr Max Ortiz Catalán presented his research on neuroprosthetic technologies. This was a fascinating insight as to what can be possible with osseo-neuromuscular implants and the benefits that this can

bring to amputees – not just providing joint replacement and movement, however also providing sensory feedback. We have certainly gone from basics to bionics!

I would like to thank ISPO UK for the travel bursary, which was a key contribution to my funding enabling me to attend the conference. I'd also like to thank Blatchford for their financial contribution and giving me the time off to attend as well as supporting me to do my MSc.



Report on ISPO 17TH World Congress in Japan 2019

Christine McMonagle, University of Strathclyde, Glasgow

I would like to thank ISPO UK NMS for enabling me to attend the ISPO 17th World Congress in Kobe, Japan. This was an excellent learning experience with some outstanding key note speakers who embodied the theme 'From basics to bionics'. The conference enabled me to become refreshed and re-engaged with the wider Prosthetics and Orthotics community and offered inspiration for future research projects.

The opening ceremony was followed by the Knud Jansen lecture, given by David Constantine. David gave a moving and insightful presentation, about his experience as a wheelchair user following a spinal cord injury, and his subsequent work in forming Motivation (www.motivation.org.uk), a Non-Government Organisation, which provides appropriate technologies for wheelchair users in low income settings. Having previously worked on a P/O project in Sri-Lanka with Motivation, I was already familiar with their work. However, David's message of the positive psychological impact that assistive technologies can have when they are which are both functionally and aesthetically appropriate, set the scene perfectly for the rest of the conference.

The 17th World Congress included 5 keynote speakers, 25 symposia, 28 instructional Courses, 57 free paper sessions and 129 poster presentations as well as exhibitor Workshops. Because of my interest in a range of different areas: orthotic management of neurological conditions; effects of P/O management on psycho-social well-being; upper limb orthotics, education, and services in low income settings; the challenge in attending the Congress was in having to choose between several competing sessions which were running at the same time. I also had the opportunity to present work from my recently completed PhD with both a poster and free paper presentation. In this work, I used psychological theory to understand and predict adherence to ankle-foot orthoses following a stroke, and was able to demonstrate that psychological theory can aid our understanding of the complex issues surrounding adherence in this patient group. It was great to have the opportunity to speak to an international audience about my work, although challenging to summarise in a seven-minute oral presentation!



Presenting a poster from my PhD work

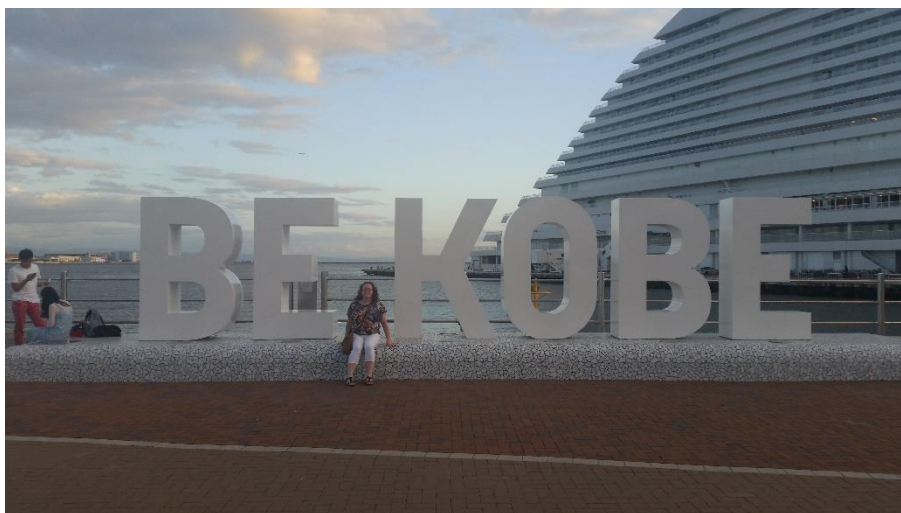
There were many personal highlights of the conference. Firstly, Deirdre Desmond's key note speech, entitled "Complex Entanglements: People and Assistive technologies" offered an opportunity to reflect on the complexities of the human-device interface, and the importance of mental health in the well-being of our patients. Secondly, I enjoyed catching up with graduates from the Sri Lanka School of Prosthetics and Orthotics, where I had previously worked, and was pleased to find that they are now developing and leading educational projects and clinical services in South and SE Asia. Thirdly, it was fantastic to watch recent Strathclyde prosthetics and orthotics graduates presenting their final year projects and being enthused by other people, technologies and ideas. Also, a symposium which

demonstrated a myo-wearable technology for people with high level SCI, using a lateral key grip, highlighted the potential opportunities for active upper limb orthotic technologies to positively impact quality of life in this patient group. In the exhibitors' hall, the increased use of computerised scanning technologies for shape capture was very visible. In addition, a high number of exhibitors demonstrating 3D printed products was also seen. It was positive to see many design and technology organisations recognising the role of the clinical professional in designing the interface between the patient and the device. However, the enthusiasm for these new technologies needs to be matched with higher levels of evidence to ultimately improve the lives of prosthetic and orthotic users.



Meeting up with graduates from the Sri Lanka School of Prosthetics and Orthotics

The Japanese were impeccable hosts, always respectful, polite and welcoming. Kobe was an excellent location, a wonderful city, with warm and sunny weather, and excellent transport links, and I also enjoyed experiencing the taste of Kobe Beef. The closing ceremony invited everyone to the next World Congress in Guadalajara, Mexico in 2021, and gave out prizes. I was delighted that my poster was shortlisted as one of the best poster presentations, in a field of 130 posters. I must again acknowledge ISPO UK NMS for affording me this fantastic opportunity to attend the World Congress in Kobe.



Enjoying sunset at the Harbourland in Kobe

17th World Congress, Kobe, Japan 5-8 October 2019

My experience by Alison Stenson

I was fortunate to attend the 17th ISPO World Congress in Kobe, Japan to present two free papers- Factors Contributing to Trips, Stumbles and Falls in Lower Limb Amputees and The Influence Of Microprocessor Knee Use On Self-Reported Trips And Falls along with my colleagues from Sheffield, Jane McLean and Dr Ramesh Munjal. I am very grateful to ISPO and Blatchford in supporting my attendance in Kobe, a real career achievement and one that I will not forget.



After a long journey over many miles, we landed in the beautiful country of Japan in the city of Osaka. A bus, boat and train journey later, we arrived in the city of Kobe. The conference was held a short train ride from the city in an impressive venue with two exhibition halls, several presentation rooms and lecture halls. In total there were over 4000 delegates from 97 countries presenting nearly 350 free papers to the congress.

The organisation of the conference was fantastic, we were signposted from getting off the train, the registration process was smooth, efficient, and very informative and helpful staff staffed the Speaker Ready desk. The first language of the conference was English and there was simultaneous translation into Japanese in every session.

The impressive opening ceremony took place in the equally impressive World Hall. The Presidents of ISPO Japan and ISPO International and various dignitaries welcomed the delegates. The theme of the conference was “Basics to Bionics” and this was captured in the scientific sessions as well as the exhibition. The exhibition hall also had a cultural corner where my colleague Jane and I were tightly bound into beautiful Kimonos!



There were eight sessions taking place at any one-time covering Prosthetics, Orthotics, outcome measurements, rehabilitation medicine and surgery. This provided a full and exciting programme for delegates from all areas of rehabilitation and interest viewpoints.

Exhibitor workshops ran alongside these and there was a scientific poster section. Jane and I have interest in the scanning technology to support our clinical services and spent an informative session in the Vorum workshop which demonstrated the use of scanning technology in prosthetic services. This mirrored our experiences in Sheffield, which was reassuring showing how we work in similar ways across the globe.

I had the opportunity to take part in the IC2A (International Confederation of Amputees Association) Think Tank on prosthetic socket comfort. The intention of the meeting was to gather the thoughts of those present to better understand multiple perspectives about what is problematic about prosthetic sockets. The group was presented with the statement: “A comfortable and not painful prosthetic socket is a basic human need that all amputees should have a right to have, no matter where they live” The session involved representatives from different backgrounds, different countries around the world involved in the prosthetic industry.

The discussion questions included; “what are the problems of prosthetic sockets?” and “How can the needs of having a comfortable and not painful socket be met?” The group discussions were followed by feedback from the groups, which were collated. Initial actions include; *The right to second opinion on prosthetic socket fit and function*, *Create a checklist to assess comfort* and importantly for *User's voices to be heard*. I found this think tank to be very thought provoking and enabled worldwide views

and options to focus together on one common goal – Socket fit! I look forward to the next instalment if I have the opportunity to be involved.

The congress keynote lectures were all extremely interesting and well received. Stephen Blatchford presented the Brian and Joyce Blatchford Team Prize for Innovation to Coapt Engineering who produce advance myoelectric control systems for prosthetic arms. On return to the UK, a seminar on this control system was held in Manchester and a member of my team had the opportunity to attend.

It was also a pleasure to be able to network with colleagues old and new and to support free paper sessions by some of my colleagues; Laura Ritchie, Dr Mike McGrath and Fraser Dunlop to name but a few. Of course as always on these occasions, it was great to explore some Japanese culture together. The highlights for me were Kobe beef , Japanese toilets and Karaoke, unfortunately time did not allow for more expansive exploration of Japan, which leaves me only to say this was an incredible experience, thank you ISPO, Doumo Arigatou” (どうもありがとう).

Basics to Bionics

Report on Experiences – Morven McAlinden, Steeper Group



Thanks to ISPO UK funding and support from my Company, Steeper, I was lucky enough to travel to Japan to attend and present at the 17th World Congress in Kobe, Japan. The conference had been held in the same city 30 years ago, but the area of the Conference buildings has since been rebuilt and become the Kobe Biomedical Innovation Cluster. There were over 500 students in attendance at the Conference, to reflect the development of the area in becoming the most advanced, innovative medical environment.

The Opening Ceremony introduced us to the Mayor of the City, and various leading members of the Medical Profession and ISPO based in Japan. They were followed by 2 inspirational speakers, talking about their personal experiences of being users, and how they have worked to effect change in their own environments. One, a wheelchair user, and the other overcoming depression post amputation, and turning his life around to become a Paralympic athlete.

The first session after the opening Ceremony, was my opportunity to present along with a team from both the UK and the Netherlands. Our Advanced Instructional course was titled 'Management of Congenital Lower Limb Deficiency – Changes in Practice Secondary to Developments in Prosthetic Technology'. We looked at the changes in rehabilitation, prosthetic componentry, surgical techniques and general attitude towards acceptance of congenital limb difference and associated surgeries.

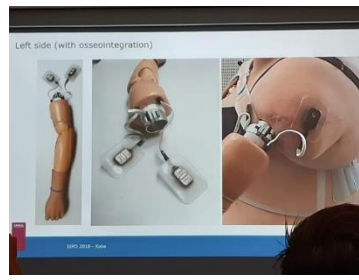


348 free papers, 24 Symposia, 28 Instructional courses, 129 posters and 2 exhibition halls, meant that there were a large range of opportunities to experience the Conference, but sometimes too many things to choose from. The main subjects I was interested in were; Osseointegration, Upper and lower limb prosthetics, and 3D printing. I found the level of work being carried out in the field of osseointegration quite surprising, as the UK now seems to be far behind other countries in Europe and Australia, in particular, in the acceptance of osseointegration as a valid alternative to socket technology.

Innovation, as always, was on show through new product development, and research. There were also amazing keynote speakers – one of whom was Professor Eiichi Saitoh from the Fujita Health University, presenting work being carried out in Japan to develop assistive robots. One line of development was to aid the ageing population to continue to live independently within their own homes.



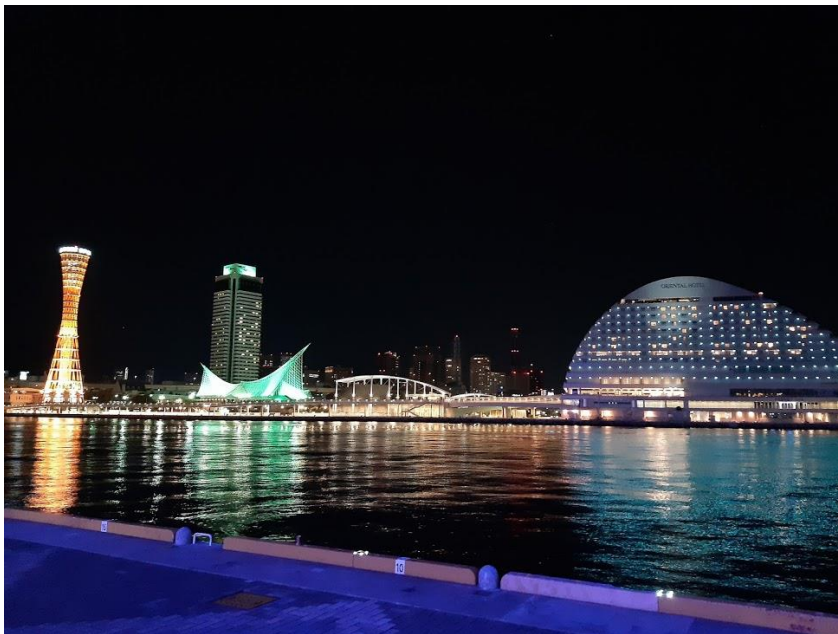
Professor Eiichi Saitoh



Upper limb Osseointegration

Then all too soon, it was time for the closing Ceremony, where Friedbert Kohler introduced us to the head of ISPO Mexico. He brought with him a group of musicians and dancers who entertained the delegates, while reminding us that the next world congress will be in Guadelajara in 2021.

I would again like to thank ISPO, for their valuable assistance to make this most enjoyable, educational and fascinating trip possible.



Kobe harbour at night



ISPO World Congress Report 2019

Sioned Steventon, Prosthetist

The 17th ISPO World Congress was held in Kobe, Japan in October 2019 and I was one of the lucky 4,400 participants. I was honoured to be able to attend such a prestigious congress with so many great speakers from around the world.

There were keynotes, symposia, instructional courses, free papers and posters all timetabled in unison and set around two exhibition halls showcasing the best in prosthetics and orthotics from 38 different countries. I was one of 348 free papers that were presented over the 4 days of the conference. Being given the opportunity to present my paper “Prosthetic Rehabilitation Following Multiple Limb Loss: basics to bionics a case study” was an amazing experience, although nerve wracking it is something I would recommend to others considering writing a free paper in a heartbeat. Case studies are always well received because the clinicians in the audience really get something from it.

The theme of the conference was ‘Basics to Bionics’ which I think encapsulated my experience of Japan very neatly. Japan is an incredibly diverse country with such a rich and interesting history but has so many new technologies that we in the UK can only dream of (heated toilet seats with built in bidets as standard is just one example!). I took the theme to heart whilst choosing which sessions to go to over the four days of conference. I wanted to see new technologies including talks on microprocessor knees and the ever expanding world of osseointegration, but I also wanted to see the ‘bread and butter’ topics that we see in our clinics, day in and day out. I found the instructional courses on alignment particularly valuable because although it’s something I do in clinic every day, it’s extremely useful to revisit why we’re doing things and what effect it can have on our patients.

The exhibition was a great area to spend time, not only for the freebies, but also to talk with people face-to-face who you may only know through emails. It also really gives a sense of new products and techniques. I watched socket manufacture demonstrations and prosthetic feet and knee’s being put to the test. What I found interesting this year was how companies are starting to think about the environmental impact of their products. It still needs a lot of work because as an industry we produce an incredible amount of plastic waste alone. But slowly I could see change; companies are starting to experiment with alternatives to carbon. There was a poster comparing flax and basalt to carbon and one company was showing their flax material for socket manufacture. Overall, I was humbled to be a part of ISPO 2019 and was incredibly grateful to ISPO UK for the bursary. I would recommend to anyone who has an interesting case study, a topic they’ve always wanted to learn more about or a piece of research or an experiment, to make that idea happen and present at the next ISPO. It’s really not that scary once you get past your first slide!

