

IET International Travel Award – Recipient Report**Kirsty Carlyle, University of Strathclyde****Bionic Reconstruction Conference 2023**

The IET International Travel Award facilitated my participation at the Bionic Reconstruction Conference (BReCON) in New York City. The two-day conference took place on 30th November and 1st December 2023 at (New York University) NYU Langone Health and attracted approximately 300 delegates from over 14 countries.

The focus of BReCON was advanced upper limb surgical procedures and complex prosthetic technologies developed or under development for upper limb amputees. The agenda featured keynote talks, invited speakers, abstract presentations, panel discussions, networking opportunities and product theatres. All sessions focused on solutions to improve outcomes for people with upper limb amputation. There was a multidisciplinary theme to the conference with inputs from, but not limited to, engineers working on sensory feedback, surgeons practicing innovative techniques to restore function and occupational therapists discussing rehabilitation to return to work. Technological innovations were put into context with mental health professionals and end users also part of the programme. The exceptional programme was organised by leaders in the field of upper limb bionic reconstruction and the Center for Amputation Reconstruction at NYU. Various industry leaders also sponsored the event. This was the first BReCON event and there are no other conferences which offer such a specialised agenda in this topic.

The conference agenda featured an extensive range of talks from experts in upper limb prosthetic innovations and surgery, so it presented a unique benefit of learning from those at the top of the field from across the globe. The product theatre showcased the latest technologies in the prosthetics industry. As a biomedical engineer who currently researches partial hand prosthetic prescription, I valued the opportunity to learn about various aspects of prosthetic technology that I had not been exposed to in depth through my undergraduate or postgraduate degrees. Further, as I have not worked in the prosthetic industry as an engineer, I benefitted from speaking to those who are working in the field and could share their perspectives on aspects such as device development and manufacture.

My abstract titled “Partial hand prosthetics: the decision-making behind the prescription” was selected for podium presentation. This was the largest audience I have presented my research to, and it was my 2nd international conference presentation. This experience was incredibly valuable for my personal and professional development as I anticipate preparing and delivering presentations throughout my career. In my presentation I discussed findings from my recent study which investigated clinical decision-making in the prescription of partial hand prosthetic devices. With a number of devices available – cosmetic silicone, myoelectric, body-powered, activity specific and mechanical for example – little is known about how the ‘best’ device is selected for the end user. My research fit in well with the conference theme and reiterated some of the messages that the

organisers wanted to disseminate to their multidisciplinary delegates. This opened up fruitful discussions between myself and other delegates who expressed interest in being part of my future PhD studies.

I had the opportunity to network with a wide range of people during the conference. From surgeons to clinicians, and engineers to the end users themselves. Prior to attending the conference, I had not found many opportunities to network with people who use partial hand devices - particularly in a relaxed environment such as the BReCON conference reception. I am grateful that my presentation opened up doors for collaborating with the many stakeholders involved in partial hand prosthetic prescription.

I am incredibly grateful for the IET International Travel Award which allowed me to benefit from attending this conference. Going forward, the connections I have made and knowledge gained from BReCON will drive my future research in my PhD and future career. I have come away from the conference with an enriched perspective of the impact that research and engineering can play in the outcomes for people with upper limb difference. Without the support of the IET Award, it would have not been feasible for me to travel across the globe to disseminate my research, learn from experts and build international connections for collaboration.

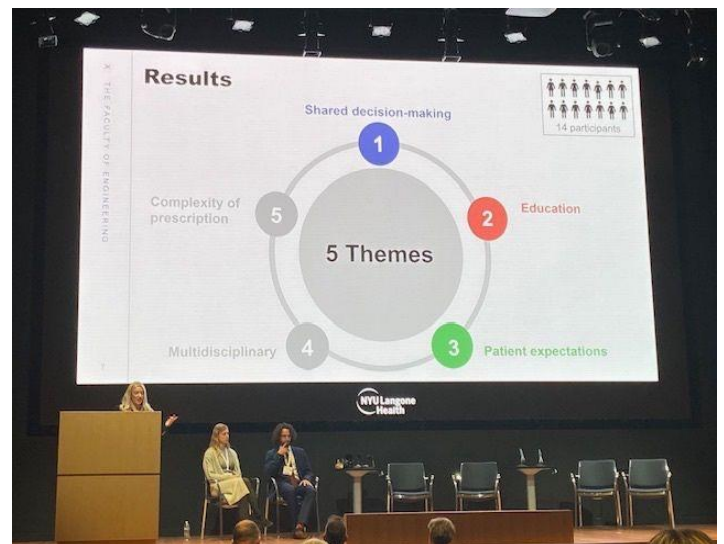


Figure 1 (top left) Introduction of presentation. Figure 2 (top right) Presenting results. Figure 3 (bottom) Inside the conference venue auditorium at NYU Langone Health.

