

## Poppy Smith Travel Award Report for Attendance at TERMIS World Congress

Thanks to the IET Travel Award, I, Poppy Smith, attended the Tissue Engineering and Regenerative Medicine International Society World Congress (TERMIS-WC) 2024, held from 25<sup>th</sup> to 28<sup>th</sup> June in Seattle, USA. The theme of the meeting was 'coming together to design better healthcare for all'. It brought together 15,000 registrants from 47 countries to engage in 99 scientific sessions including workshops, 15-minute and rapid-fire presentations, keynote talks and plenary panels.

It was a privilege to give a 15-minute oral presentation on my PhD project entitled, 'Automated production of nerve repair constructs containing endothelial cells derived from hiPSCs' during the conference. From the astute questions and later discussion sparked by the presentation, I gained alternative perspectives and potential collaborators, who were particularly interested in applying my hydrogel stabilisation technique to their research. It was rewarding to be recognised from previous conferences and be complimented on the progress of my research since last I presented. Attendance at the TERMIS-WC continued to raise my profile as an early career researcher. This was particularly valuable given that I am coming to the end of my PhD and looking for the next research opportunity.

As with previous TERMIS meetings and other conferences in the tissue engineering field, a recurring theme was the vascularisation of tissue-engineered grafts: a key challenge which must be overcome to expand research and clinical applications of engineered tissue. Multiple approaches to tissue vascularisation were discussed at the conference including lumenalised scaffolds and subtractive manufacturing. It was exciting to see that these techniques have been advanced to automation to more finely control the scaffold production and perfusion processes. The work of Daniel Shiwarski from the University of Pittsburgh particularly stood out with the development of a collagen-based high-resolution internally perfusable scaffold. Further to this, the work of Shiyu Yang from the University of Washington developed an approach to replicate the complex vasculature of any given tissue by scanning the sample in 3D using grayscale image z-stack-guided multiphoton optical-lithography. The research need for vascularised engineered tissue provided me with an alternative view and potential application of the endothelial cell-containing nerve repair constructs I work on.

Of the plenary speakers, the work and passion of Alyson J. McGregor, a practising physician and Professor of Emergency Medicine at the University of South Carolina, USA, was most awe-inspiring, offering a clinical perspective on research. McGregor demonstrated how sex differences could and should be explored early in the research process to improve treatment outcomes and ultimately lead to precision medicine. The theme of non-academic perspectives on research continued with plenary speaker Chwee Teck Lim from the National University of Singapore, who discussed the commercialisation of 3 of his developments. This provided entrepreneurial insight and encouraged research translation.

TERMIS-WC gave me the opportunity to easily expand my network through daily networking sessions, such as the Women in TERM Lunch and the Meet the Mentor session. I also reconnected with other nerve regeneration researchers including Alexane Thibodeau from Laval University, Canada, and Paul Wieringa from MERLN Institute, Netherlands. It was a pleasure to meet and discuss our latest works and potential future opportunities. It was particularly exciting to hear the results from Thibodeau's latest experiments, given that her research was a key motivator for my PhD project.

Overall, the TERMIS-WC was very beneficial. It allowed me to showcase my work, meet researchers in my field whom I look up to, gain different insights and approaches which could be applied to my project, and develop an appreciation for where the field of tissue engineering and regenerative medicine is headed. I'm grateful to the IET for their Travel Award which facilitated my attendance. In the interest of sustainable travel, public transport was taken to and from airports and I walked to and from the conference centre.