

A Summer of Discovery in the School of Rehabilitation at the Université de Montréal

Summer research programs are an excellent way for undergraduate students to gain valuable research experience and explore new research areas. Working with these students, investigators can expand their mentorship skills and make meaningful progress on research projects in their lab. Marika Demers, PhD, OT, was thrilled to welcome her first summer students to the lab this year. Dr. Demers is an Assistant Professor at the Université de Montréal and part of ASNR's Member Engagement Committee. Two of the students she is mentoring this summer, Houyar Djahanbakhsh Asli and Caroline Perron, are undergraduate students who have recently completed their first year in occupational therapy at the School of Rehabilitation at the Université de Montréal.



In her lab, Dr. Demers is interested in assessment of upper limb function and the mechanisms that underlie motor recovery after stroke. She focuses on the application of new technologies in rehabilitation and developing interventions using innovative rehabilitation approaches. This summer, Dr. Demers and her students have been working on a project related to how wearable sensors can be incorporated in clinical practice. They are using commercially available sensors applied to the wrists and ankles to monitor arm movements and walking ability in participants in the subacute phase of stroke recovery. "This project is a perfect fit for the occupational therapy students working with me this summer because it introduces them to cutting-edge sensor-based technologies that are becoming increasingly prevalent in rehabilitation today, and students can immediately see how these wearable sensors could impact clinical care for stroke patients," Dr. Demers explained.

Situated within the rehabilitation hospital, Dr. Demers' Lab is a great environment for students to get involved in clinical research working with stroke patients in a clinical setting. During their summer research experience, the students have had opportunities to participate in protocol development, data collection sessions, data processing and analysis, journal club discussions, and a poster session presentation. In addition to interactions with, Dr. Demers and research participants, students were encouraged to learn from each other. "I was excited to use a peer-learning model where students acquired new knowledge while also developing their teaching skills and practicing sharing knowledge with their peers. These kinds of interactions are a staple in science, and you can learn so much from peers in your field," remarked Dr. Demers.

Neurorehabilitation is an exciting field that continues to evolve over time as novel research and technology further shape clinical practice and clinical practice inspires new scientific questions. Dr. Demers' mentorship of these two talented summer research students is an outstanding example of how ASNR Members are dedicated to training the next generation of neurorehabilitation professionals.