

Congratulations to the recipient of Jackson ImmunoResearch's \$1,000 travel grant for NSH 2019!

Jackson ImmunoResearch is happy to offer travel funding to support researchers attending academic meetings and conferences.

JIR invited applications from attendees of National Society for Histochemistry 2019 in New Orleans to receive a travel award of \$1,000 to be used against costs incurred to attend the meeting.

The National Society for Histochemistry's 2019 annual conference is a key meeting for showcasing the latest research using cutting edge imaging! NSH conferences bring together researchers from all fields to present their findings using the latest imaging technology, including IHC, confocal, super-resolution, expansion or electron microscopy.

Find more information about NSH conferences [here](#).



The recipient of JIR's NHS 2019 travel grant is Marie-Kim St-Pierre, a Doctoral Student at the Department of Molecular medicine at the CRCHU de Québec-Université Laval.

Research Summary

"My research focuses on the dark microglia, a newly discovered microglial phenotype with the help of

transmission electron microscopy in the laboratory of Dr Marie-Ève Tremblay. This phenotype is associated with numerous ultrastructural features of oxidative stress including dilation of the endoplasmic reticulum, mitochondrial alterations and the loss of a clear heterochromatin pattern. We can also see with the help of electron microscopy the condensation of the cyto- and nucleoplasm of these cells, making them electron-dense, and therefore making them appear darker than typical microglia. They also appear to often make contact with synapses, suggesting synaptic remodeling as a potential role for these cells. Interestingly, they will be present in high numbers during post-natal development (between 5 and 15 days after birth), will significantly be reduced in numbers in homeostatic condition (adult brain), but will once again have a high density in conditions where synaptic loss or plasticity occur (Alzheimer's mouse model, signaling fractalkine deficiency model, aging, etc..).

Unfortunately, the only way so far to identify and study this phenotype is by using electron microscopy since no specific markers have been discovered so far, which greatly limits our capacity to understand the role of these cells. One of the goals of my MSc-PhD was to identify a specific dark microglial marker."

Attending NSH's 2019 meeting

"This meeting was incredibly useful for the success of my project, since I was able to learn about more techniques such as immunohistochemistry (IHC), immunofluorescence, next-generation IHC (mass spectrometry IHC) and how to apply them to my project. Thanks to the travel grant provided by JacksonImmunoResearch, which allowed me to attend this meeting, I was also able to learn more about troubleshooting, which helped me solve issues I was experiencing in my laboratory, most notably during antigen retrieval.

Another component of this meeting, which was particularly useful for my future in science, were the workshops on leadership and conflict resolution. Learning how to efficiently communicate with teammates and other scientists is a crucial element of our field. This meeting helped me realized ways I could share my ideas with others successfully."

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