

Focus on Faculty #2

Luke McCaffrey



[Dr. Luke McCaffrey](#) is an Assistant Professor in the Department of Oncology and a member of the Rosalind and Morris Goodman Cancer Research Centre since 2010. He is also an Associate Member of the Division of Experimental Medicine. Dr. McCaffrey is an FRQS Scholar (Junior I) and a recipient of a Terry Fox New Investigator award.

Dr. McCaffrey was born in Collingwood, Ontario and studied biochemistry at the University of Waterloo before earning his PhD in pharmacology from the University of Western Ontario. He received a CIHR post-doctoral fellowship to train with Dr. Ian Macara at the University of Virginia where he developed 3D culture and *in vivo* methods for studying how cells organize into organized tissue structures during development.

Since starting his laboratory at McGill University, Dr. McCaffrey has established a program to investigate tissue remodeling of epithelial tissue during breast cancer initiation and progression. An important component of this is understanding how stem cells generate diversity in both normal and cancer cells. As part of collaborations with colleagues in the Department of Oncology and at the MUHC, Dr. McCaffrey is investigating the earliest stages of breast cancer initiation that characterize the transition of normal cells to become malignant cells. To achieve this, Dr. McCaffrey's group has developed unique 3D culture models of cell transformation and cell dissemination and uses advanced cellular imaging. This research is at the forefront of an emerging field in cancer biology that is focused on understanding how loss of cell and tissue organization promotes tumour growth and invasion.

Dr. McCaffrey's research is currently supported by CIHR, Cancer Research Society, Quebec Breast Cancer Foundation, and Canada Foundation for Innovation.

When not immersed in research, Dr. McCaffrey enjoys outdoor activities with his wife, Charlotte, and their daughters, Kiera and Claire.

We asked Dr. McCaffrey to list a few of his articles whose work he is particularly proud or enjoyed the most. This is what he provided.

Archibald A, Mihai C, Macara IG, **McCaffrey L**. Oncogenic suppression of apoptosis uncovers a Rac1/JNK proliferation pathway activated by loss of Par3. *Oncogene*. 2015 Jun 11;34(24):3199-206.

Halaoui R, **McCaffrey L**. Rewiring cell polarity signaling in cancer. *Oncogene*. 2015 Feb 19;34(8):939-50.

McCaffrey LM, Montalbano J, Mihai C, Macara IG. Loss of the Par3 polarity protein promotes breast tumorigenesis and metastasis. *Cancer Cell*. 2012 Nov 13;22(5):601-14.