Focus on Faculty #31
Pnina Brodt

Dr. Pnina Brodt is a Professor in the Faculty of Medicine, Departments of Surgery, Medicine and Oncology at McGill University where she has been since 1983. She received her Ph.D. from McGill in 1979, following which, she undertook postdoctoral studies, first at the Weizmann Institute of Science in Israel and then at the Department of Anatomy at McGill where her studies focussed on the immune response to primary and metastatic cancer.

Dr. Brodt is currently a senior investigator at the McGill University Health Centre Research Institute (MUHC RI) where she directs a Metastasis Research laboratory. In her research Dr. Brodt tries to unravel the molecular mechanisms involved in the process of cancer metastasis with the aim of identifying targets and developing therapeutic interventions to block the spread of malignant disease. In particular, the Brodt laboratory is interested in the interactions between cancer cells that metastasize to the liver such as colon and pancreatic carcinoma cells and the immune cells that surrounds them. The objective of her present research is to develop the means to activate the "tumour-killing" potential of these cells, so that they can eradicate metastasizing cells. In 2011 Dr. Brodt was the co-founder of the international collaborative, Liver Metastasis Research Network. Dr. Brodt's research has been funded by peer-reviewed research grants as well as through research contracts with a number of pharmaceutical and biotechnology companies.

Dr. Brodt has coordinated and taught in graduate and undergraduate courses in the Division of Experimental Medicine, Departments of Pathology and Surgery and the Faculty of Dentistry. To date, she has supervised over 40 graduate and undergraduate students, was a member of thesis advisory committees for over 40 graduate students and trained 25 postdoctoral fellows, research fellows and visiting scholars from such international locations as China, Denmark, France, Germany, Hungary, Israel, Italy, Japan, Argentina, Mexico, Poland, the USA and the African continent. Many of these trainees have advanced to promising careers in research and medicine.

In addition to her teaching and supervisory activities, Dr. Brodt is involved in several administrative committees at McGill University and the MUHC RI. She was the leader of the Cancer Research Axis of the MUHC RI for over six years and led the effort to secure infrastructure funding for this Axis at the MUHC Glen site.

Dr. Brodt is married with four children. She is an avid reader and enjoys spending time with family, hiking, swimming and travel.

We asked Dr. Brodt to list a few of her articles whose work she is particularly proud or enjoyed the most. This is what she provided:

Wang, N., Rayes, R.F., Lu, Y., Elahi, S.M., Hancock, M.A., Massie, B., Rowe, G.E., Aomari, H., Hossain, S., Tabariès, S., Siegel, P.M. and **Brodt, P**. The IGF-Trap: Novel inhibitor of carcinoma growth and metastasis. Molecular Cancer Therapeutics. 14(4): 982-993, 2015.

Ham, B., Wang, N., D'Costa, Z., Fernandez, M. C., Bourdeau, F., Auguste, P., Illemann, M., Eefsen, R. L., Høyer-Hansen, G., Vainer, B., Evrard, M., Gao, Z-H., and **Brodt, P**.TNF receptor-2 facilitates an immunosuppressive microenvironment in the liver to promote the colonization and growth of hepatic metastases. Cancer Research, 75(24):5235-47, 2015.

Brodt, P., Role of the microenvironment in liver metastasis: from pre- to prometastatic niches. Clinical Cancer Research 15;22(24): 5971-5982, 2016 – Invited review

Millete, S., Sicklick, JK., Lowy, AM., and **Brodt P**., Molecular Pathways: Targeting the microenvironment of liver metastases. Clin. Cancer Research – Invited Review. 2017 Jun 14. doi: 10.1158/1078-0432.CCR-15-1636. [Epub ahead of print]