



Connie J. Eaves, PhD

Canada has a history of significant contributions to the development of stem cell research. This includes the pioneering work of James Till and Ernest McCulloch who, in 1963, first showed that normal adult mouse bone marrow contains a population of multipotent cells that can execute self-renewal divisions. Since then the field of stem cell research has expanded exponentially, with thousands of researchers now globally advancing the frontiers of medical science, pursuing the potential for the treatment and possible cure of currently intractable illnesses. Dr. Connie Eaves, a world authority on stem cells of the blood-forming system and their regulation in normal and perturbed states, has made several profound contributions to our understanding of fundamental stem cell biology with important applications in medical treatment for leukemia and breast cancer. Her significant work is also continued by her many graduate students and post-doctoral trainees throughout Canada and the world.

Dr. Eaves' work, spanning four decades, has provided meaningful insight into the biology of leukemia and breast cancer. Her discoveries have advanced curative therapies for patients with chronic myelogenous leukemia (CML) and identified "quiescent" CML stem cells, the first recognition of this cellular state as a hallmark of many types of chemo-resistant cancer stem cells. The full import of this discovery has yet to be fully realized with continuing implications for ongoing cancer research. Dr. Eaves has also pioneered robust methods for quantifying primitive hematopoietic and mammary cells from both mice and humans that have become "gold standards" and the basis of standardized reagents with significant commercial applications. These discoveries have had profound and internationally recognized impact on bone marrow transplantation treatments for both leukemia and breast cancer.

Dr. Eaves has served as President of the National Cancer Institute of Canada, Associate Scientific Director of the Canadian Stem Cell Network, President of the International Society of Experimental Hematology, and on boards of the International Society of Stem Cell Research, the American Society of Hematology, Genome Canada and the Canadian Cancer Society. She has published more than 500 papers, mentored more than 100 post-graduate trainees, and received numerous national and international awards and honours. She is currently Editor-in-Chief of the journal *Experimental Hematology*.

The work of Dr. Eaves exemplifies the new war against disease in the developed world. We see increasing progress in understanding and treating diseases once considered irremediable. Maintaining and advancing this work involves the life-time dedication of many thousands of scientists accumulating incremental discoveries over generations, which are finally translated into therapies and cures. If leukemia and breast cancer are finally overcome, it will be due to the determined and sustained efforts of devoted basic researchers like Dr. Eaves.