

OBITUARY



Prof. Constance Jean Eaves: Doyenne of Stem Cells. May 22, 1944 – March 7, 2024

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Prof. Constance Eaves, Connie to everyone, a pioneer in experimental haematology, died in Vancouver on March 7, 2024 after a long battle with cancer. Connie was born in Ottawa, Canada on May 22, 1944. Her father, a Jewish mathematician, was accused of communist leanings during the Red Scare of the 1950s. He was abandoned by his university which gave Connie a deep distrust of academia. In high school she considered a career in medicine but switched to basic science research because of discrimination against female medical school applicants at that time.

Connie received a BA in biology and chemistry in 1964 from Queen's Univ. followed by a MSc in biology (genetics) in 1966 focused on oncogenic viruses. Her PhD work was at the Paterson Laboratories of the Christie Hospital and Holt Radium Institute under the direction of Professor Laszlo Lajtha receiving her PhD degree from the University of Manchester in 1969. Her first major paper there set the tone for a career: counting and tracking cells whilst wondering where they came from.

Connie's postdoctoral studies were at the at the Ontario Cancer Institute in Toronto with Professors James Till and Ernest McCulloch where she focused on defining the haematopoietic hierarchy and on erythropoiesis.

After completing her studies she moved to Vancouver where she was offered an academic position at the University of British Columbia. Connie rose to professor in the Department of Medical Genetics of the UBC Faculty of Medicine and professor at the UBC School of Biomedical Engineering. She also held an appointment as distinguished scientist at the Terry Fox Laboratory at BC Cancer.

Ascribing uniform importance to cellular origins was difficult for a mathematician's child. Connie had a questioning mind and embraced challenges others considered too complicated to study. Her approach to science was always quantitative. One of her most

important articles was the development of the competitive repopulation unit assay, one of the earliest quantitative approaches to calculating haematopoietic stem cells frequencies in long-term transplant assays. Her research also identified growth factor combinations supporting haematopoietic stem cells, defined types of stem cells at the single cell level and developed new models of human leukaemia. Later in her career she turned her skills and models to studying mammary stem cells in the context of breast cancer.

Connie was also a dedicated mentor. Many eventually prominent researchers studied with her at the Terry Fox Laboratory which she co-founded with her husband Allen in 1981. The Laboratory is internationally recognized as a centre for the study of haematopoietic stem cell biology. We counted 9 MSc degree candidates and 39 PhD degree candidates she supervised as well as 51 thesis committee memberships. Connie had an extraordinary work ethic and tenacity but always found time for her students. She was supportive of great science and a role model for women in haematology and science. She published 381 peer-reviewed scientific articles and many book chapters, reports and the like.

Her contributions to the professional and scholarly community include acting as the Editor-in-Chief of *Experimental Hematology*, President of the National Cancer Institute of Canada, Associate Scientific Director of the Canadian Stem Cell Network and President of the International Society of Experimental Hematology. She received many awards including the Till and McCulloch Lifetime Achievement Award of the Stem Cell Network. She was a Fellow of the Royal Society of Canada, Officer of the Order of Canada, Member of US National Academy of Science, Member of the American Association for Cancer Research Academy and a Fellow of the Royal Society. She was a member of the International Society of Hematology for 50 years, its President and recipient of the Donald Metcalf Award.

On a more personal note her beloved husband Allen writes: *We fell in love in the early 1970s as trainees at the Ontario Cancer Institute and became soulmates in both life and science. She was the most beautiful and intelligent girl I had ever met and we bonded over discussions on the regulation of growth and differentiation and how it goes wrong in leukemia at the 1973 ISEH Meeting in Paris.* Having attended many we're certain this is the most productive output of any ISEH meeting.

Those of us in the chronic myeloid leukaemia world are especially aware of her important contributions to our field. She published 84 articles on CML biology beginning in 1979 with Allen [1]. We are pleased to have published her pen-ultimate article in *LEUKEMIA* recently [2]. 50 years of continuous contributions! For

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her achievements she received the Janet Rowley Award of the International CML Foundation.

Connie is survived by her husband and colleague Allen, four children, eleven grandchildren, one sister and two brothers. She will be greatly missed. For a more intimate and detailed description of the extraordinary life of this extraordinary lady please see a memorial blog written by her son David (<https://eaves.ca>)

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