

# Western Science

Western University  
DEPARTMENT OF PHYSICS AND ASTRONOMY

## ELIZABETH LAIRD MEMORIAL LECTURE

**Friday, 6<sup>th</sup> November 2020**  
**6:30 p.m.**

*A virtual Lecture presented via Zoom in association with the*  
**Canadian Undergraduate Physics Conference (CUPC 2020)**

*Please Register in advance at:*

**Prof. Catherine Beauchemin**  
Department of Physics, Ryerson University

### **Virophysics:** **A physicist's approach to virology**

#### **Abstract:**

In physics, established knowledge is expressed as one or more equations. Even new knowledge can come about from exploring the properties of these equations. In biology, there are very few equations; knowledge is more commonly expressed through qualitative descriptions of observations. Such descriptions have several shortcomings, and I will show examples of how these have impacted the field. I will go over some of my group's progress in developing mathematical and computational models to describe interactions between cells and viruses in vitro, and some of the fun things we've uncovered along the way. And given the times we're in, I will also talk a bit about COVID-19 from a data analysis perspective and how innumeracy is contributing to the confusion and to controversies.

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## Biography:

**CATHERINE BEAUCHEMIN** is a Professor in the Department of Physics at Ryerson University in Toronto, and a Senior Visiting Scientist in Interdisciplinary Theoretical and Mathematical Sciences (iTHEMS) at RIKEN in Wako, Japan. Her research interest is in self-organizing systems, particularly in mathematical and computer modelling of infectious disease dynamics. Originally from Montreal, she received her undergraduate degree in Computational Physics from the University of Ottawa in 2001 and obtained her PhD in Biophysics from the University of Alberta in 2005. She joined Ryerson in 2007 and is a member of The College of New Scholars, Artists and Scientists of the Royal Society of Canada.



## The Elizabeth Laird Memorial Lectures:

This lecture series was initiated in 1970 to honour Professor Elizabeth Rebecca Laird—long-time associate, colleague and friend of the Physics Department at The University of Western Ontario. It was the first lecture series in the Faculty of Science at Western to carry the name of an individual, which is particularly fitting since she accomplished so many “firsts” in her long and distinguished career.



These lectures are designed to bring to the general public some of the excitement that leading physicists from all over the world have as they understand fundamentals and apply their special talents to solving many of today's scientific and technological problems.

DR. ELIZABETH REBECCA LAIRD was born in Owen Sound, Ontario on December 6th, 1874. Laird wanted to start her graduate work immediately after receiving her B.A. in 1896 from the University of Toronto. Her scholarship applications were rejected on the basis of gender, despite the fact that she had been first in her class for three years.

From 1901 to 1940, as Professor and Head of the Mount Holyoke physics department, Laird trained many women who became active physicists and set an example for the participation of women in research.

In World War II, Laird came out of retirement to work at The University of Western Ontario on the development of radar. She made substantial contributions and was invited to remain at the University. She was a remarkable person.