

## Congratulations / Félicitations



**Tania Watts, Ph.D.**  
**Professor and Sanofi Pasteur Chair in Human Immunology**  
**University of Toronto**

**The 2016 CSI – Hardy Cinader Award Recipient**  
**Presentation: “From planar membranes to TNFRs, a tale of costimulation and collaboration”**

*Professor, and Sanofi Pasteur Chair in Human Immunology, Department of Immunology, University of Toronto*

Dr. Tania Watts received her Bachelor and PhD degrees in Biochemistry at the University of Alberta. She then undertook post-doctoral studies in the Department of Chemistry, Stanford University, where she first became involved in immunology research. In 1986, Dr. Watts took up a faculty position at the University of Toronto in the Department of Immunology, where her research has focused on T lymphocytes and immunity to infection. Dr. Watts is currently a Professor of Immunology at the University of Toronto and director of the Faculty of Medicine Flow cytometry facility, and since 2009 has held the Sanofi Pasteur Chair in Human Immunology at the University of Toronto.

Dr. Watts started her research career in the laboratory of Professor William (Bill) Paranchych investigating the structure and assembly of pili from *Pseudomonas aeruginosa* using techniques ranging from x-ray fiber diffraction to circular dichroism. Her post-doctoral work with Professor Harden McConnell led to her interest in T cells and immunity. During that time she used planar lipid bilayers to show that MHC II and peptide antigens in a lipid bilayer were necessary and sufficient for activation of CD4 T cell hybridomas (PNAS 1984). In 1986, with Herman Gaub, a physicist then also in the McConnell lab, she went on to provide some of the first evidence for the existence of a ternary complex between MHC II, peptide antigen and the TCR, using total internal reflection microscopy and fluorescence resonance energy transfer (Nature 1986). Upon starting her own laboratory, Dr. Watts continued her interest in control of T cell activation, expanding her interests to include costimulation and the role of TNFR family members in immunity to infection. Her group was among the first to provide evidence for CD28-independent costimulation, publishing several early key papers on 4-1BBL as a costimulatory molecule. Dr. Watts' group has also developed an interest in studying human immunity, for example, providing evidence that TRAF1, a key survival molecule for lymphocytes, is lost from HIV specific CD8 T cells with progression of HIV infection. The current focus of her group is to understand how different TNFR family members and their signaling adaptors contribute to survival of lymphocytes to control viral infections and how they also contribute to inflammation and cancer.

In 2010, Dr. Watts founded the Toronto Human Immunology Network, subsequently recognized as a FOCIS Centre of Excellence. As Sanofi Pasteur Chair in Human Immunology and Director of the Human Immunology network, she has been engaged in organizing human immunology symposia and other related events. Dr. Watts was President of the Canadian Society for Immunology from 2009-2011. In 2006, she won the CSI investigator award and in 2014 the GSK Fast track challenge. Dr. Watts has also been engaged in vaccine advocacy and has given public lectures explaining the flu vaccine. Watts has mentored 25 graduate students, 15 post docs, and 25 undergraduate project students to date. Dr. Watts was previously an MRC scholar and a senior scientist of the National Cancer Institute of Canada. Her research has been supported by MRC /CIHR and the Canadian Cancer Society throughout her career.