



Congratulations / Félicitations

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The John D Reynolds Award Recipient

I completed my PhD at the University of California, Los Angeles (UCLA) where I worked on CD8 T cells (then known as Lyt2^+ cells) and their mechanism of killing. I examined the requirement for calcium fluxes in T cell activation and as a result of control experiments found that degranulation was not the only mechanism of killing but that a calcium-independent pathway could lead to the killing of certain target cells. This pathway was later shown to be FasL-dependent killing. Given my interest in calcium signaling I wanted to continue working in the area of signal transduction as pathways required for T cell activation were just being elucidated. I moved south to La Jolla to do a postdoctoral fellowship at the Salk Institute with Dr. Ian Trowbridge where I worked on CD45. Even though the function of CD45 was unknown at the time I started my fellowship, I proposed that its large cytoplasmic tail would contribute to T cell activation. I had no idea how important it would turn out to be. I showed that CD45 had tyrosine phosphatase activity and that it dephosphorylated the negative regulatory site of the tyrosine kinase Lck that allows TCR-dependent activation to proceed.

In 1991 I moved to the Department of Immunology at the University of Alberta to become an assistant professor and progressed from Alberta Heritage Foundation for Medical Research Scholar, to Senior Scholar then Scientist. I am now a Professor in the Department of Medical Microbiology & Immunology and the Associate Dean Research for Graduate Programs in the Faculty of Medicine and Dentistry. I initially focused my research on CD45 and other aspects of T cell receptor and integrin signaling in CD8 T cells. My primary research interest has remained centered on how TCR signals integrate with cytoskeletal rearrangements that are important for adhesion, migration, cell polarization and killing by CD8 T cells. More recently, we have focused our efforts on the cytoskeletal adaptor protein leupaxin and are dissecting its contributions to CD8 T cell adhesion and function *in vitro* and an *in vivo*. I have always been interested in CD8 T cell function in a tumor context and we are examining CD8 T cell infiltration and effector function in various tumor models.

I attended my first CSI meeting at Lake Louise in March of 1991 prior to my move to Canada. I found the Canadian immunology community very welcoming and I met a number of CSI members who became mentors and friends. They were supportive of me as my career progressed and I am proud to have been given the chance to give back to the society that has given me so much. I also appreciate how the society organizes its meetings to give the next generation of scientists a chance to present and discuss their data. It is exciting to see students I met at a CSI meeting return as faculty members and bring their graduate students to the meetings. I served as councillor from 1997-2001 and organized a few of the annual meetings held in Alberta. I was elected as Vice President of CSI in 2011, followed by President and Past President. In these roles, I worked closely with Lori Coulthurst, who keeps the society and the meetings running smoothly. In 2016, I was elected as a councillor for the International Union of Immunological Societies (IUIS) and was re-elected again in 2019. I represent the CSI at the IUIS and participate in activities associated with the IUIS Education Committee. I had the privilege of helping John Reynolds organize some of the meetings at Lake Louise in the 1990s and saw first-hand his commitment to the CSI as he worked tirelessly to move the society forward. It is an honor to be named the 2020 recipient of the John D. Reynolds Award.