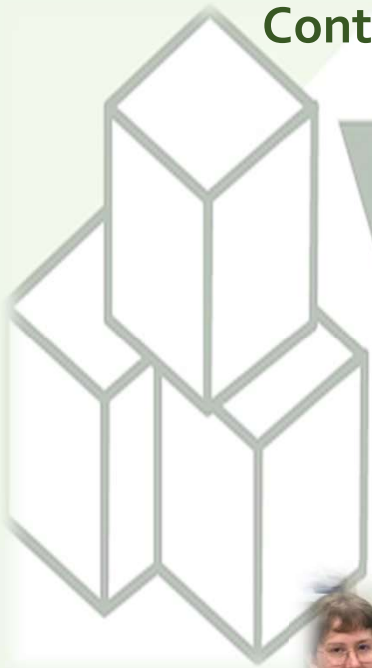


Made-in-Alberta Glycomics Start-up Company
Continuing the Legacy of Raymond Lemieux



VaxAlta



VaxAlta Inc, founded by former University of Alberta professors Drs. Christine Szymanski and Mario Feldman, is celebrating its 10th anniversary this December 2023 and is going stronger than ever! VaxAlta delivers safe, sugar-based, effective, affordable, and easy to administer livestock vaccines that eliminate the use of antibiotics, in support of livestock industries that want to remain competitive in a rapidly changing world. The company's mandate is to assist in improving animal quality of life and to produce better and safer foods. This is accomplished through bioengineering glycoconjugate vaccines targeting unique sugar structures found on disease-causing microorganisms and by providing contract services that exploit several decades of expertise in bacterial glycomics leading to novel therapeutic interventions.

The history of VaxAlta Inc. is deeply embedded in Alberta's culture of innovation. Christine Szymanski, VaxAlta's CEO, started as an undergraduate performing NSERC-funded research first at SynPhar Laboratories in Edmonton and then in the Department of Chemistry at the University of Alberta (UofA), before joining the UofA Department of Medical Microbiology and Immunology for her Ph.D. studies. She was recruited back to the UofA as a faculty member into the Alberta Ingenuity Centre for Carbohydrate Science (AICCS) and the Department of Biological Sciences. Mario Feldman was also recruited into the AICCS and Biological Sciences from one of the world's leading glycobiology laboratories at the ETH in Switzerland, where he met Harald Nothaft (current Chief Scientific Officer at VaxAlta). Harald first joined Christine's lab in 2005 at the National Research Council (NRC) and later at the UofA and has in-depth knowledge in the identification, characterization and heterologous expression of bacterial glycosylation systems. Cory Wenzel, who was the Chief Technology Officer for VaxAlta for several years also had a rich background in carbohydrate chemistry.

The main technology and original patent behind the Company were first developed at the NRC in Ottawa, where Szymanski, Nothaft and Wenzel worked together; and the workplace of David Bundle who was later recruited to the UofA as the first Raymond U. Lemieux Chair in Carbohydrate Chemistry and subsequent Founder/Director of the AICCS. Lemieux (born in Lac La Biche, Alberta), spent the early years of his independent career at the NRC in Saskatoon (where he was first to synthesize sucrose) and then at the NRC in Ottawa (where he was first to use NMR to obtain structures of sugar acetates), prior to returning to the UofA in 1961 where arguably his most notable discoveries in carbohydrate research were realized and his legacy in Alberta was permanently established.

This legacy grew under the leadership of the R.U. Lemieux Chair, David Bundle, when he first established the AICCS (together with former UofA professors Ole Hindsgaul and Monica Palcic) which transitioned into the Alberta Glycomics Centre, under Bundle's leadership and support by Alberta Innovates. Bundle, together with the former Chair of Biological Sciences, Dr. Laura Frost (daughter of Raymond Lemieux), recruited both Szymanski and Feldman to the UofA. Szymanski's research was further supported initially by an Alberta Innovates Scholar Award and then by an Alberta Innovates Technology Futures iCORE Tier 1 Strategic Chair in Bacterial Glycomics, then led by Randy Goebel, Vice-President of iCORE and the Alberta Innovates Academy. After its formation, VaxAlta Inc. received multiple rounds of support from the NRC Industrial Research Assistance Program (NRC-IRAP) and project support through the Alberta Livestock and Meat Agency (ALMA) and the Canadian Poultry Research Council (CPRC). In addition, Alberta Innovates supported Harald Nothaft through the newly established r&D Associates program - and the program currently supports Jolene Garber (born in Milk River, Alberta and former Ph.D. graduate from Szymanski's lab). Szymanski and Nothaft have been recipients of multiple awards including the TEC Edmonton Patent Award, TEC Edmonton Spin-off Award, and University of Alberta Innovation Award. In 2023, Szymanski was elected into the National Academy of Inventors. These achievements reflect the recognition of progress made by VaxAlta through the years and the continuation of "Sugar Ray's" legacy that continues to grow, not only in Alberta, but is expanding worldwide.

Photos: L to R: Jolene Garber, Harald Nothaft, Christine Szymanski and Cory Wenzel.
Other photo: David Bundle and Raymond Lemieux.

