

**KEYNOTE:****Dr. Josef Penninger***Director**Life Sciences Institute**University of British Columbia*

Dr. Josef Martin Penninger, born in Gurten, Austria, is a world-renowned geneticist and the Canada 150 Research Chair in Functional Genetics. Dr. Penninger is currently the Director of the Life Sciences Institute (LSI) at the University of British Columbia. He studied medicine at the University of Innsbruck in Austria. From 1990 to 1994 he worked as post-doctoral fellow at the Ontario Cancer Institute, thereafter until 2002 at the Department of Immunology and Medical Biophysics at the University of Toronto. As Principal Investigator of Amgen, his independent lab contributed to the development of the antibody Denosumab for bone loss and also found the first connection for RANKL to mammary gland development in pregnancy and breast cancer. In 2002, he moved to Vienna, Austria to start and develop the Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA), which has become one of the prime research centers in the world. Dr. Penninger envisions to recreate this environment at the LSI to nurture and train the best and brightest young minds of UBC scholars. His major accomplishments include pioneering insights into the molecular basis of osteoporosis and breast cancer, and demonstrating a critical role for ACE2 as the cellular receptor for the SARS Coronavirus infections and linking ACE2 to lung failure in such infections. He has published extensively in several multidisciplinary scientific journals, with over 60 publications in *Cell*, *Nature*, and *Science*. Josef has received numerous awards including the Wittgenstein Prize of the Austrian Federal Government, the Descartes Prize for Research, the Ernst Jung Prize for Medical Excellence, the Innovator Award of the US Department of Defense, and the Austrian Cross of Honor for Science and

ACE2 and spike glycosylation

ACE2 has emerged as the key receptor for SARS-CoV-2 infections. Both Spike and ACE2 are glycosylated at multiple sites contributing to binding of the virus to its receptor. I will discuss the discovery of ACE2, the role of ACE2 in normal physiology and disease, and the possible development of universal anti-COVID-19 therapies.