**Biosketch**

**Dr. Susan M Bueno**

Dr. Susan Bueno is a Full Professor in the Department of Genetics and Molecular Microbiology (DGMM), Faculty of Biological Sciences (FCB), of the Pontificia Universidad Católica de Chile (PUC) (Ranking QS LatAm nº1, 2021). He obtained his degree as a Medical Technologist in 1999 and his Doctorate in Biomedical Sciences in 2004 from the University of Chile (QS LatAm ranking nº4, 2021), focusing her studies on microbiology. Then, she completed postdoctoral training at the PUC between 2004 and 2007 in Immunology. As part of his training, he completed formal rotations in laboratories at Texas A University, Albert Einstein College of Medicine, and New York University. Dr. Bueno served as an assistant professor at DGMM, FCB, and UC, between 2007-2013 and earned her academic promotion to Associate Professor and Full Professor in 2013 and 2021, respectively. She is the youngest teacher to obtain tenure at the FCB. Dr. Bueno has also received appointments as a visiting professor at the University of Nantes (France) and Indiana University (USA) and is a corresponding member of the Chilean Academy of Sciences.

Dr. Bueno has published over 150 scientific articles in leading international journals, and her H index is 42 (Google Scholar). She is the inventor of 17 patents filed in more than 130 offices in various countries, and several have already been granted; and has successfully obtained permanent funding for her academic programs from Chilean research programs. She is currently the Principal Investigator of the research program supported by the Biomedical Research Consortium (BMRC), an initiative of the Chilean University-private company that supports the research and development of products relevant to human beings. Bless you. She is also a research associate at the Millennium Institute of Immunology and Immunotherapy (www.imii.cl), a research center of research excellence belonging to the network of centers of excellence of the Federation of Societies of Clinical Immunology (FOCIS). As part of the Millennium Institute of Immunology and Immunotherapy, he heads the Division of Infectious Diseases, which includes several principal investigators and many young scientists.

Dr. Bueno has received important awards, such as the Avonni National Innovation Award in 2018 and the PROSUR Award for Patented Inventions in 2018 and 2019. She was also named as one of the "Women Leaders in Medicine" in 2020, an award was given by "Fundación Mujeres Empresarias" in Chile, and also received the "Women Leaders in Health 2020" Award from Global Health Chile. In addition, she was recognized by the American Society for Microbiology as a Country Liaison for 2011-2013. Dr. Bueno is also a member of the editorial boards of the scientific journals International Journal on Immunology and Immunotherapy, Frontiers in Cellular and Infection Microbiology, PLoS Neglected Tropical Diseases, and Infection and Immunity. Furthermore, she belonged to the Scientific Ethics Committee for Animal Care and Environment of the PUC between 2014-2017 and was president between 2018-2019. He was also elected to the Board of Directors of the Chilean Society of Microbiology until 2021.

Dr. Bueno's research focused on the interaction between the host and infectious microorganisms and has made significant contributions in this field to gastrointestinal and respiratory diseases She has been a pioneer in the study of the role of mobile genetic elements in pathogenic bacteria Her laboratory was the first to describe islands of pathogenicity cleavable in Salmonella and its role in pathogenesis Her latest research on this topic was published in the prestigious journal PloS Pathogens In gastrointestinal bacteria, he has described that Salmonella infection generates persistent diseases that increase susceptibility to intestinal inflammation and has demonstrated the role of anti-inflammatory molecules in the severity of illness caused by this bacterium In respiratory diseases, he has described the role of anti-inflammatory molecules and cells produced in response to bacterial infections such as Streptococcus Pneumoniae and Klebsiella pneumoniae Her research has shown that these elements are necessary to preserve lung integrity during infection, but prevent proper elimination of the microorganism As for her research on respiratory viruses, Dr. Bueno has contributed in two essential fields: diagnostics and vaccines. As for diagnosis, he has led clinical studies in pediatric patients to detect molecules produced in the respiratory tract during viral infections, determining the disease's severity. With this knowledge, he has developed a diagnostic method to detect respiratory viruses plus inflammatory molecules, which is currently in the final stages of clinical validation. In the field of vaccines, his research has focused on the development of vaccines for respiratory syncytial virus, metapneumovirus, and SARS-CoV-2, using recombinant bacteria as vectors. One of these vaccines was produced under Good Manufacturing Practices (GMP) and tested in clinical trials in Chile, the first executed in this country for a human vaccine. In addition, he has presented more than 50 times the results of his research as a lecturer at relevant meetings and research institutions in Chile and abroad.

During the COVID-19 pandemic, Dr. Bueno made a significant contribution to Chile. She currently serves as Scientific Director of Phase 3 clinical trial to test the efficacy of an inactivated vaccine developed by SINOVAC Life Sciences in Chile. The scientific research carried out at the PUC has been led by Dr. Bueno and has provided relevant information on the immune response triggered by the SINOVAC vaccine in the Chilean population. This study was supported mainly by the Government of Chile and the private sector. It was initiated due to the previous collaboration on vaccines for respiratory pathogens between the team formed by Dr. Bueno at PUC and SINOVAC Life Sciences. The establishment of this collaboration and the execution of this clinical trial in Chile have been critical to the preferential supply to Chile of the SINOVAC vaccine and the successful

Dr. Bueno has trained more than 50 students, of which 22 have already obtained their bachelor's degree and 12 their doctorate In addition, in her laboratory 6 postdoctoral fellows have been trained and these scientists are inserted academically and professionally in other Chilean and foreign universities, in the industry and colleges of Chile Currently she also leads a research team of more than 15 people working in the clinical trial of phase 3 for the COVID-19 vaccine developed by SINOVAC Life Sciences Since 2007 she has coordinated undergraduate and postgraduate courses in microbiology at the PUC and permanently participates as a guest professor in studies of the PUC and other universities, providing basic and advanced knowledge of microbiology to a large audience of young scientists in Chile She is also strongly committed to the dissemination of science to society, organizing workshops, talks, exhibitions of film cycles and participating in science dissemination fairs for schools and the general public, in Chile His opinion on aspects of science and microbiology is permanently requested by television, written and radio media (more than 200 interviews to date).