



Congratulations / Félicitations

Zhou Xing, MD, PhD

Professor, McMaster Immunology Research Center & Department of Medicine, Faculty of Health Sciences, McMaster University

The 2023 CSI – Hardy Cinader Award Recipient

Presentation: “Respiratory Mucosal Immunity: A Trek Through Research and Self-Discovery”

Graduated from North Sichuan Medical College, Nanchong of China in 1981, Zhou Xing worked for a year as an infectious disease physician before the 3-year MSc training in anatomic pathology and occupational pulmonary diseases at Tongji Medical University, Wuhan. He then worked as a lecturer and pathologist for two years at West China Medical University, Chengdu before coming to Canada for research training in 1987. He was research-trained with Dr. Jack Gauldie and received his PhD in immunology from McMaster University in 1993. Inspired by his mentors, he became a faculty member within the Department of Pathology and Molecular Medicine in 1996 and is now a faculty member in the Department of Medicine of McMaster. Since 2007, he has been a full professor primarily affiliated with McMaster Immunology Research Center.

Zhou’s research program has focused on respiratory mucosal immunity, infectious disease, and vaccine development. His lab was among the first to discover the ability of lung macrophages to produce IFN-gamma during mycobacterial infection. He was also the first to identify TNF-alpha to be a critical negative regulator of T cell responses to intracellular bacterial and viral infections in the lung. His research showed the superiority of respiratory mucosal route of tuberculosis (TB) vaccination over parenteral injection. More recently, his team has discovered that besides its ability to induce adaptive memory immune responses, respiratory viral-vectored vaccination or subcutaneous live organism-based immunization can induce memory alveolar macrophages and trained innate immunity in the lung. These fundamental preclinical discoveries have led to bench-to-human translation of next-generation respiratory mucosal viral-vectored vaccine strategies against TB and COVID-19. Via closely working together with his colleagues, he has completed two clinical TB vaccine trials and is currently implementing a phase 1 inhaled aerosol COVID-19 vaccine study. His primary research has been published in such journals as *Journal of Immunology*, *Journal of Infectious Disease*, *Mucosal Immunology*, *Journal of Clinical Investigation*, *Science Translational Medicine*, *Nature Immunology*, and *Cell*.

Zhou considers himself a solitary scientist. He enjoys spending an abundance of his time in nurturing young biomedical researchers and professionals. Quite some of his previous trainees are faculty members, scientists, or professionals currently working in academia, industries, government research agencies, and health organizations.