



Department of
Biomedical Engineering

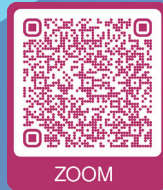
香港城市大學
City University of Hong Kong

Hosted by Prof. Xinge YU

Oxidized phosphatidylcholines: novel mediators of chronic neuroinflammation and neurodegeneration

Dr. Jeff Dong

Assistant Professor
Department of Biochemistry, Microbiology & Immunology
University of Saskatchewan



Date: 10 October 2024
Time: 10:00 - 11:00 am
Venue: Zoom Online



Abstract

Multiple sclerosis (MS) is a neuroinflammatory and neurodegenerative disease of the CNS. Oxidized phosphatidylcholines (OxPC), which are by-products of lipid peroxidation highly elevated in MS, are proinflammatory and cytotoxic molecules capable of mediating demyelination and neurodegeneration. Since OxPC elevation occurs in MS brain lesions at different stages of disease progression as well as in the aging CNS, determining how to prevent OxPC accumulation and to increase the resilience of the aging CNS against OxPC mediated neurodegeneration may help to promote CNS repair, protection, and regeneration in MS. Importantly, new approaches to study OxPC mechanisms in MS progression are urgently needed since commonly used rodent models for studying MS have relatively lower amounts of OxPC deposition compared to MS lesions. Here, I will discuss the stereotaxic injection of purified, MS-relevant OxPC into the CNS of mice as a potential model of chronic neurodegeneration in progressive MS. Our recent results also highlight how aging and microglia are critical factors that influence the susceptibility of the CNS to OxPC mediated chronic neuroinflammation and neurodegeneration.

Biography

Dr. Jeff Dong is an Assistant Professor in the Department of Biochemistry, Microbiology & Immunology at the University of Saskatchewan. He completed in PhD at the University of British Columbia followed by postdoctoral fellowship training with Dr. Wee Yong at the University of Calgary. His lab's research focuses on the immunology, degeneration, and aging in the central nervous system.