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The NO-Age and NO-AD Seminar Series # 84

'Translational Medicine for Alzheimer's Disease: Molecular Biomarker and Drug Discovery'

by

Assoc Prof. Martin (Can) Zhang

Department of Neurology, Massachusetts General Hospital and Harvard Medical School

11:00 - 12:00 (CET), Tusday, 30th June 2026

Location: Seminarrom room B203.006, Ahus

Online: https://uio.zoom.us/j/63533453651

Evandro F. Fang (UiO), Jon Storm-Mathisen (UiO), Asgeir Kobro-Flatmoen (NTNU), Lene Juel Rasmussen (KU), W.Y. Chan (CUHK)

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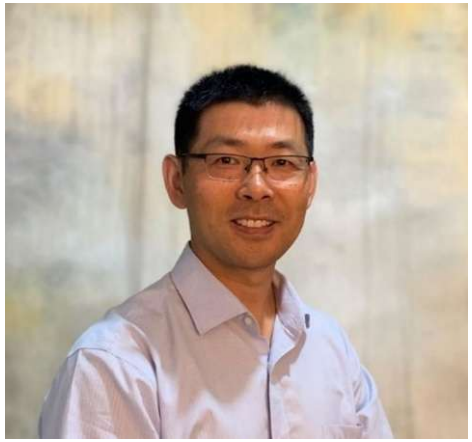
Previous recorded talks are available here: https://noad100.com/videos-previous-events/



Name: **Assoc Prof. Martin (Can) Zhang**

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Speaker: Assoc Prof. Martin (Can) Zhang

Title: Translational Medicine for Alzheimer's Disease: Molecular Biomarker and Drug Discovery

Abstract:
Dr. Zhang will talk about his Alzheimer's disease (AD) research focused on molecular pathogenesis, biomarker discovery and potential small molecule therapeutics of AD. Dr. Zhang has led studies concentrated on the translational medicine of AD and has investigated genes/proteins that regulate AD neuropathology (e.g. the intracellular protein GBF1); and molecules displaying diverse mechanisms of action for "visualizing" and "treating" AD, including the γ-secretase modulators (GSMs), curcumin analogs, small molecule inhibitors of epigenetic protein HDAC6/11, and NLRP3 inflammasome, as well as FDA-approved non-AD drugs (e.g. cromolyn) for AD. Additionally, Dr. Zhang has unraveled new AD biomarkers using multidisciplinary approaches, including multiplex biochemical assays, and molecular positron emission tomography PET imaging, which has resulted in an array of new probes enabling visualization of γ-secretase or RIPK1 in the brain of live animals, and a recent launch of RIPK1 probe in humans.

Biography:
Can (Martin) Zhang, Department of Neurology, Massachusetts General Hospital and Harvard Medical School. Dr. Zhang is an Associate Professor of Neurology and a faculty member of the McCance Center for Brain Health at the Massachusetts General Hospital (MGH) and the Harvard Medical School (HMS). Dr. Zhang received his MD and master's degree at the Weifang Medical College, China and then earned his PhD at the Drexel University, US, followed by a post-doctoral fellowship at MGH and HMS.
Can (Martin) Zhang's research is focused on identifying the mechanism of neurodegeneration in Alzheimer's disease (AD), with the goal of identifying molecular targets and biomarkers that will translate into the development of novel therapeutic strategies for AD.

The pathogenesis of AD is believed to be primarily driven by amyloid-B (AB), the principal component of senile plaques in the brain. Zhang has discovered or characterized several genetic or pharmacologic modulators of AB production and clearance, including the AD risk gene ataxin-1 (ATXN1), the spice component curcumin and its analogs, and the cancer drug bexarotene.

Zhang elucidated the mechanism of a new class of highly promising AD treatments, the APP-selective γ-secretase modulators (GSMs). GSMs are a group of small molecules that lower plaque formation by specifically modulating the processing of APP to AB by the γ-secretase protease.

The GSMs, which function differently from non-selective γ-secretase inhibitors whose clinical development was stopped because of side effects, are expected to proceed into AD clinical trials in the coming years.

In addition, Zhang is currently studying the role of immune regulatory cytokines and dietary and environmental factors in the pathogenesis of AD in conventional cell and mouse models and in novel nanofiber-based single-cell models of the disease.