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The NO-Age and NO-AD Seminar Series # 75

Effects of gut microbiota dysbiosis on cognitive function and postoperative delirium

by

Dr. Yiying ZHANG
Department of Anesthesia, Harvard Medical School, U.S

Prospective blood-based biomarkers of dementia: evidence from the Shanghai Aging Study (tentative)

by

Prof. Ding DING
Fudan University, Shanghai, China

13:00-15:00 (CET), Tuesday, 25 June 2024

Location: Ahus S1: Seminarrom S104.016, Akershus University Hospital

On-line:

https://uio.zoom.us/webinar/register/WN_TsRaNiDPRQGY8CW-LPI9ow

Organizers:

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: Dr. Yiying Zhang

Department of Anesthesia, Critical Care and Pain Medicine,
Massachusetts General Hospital
Harvard Medical School

Email: YZHANG37@mgh.harvard.edu

Speaker: Dr. Yiying Zhang

Title: Effects of gut microbiota dysbiosis on cognitive function and postoperative delirium (tentative)

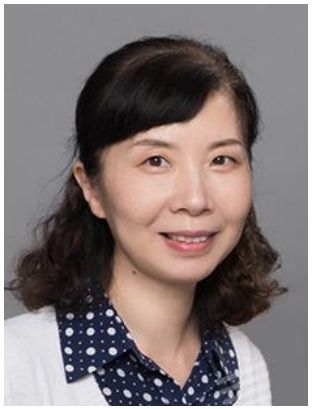
Abstract:
To be updated

Biography:
Dr. Yiying Zhang has been performing research in Alzheimer's disease (AD), anesthesia, surgery, and postoperative delirium since 2009. With a keen focus on the neuropathogenesis of AD and the neurotoxicity induced by anesthesia and surgery, Dr. Zhang's work spans both in vivo and in vitro studies, examining the intricate effects of anesthetics on mitochondrial function and their potential links to neuroinflammation.

One of Dr. Zhang's pivotal discoveries is the differential impact of inhalation anesthetics on AD neuropathogenesis. Her research revealed that isoflurane, but not desflurane, can induce AD neuropathogenesis and cognitive impairment in both cultured cells and mice. This significant finding has been published in prestigious journals such as the Journal of Biological Chemistry (JBC) in 2010 and the Annual of Neurology in 2012, the latter of which included an editorial highlighting the study's importance.

Since 2019, Dr. Zhang has delved into the relationship between gut microbiota and postoperative delirium in rodents. She has pioneered protocols and methods that demonstrate how age-dependent changes in gut bacteria correlate with postoperative delirium-like behavior in mice. This research suggests a critical role for gut microbiota in the pathogenesis of postoperative delirium. To bridge her animal studies with clinical relevance, Dr. Zhang also identified associations between changes in gut bacteria and postoperative delirium in patients. Her findings have been published in Translational Psychiatry in 2023, where she demonstrated the contribution of gut microbiota to postoperative delirium in patients. Additionally, her work on Alzheimer's disease and cognitive impairment in mice was featured in Molecular Psychiatry in 2023 and highlighted in "News and Views" of Nature Reviews Neurology.

Dr. Zhang's research project, "Gut Microbiota is Associated with Postoperative Delirium in Patients," earned her the prestigious "Junior Faculty Research Award" from the Association of University Anesthesiologists (AUA). Remarkably, Dr. Zhang has received this award for two consecutive years in 2023 and 2024, underscoring the significant impact of her contributions to the field and marking a honor in her distinguished career.



Name: Prof. Ding DING
Fudan University, Shanghai, China

Email: dding99@163.com

Speaker: Prof. Ding DING

Title: Prospective blood-based biomarkers of dementia: evidence from the Shanghai Aging Study (tentative)

Abstract:
To talk on the well-establisehd shanghai ageing cohort and its applications in dementia research by the Ding lab and others.

Biography:
Dr. Ding is a professor and neuro-epidemiologist at the Institute of Neurology, Fudan University Huashan Hospital, WHO collaborating center for research and training in neurosciences, Shanghai, China. She received her medical (BS), public health (MPH), and neurology (PhD) training at the Fudan University. She was the visiting scholar and exchanging scientist at the Chinese University of Hongkong (2006), the National Institute of Health (USA 2007), and the Institute of Neurology of UCL (Queen square, London 2015).
She is the principle investigator of the "Shanghai Aging Study (SAS)", a cohort study conducted in China with a study design, operational procedures and diagnostic criteria similar to most cohort studies in western countries. The research cohort was established in 2009, aiming to identify the prevalence of mild cognitive impairment and dementia in 4000 older community dwellings in Shanghai. Risk factors of cognitive impairment were also explored and measured at the prospective stage of the SAS.
She has about 160 publications including research articles, reviews and book chapters in the Lancet Neurology, Alzheimer's & Dementia, JNNP, etc. She received grants from the National Nature Science Foundation of China, NIH/NINDS, NIH/NIEHS, and NIH/NIA in the past 15 years. She was awarded the Bruce S. Schoenberg International Award in Neuroepidemiology of the American Academy of Neurology in 2006. She is now the Editor-in-chief of Aging and Health Research, Editorial Board Member of Alzheimer's & Dementia- Translational Research and Clinical Interventions, Journal of Alzheimer Disease reports, Associate Editor of Journal of Alzheimer Disease, Guest Editor of Frontiers in Neurology and Neuroepidemiology. She is also serving as a reviewer of Lancet Neurology, Nature Reviews, Neurology, Circulation, Stroke, Neuoepidemiology, Alzheimer & Dementia, Neurobiology of Aging, Age and Aging, npj Aging, etc.