The 6th NO-Age/AD meeting on ageing and dementia

26th Sep. 2023
On-line zoom with here https://uio.zoom.us/j/61038204623
Room: Domus Medica, Auditorium L-200
Address: Sognsvannsveien 9, 0372 Oslo, Norway

Organizers:
Evandro F. Fang (Oslo, Norway)
(Alice) Ruixue Ai (Oslo, Norway)

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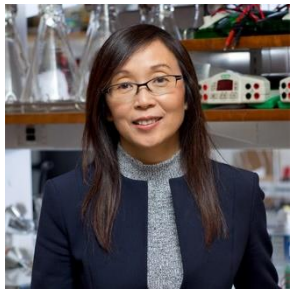
26 Sep. 2023

Venue: Domus Medica, Auditorium L-200 (Address: Sognsvannsveien 9, 0372 Oslo), University of Oslo, Norway

Organizers: Evandro F. Fang (Oslo, Norway), Alice Ruixue Ai (Oslo, Norway)

On-site and zoom.



Li Gan
WCMC, USA
Speaker

Magnar Bjørås
NTNU, Norway
Speaker

Junping Pan
UiO, Norway
Speaker

Asgeir Kobro-Flatmoen
NTNU, Norway
Speaker

Rune Enger
UiO, Norway
Speaker

Jan Terje Andersen
UiO, Norway
Speaker

Jon Storm-Mathisen
UiO, Norway
Speaker

Edward B. Lee
Upenn, USA
Speaker

(Caroline) Shi-qi Zhang
UiO, Norway
Speaker

Katja Kanninen
UEF, Finland
Speaker

Shuqin Cao
UiO, Norway
Speaker

Keqiang Ye
SIAT, China
Speaker

Evandro Fei Fang
UiO, Norway
Organizer

Alice Ruixue Ai
UiO, Norway
Organizer

26 Sep. 2023	Mechanisms of ageing and dementia	
Oslo time 08:00-08:10	Opening by Evandro F. Fang	
PART 1: Chair Edward B. Lee		
08:10-09:00	Li Gan (USA)	The good, the bad, and the ugly: how tau becomes toxic? (Tentative)
09:00-09:40	Magnar Bjørås (Norway)	Role of DNA glycosylases in neurodegeneration and cognition (Confirmed)
09:40-09:50	Break	
09:50-10:10	Junping Pan (Norway)	The key autophagy protein ULK1 is reduced during ageing and in as well as a druggable target of Alzheimer's disease (Confirmed)
10:10-10:50	Asgeir Kobro-Flatmoen (Norway)	Entorhinal Cortex Cultures – A Hopeful Step Forwards in Modelling Alzheimer's Disease (Confirmed)
10:50-11:30	Rune Enger (Norway)	The gliovascular interface in sleep: putative roles in brain waste clearance
11:30-12:10	Jan Terje Andersen (Norway)	Tailored engagement of antibody receptors for targeted delivery and degradation (Confirmed)
12:10-13:00 Oslo time	Lunch	
PART 2: Chair Li Gan		
13:00-13:50	Jon Storm-Mathisen	Early experience with transmitters - a personal account (Confirmed)
13:50-14:40	Edward B. Lee (USA)	Untangling Neurodegeneration: From Pathology to Pathophysiology (Confirmed)
14:40-14:50	Break	
14:50-15:10	Caroline Shi-qi Zhang (Norway)	NAD^+ normalizes circadian rhythm and improves memory in Alzheimer's disease animal models (Confirmed)
15:10-15:50	Katja Kanninen (Finland)	Olfactory mucosa as a window to the brain: pathological features linked to Alzheimer's disease and influence of air pollutants (Confirmed)
15:50-16:10	Shuqin Cao (Norway)	A novel mitophagy inducer that protects against tau pathology in cross-species models of Alzheimer's disease (Confirmed)
16:10-17:00	Keqiang Ye (China)	Roles of gender difference in Alzheimer', and the development of a new probe targeting Parkins disease (Confirmed)
19:00	Dinner (invited only)	

Li Gan, Ph.D.
WCMC, USA

Dr. Gan is the director of the Helen and Robert Appel Alzheimer's Disease Research Institute and the Burton P. and Judith B. Resnick Distinguished Professor in Neurodegenerative Diseases at Weill Cornell Medicine. Dr. Gan's research focuses on innate immunity and proteostasis, the converging and interconnected pathways in neurodegenerative diseases, such as Alzheimer's disease (AD) and Frontotemporal Dementia (FTD). On the proteostasis front, her work linked endolysosomal dysfunction with amyloid beta degradation in AD and aberrant acetylation with tau degradation and toxicity in FTD. Her research also aims at dissecting how maladaptive innate immune responses leads to functional deficits, proteostasis malfunction, and disease progression. Her most recent work focuses on functional consequence and underlying mechanism of mutations on TREM2, the strongest innate immune risk factor in AD.

Magnar Bjørås
NTNU, Norway

Prof Magnar Bjørås is a Principle Investigator of the research group of Cellular responses to DNA damage at Department of Cancer Research and Molecular Medicine, Norwegian University of Science and Technology (NTNU), Trondheim and at Oslo University Hospital/University of Oslo. Bjørås is an expert on genome dynamics with particular emphasis on oxidative stress, DNA base lesion repair and maintenance of epigenetic DNA methylation (epigenome stability). His main focus has been on repair of endogenous DNA base lesion repair mechanisms and genome stability. We have made major contributions to characterization of many new DNA repair enzymes from bacteria, yeast and mammalian. His group has solved the atomic 3D-structure of many DNA-protein complexes revealing several new mechanisms of DNA base damage recognition and catalysis. We have also established research on the role of DNA base lesion repair in neurodegeneration, cognition and behavior, which is a new direction in the DNA repair field revealing novel functions beyond canonical DNA.

Junping Pan
UiO, Norway

Junping obtained his Master's degree from the Neuropharmacology Department of Jinan University under the supervision of Professor Huanmin Luo in 2018. He is mainly engaged in research on how methyl 3,4-dihydroxybenzoate induces neural stem cells to differentiate into cholinergic neurons in vitro. Junping worked in the Neurosurgery Department of Guangdong Women and Children's Medical Center in 2019. He received doctoral degree in immunology from the School of Basic Medical Sciences, Jinan University under the supervision of Professor Guobing Chen and Evandro F. Fang in 2022. His PhD project was focused on ULK1 abrogation of memory loss and pathologies in 5XFAD and hTau.P301S murine models of Alzheimer's disease. In his postdoc programme, he is continuing to study the mechanics of ULK1 in AD and the role of ULK1 in healthy aging. He is also studying the role of traditional Chinese medicine in inducing mitophagy to improve AD.

Asgeir Kobro-Flatmoen
NTNU, Norway

Kobro-Flatmoen works on elucidating the earliest pathological changes in Alzheimer's disease. The long-term aim of this is to put us into a better position with respect to future development of medication, which should target specifically those initial changes that bring about the disease, before any major symptoms arise. Kobro-Flatmoen's research has shown how a particular population of neurons deep within the brains center for navigation likely develop very early pathological changes, at a time point long prior to that when Alzheimer's disease starts to cause cognitive impairments. There is strong evidence to suggest the disease may spread from this region and throughout the brain, making this finding highly relevant. His current work centers on this particular population of neurons, and involves trying to determine whether they express certain molecules, which, despite being advantageous for most of life, makes them vulnerable to long-term accumulation of dysfunctional and eventually toxic proteins.

Rune Enger
UiO, Norway
Speaker

Rune Enger interests are mainly focussed on astrocyte–neuron interplay in the healthy and dysfunctioning brain. Broadly, He is involved in projects belonging to the following categories: What are the roles of astrocytic Ca^{2+} signals in the normal brain? Since the discovery that astrocytes can react with and communicate by local or spreading Ca^{2+} elevations, a range of different mechanisms have been linked to these signals. For instance, such signals have been proposed to influence neuronal network activity by release of transmitter substances in, or close by, synapses. Similarly, astrocytic Ca^{2+} signals have been proposed to influence vascular tone. Currently, I'm trying to outline the role of astroglial Ca^{2+} signals in spatial memory encoding and consolidation. What are the mechanisms underlying cortical spreading depression (CSD)? CSD is the phenomenon underlying the perceptual disturbances of the migraine aura, and although first discovered over 70 years ago, key aspects of these events are still unknown. What are the roles of astrocytic Ca^{2+} signals in epileptic seizures and chronic epileptic brain tissue? To answer these questions I work with advanced imaging techniques. Most importantly, two-photon microscopy in awake head-fixed mice, in combination with electrophysiology and molecular strategies.

Jan Terje Andersen
UiO, Norway

Jan Terje Andersen is professor in biomedical innovation at University of Oslo, and a research group leader at Oslo University Hospital. He is heading the Laboratory of Adaptive Immunity and Homeostasis, which is a member of PRIMA - a Center of Excellence in Precision Immunotherapy funded by the Research Council of Norway. His laboratory is studying the cellular processes and molecular interplay underlying the functions of the two most abundant proteins in blood, albumin and IgG. By combining structural and biophysical approaches with cellular and in vivo studies, the in-depth knowledge is used in design of novel molecules with improved functions. The laboratory is extensively collaborating with biotech and pharmaceutical companies, and is the research group at the University of Oslo and Oslo University Hospital with most registered innovations at Inven2. Andersen has obtained the Fridtjof Nansen Prize for Early Career Achievements and is an alumni member of the Young Academy of Norway. He is also a co-founder of Authera AS.

Jon Storm-Mathisen
UiO, Norway

Jon Storm-Mathisen is a Norwegian brain researcher. He is professor emeritus of medicine at the University of Oslo. He was previously deputy head of the Center for Molecular Biology and Neuroscience. He received the Anders Jahres medical prize in 2006 for his pioneering research on signaling substances in the brain. In the justification for the award, it was stated that he has shown that nerve cells in the brain communicate using the amino acid glutamate as a signaling substance, which was surprising. He also received the University of Oslo's research prize in 2004, on the grounds that he was fundamental to the now flourishing community in neurobiology. He was also awarded the Nansen Medal and the Lundbeck Prize, and elected member of the Norwegian Academy of Science and Letters. He chaired the inaugural Kavli Prize Committee for Neuroscience.

Edward B. Lee
Upenn., USA

Edward B. Lee team use an interdisciplinary approach to address the mechanisms of neurodegeneration, including molecular, biochemical, histologic, physiologic and behavioral methods. We are also interested in using and developing cutting-edge techniques including multi-spectral confocal imaging, single cell RNA sequencing, spatial transcriptomics, CRISPR editing, and cryo-electron microscopy. The laboratory is comprised of a collaborative group of inquisitive researchers, led by Eddie Lee, Associate Professor in the Division of Neuropathology in the Department of Pathology and Laboratory Medicine, Co-Director of the Penn Institute on Aging, and Associate Director of the Penn Alzheimer's Disease Research Center. It is our mission to understand the root causes of human neurodegenerative diseases so that our discoveries can translate into specific disease-modifying therapies.

(Caroline) Shi-qi Zhang
UiO, Norway

Caroline has a Master of Science degree from the China Medical University, China. During this period she did a one-year internship program with Professor Clifford Woolf's lab at the Harvard Medical School/Boston Children's Hospital, USA. At Harvard, her research was mainly focused on developing an ALS-associated human motor neuron model of mutant TDP-43 for genome-wide CRISPR screens. In the Fang lab at the University of Oslo (UiO), she is focusing on mechanistic studies of Alzheimer´s disease (AD), with a focus on ApoE4, NAD^+, and autophagy/mitophagy. She uses a cross-species approach, covering human iPSC-derived neurons and glial cells, nematodes, mice, and postmortem brain tissue from individuals affected with AD to address related questions.

Katja Kanninen
UEF, Finland

Katja Kanninen, PhD, is a Professor of Cellular Neurobiology at the A.I. Virtanen Institute for Molecular Sciences at University of Eastern Finland, Finland. She has a MSc. degree in Cell Biology and a PhD in Neurobiology and has led an independent research group since 2016. Her research is focused on understanding the cellular and molecular mechanisms implicated in brain health and disease. By using human cell cultures and animal models for the research, she investigates how lifestyle and environmental factors affect brain health and are implicated in neurodegeneration. Her research strives to understand how airborne agents such as air pollutants or viruses affect the brain, and to explain the cellular and molecular pathways involved.

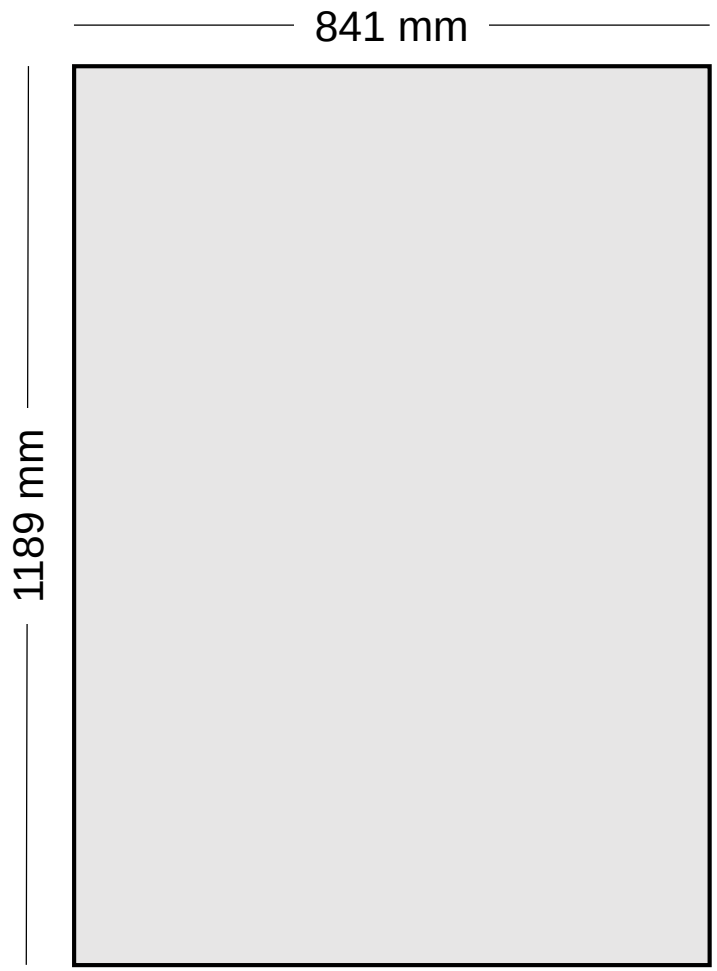
Shuqin Cao
UiO, Norway

Shu holds a bachelor degree from The University of Malaya, Malaysia, and did a PhD programme in Clinical Biochemistry and Molecular Medicine at the Chulalongkorn University, Thailand. She was working as a visiting student in the Fang lab (UiO) from Feb 2020 to Jan 2022 and finished her PhD thesis in the Fang lab and defended her PhD in Oslo via zoom. Her PhD project was focused on the identification of potential anti-AD drug candidates from natural molecules isolated from Thai medicine. In her postdoc programme, she is continuing in depth characterization of a few novel mitophagy inducers she has identified during her PhD period. She is also working on NAD^+ and TFEB in AD.

Keqiang Ye
SIAT, China

Dr. Ye recently took the Chair position in Department of Biology at Shenzhen Institute of Advanced Technology (SIAT), China, after working at Emory University, Atlanta, USA for 20 years. His research focuses on neurodegenerative diseases' mechanism and early diagnosis and drug development. His lab discloses that C/EBPb/d-secretase (AEP) signaling is the driving force for both AD and PD pathogenesis. The innovative d-secretase inhibitor is under currently preclinical investigation for both AD and PD indications. Most recently, his lab identifies a long-awaited a-Synuclein PET tracer for PD diagnosis.

Poster



Guidelines

- Size: Posters should be no larger than A0 size (841 x 1189 mm), in portrait format
- On main area of the poster, include a reproduction of your abstract with the following headings (which should be in 40 pt font or similar):
  - Introduction
  - Methods
  - Results
  - Conclusions
  - References
  - Discussion (optional)
- Recommended fonts are Arial, Calibri, Century Gothic, Geneva, ad Helvetica (San serif fonts)

Courtesy: H.L. Wang

Acknowledgements

The NO-Age and NO-AD Seminar Series

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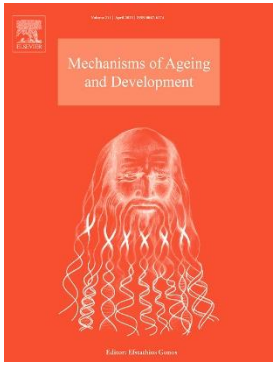

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Iceland Liechtenstein Norway grants

Programme Kappa

T A C R

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