



U. of
Oslo



U. of
Copenhagen



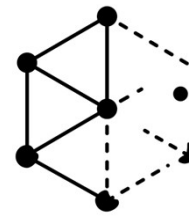
香港中文大學

Chinese U. of
Hong Kong



NTNU

Norwegian U. of
Science and Technology



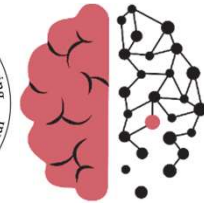
K.G. Jebsen Centre for
Alzheimer's Disease



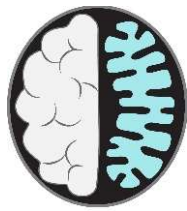
Kavli Institute for
Systems Neuroscience



NO-Age



NO-AD



MIT-AD

The NO-Age and NO-AD Seminar Series # 83

**‘Super-Resolution Imaging of Mechanobiology and Intracellular Trafficking in
Cancer and Aging’**

by

Dr. Xian Hu (Edna)

Faculty of Mathematics and Natural Sciences, UiO, Norway

**‘Substrate stretching without a substrate: the engineering side of trans-
membrane force cues as a very promising pathway to robust and easy delivery of
Mechanotherapies’**

by

Dr. Felix Margadant

Founder of MechanoBiologics. Inc & Founder of Novaqoustics. Inc

10:30 - 11:30 (CET), Friday, 24th April 2026

Location: Seminarrom S305.019, Ahus

Online: <https://uio.zoom.us/j/62916725608>

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

Queries: e.f.fang@medisin.uio.no

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



Name: **Dr. Xian Hu (Edna)**

Faculty of Mathematics and Natural Sciences, UiO, Norway

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Speaker: Dr. Xian Hu (Edna)

Title: Super-Resolution Imaging of Mechanobiology and Intracellular Trafficking in Cancer and Aging

Abstract:

Cells constantly sense and respond to mechanical cues, and their mechanobiology is profoundly altered in cancer and with aging. Tumor cells often lose normal rigidity sensing and anoikis, enabling growth on soft matrices, while aging tissues show ECM stiffening and disrupted mechano-signaling. These changes arise from force-sensitive structures such as focal adhesions and contractile units, where proteins like talin undergo force-induced conformational changes that affect both survival pathways and intracellular trafficking.

In this talk, I will introduce key concepts of mechanobiology in tumor biology and aging, and how external mechanical cues—such as matrix rigidity and cyclic stretch—reshape cell fate decisions and endocytic/trafficking routes for adhesion and signaling receptors. I will then focus on how we can image these processes, highlighting STED and other super-resolution techniques that will be available in the Life Science Building from September, as well as the Bruker TruLive platform for long-term imaging of organoids and small model organisms. I will discuss how these imaging tools can uncover mechanobiology–trafficking crosstalk and support more clinically relevant research.

Biography:

To be update



Name: **Dr. Felix Margadant**

Founder of MechanoBiologics. Inc
Founder of Novaqoustics. Inc

Email: felix@margadant.ch

Speaker: Dr. Felix Margadant

Title: Substrate stretching without a substrate: the engineering side of trans-membrane force cues as a very promising pathway to robust and easy delivery of Mechanotherapies

Abstract:

The mechanical interactions between cells in tissues and the downstream effects of membrane transduction with regards to potential therapies, has been an active research topic for soon two decades. And while some processes, such as the pathways of apoptosis induction, are fairly explained by this day, the impact on senescence is but a collection of phenomenological studies.

This talk focusses on the machinery deployed to create and control trans-membrane signaling and the substitution of substrate attachment. It discusses the potential and problems by substituting the mechanical forces with dynamic shear stress from ultrasound modulation which sees a revival in mechanical therapies due to its safety and versatility.

Felix together with Michael Sheetz is the founder of MechanoBiologics focussed on the design of treatment devices and more recently of Novaqoustics that devised the immersion systems for a larger Xprize clinical study at the University of San Antonio.

Biography:

To be update