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The NO-Age and NO-AD Seminar Series 60

'Dietary Flavonoids – Improbable Metabolic Panaceas or Potentially Essential Soft Electrophiles in the Prevention and Treatment of Ageing-Associated Diseases?'

by

Prof. Lucasz M. Ciesla
Department of Biological Sciences, The University of Alabama, U.S

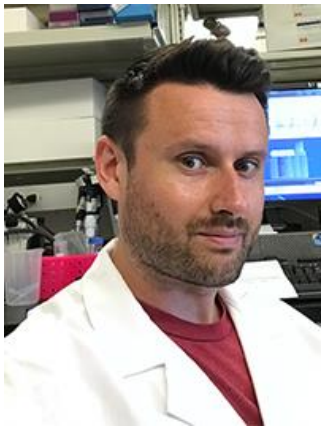
at

14:00-15:15 (CET), Monday, 14th Nov. 2022

Register in advance:
https://uio.zoom.us/webinar/register/WN_j0cvIkfQR6-Gu3T4R4TKGw

Organizers:
Evandro F. Fang (UiO), Jon Storm-Mathisen (UiO), 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/



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Speaker: Lukasz M. Ciesla

Title: Dietary Flavonoids – Improbable Metabolic Panaceas or Potentially Essential Soft Electrophiles in the Prevention and Treatment of Ageing-Associated Diseases?

Abstract:
Phytochemicals abundant in plant-rich diets, have been linked to beneficial and disease-preventive effects of dietary approaches. Numerous recent epidemiological studies have shown that people consuming a diet rich in flavonoids have been less likely to develop neurodegenerative diseases. Despite many years of research on flavonoids, none of the investigated compounds has been successfully registered as a drug. This has led to the classification of these compounds as invalid/improbable metabolic panaceas (IMPs) lacking drug-like characteristics. Additionally, flavonoids have been often classified as pan-assay interference compounds (PAINs) due to their ability to interact with numerous targets in in vitro assays. I will present data indicating that certain classes of flavonoids together with n-3 fatty acid oxidation products play important role in cellular signaling. These soft electrophilic molecules modulate cellular activity through non-enzymatic post-translational modifications, previously mostly considered as indicators of oxidative/metabolic stress and disease. I will also discuss the possibility of considering certain flavonoids as important or even essential nutrients rather than pursue the development of these molecules as drugs.

Biography:
Lukasz Ciesla obtained his PhD at the Medical University of Lublin in 2011 under the supervision of prof. Monika Waksmundzka-Hajnos. After defending his dissertation, he worked 18 months at the Department of Plant Biochemistry and Crop Quality, Institute of Soil Science and Plant Cultivation, Poland under the supervision of prof. W. Oleszek. Between 2012 and 2014 he worked in Foundation for Polish Science project “Multidisciplinary development of drugs acting on selected neuronal receptors” with prof. K. Jozwiak team. He was a laureate of the Foundation for Polish Science program SKILLS-Mentoring, mentor: Prof. Christian Zidorn, University of Innsbruck, Austria. Between 2014 and 2017 he was a visiting fellow at the National Institute on Aging in Baltimore, USA. He established his independent research program in the Department of Biological Sciences at the University of Alabama where he has been employed as an assistant professor since 2017. His research program focuses on the identification of new potential drug leads and hits from dietary and other natural sources for the prevention and treatment of ageing associated diseases. His research is currently funded by the National Institutes of Health and the National Science Foundation.