



GRK2576 vivid – in vivo investigations towards the early development of type 2 diabetes – vivid.hhu.de

GRK 2576 Guest Lecture

Title: Exercise and insulin action - when it gets personal(ized)

Speaker: Prof. Jørgen Wojtaszewski, PhD

Professor of the Department of Nutrition, Exercise and Sports
University of Copenhagen, Denmark

Date: 04. May 2022

Time: 14:00 h CET

Location: Oskar Minkowski-Saal & Paul Langerhans-Saal, DDZ

Biography



Prof. Dr. Jørgen Wojtaszewski achieved the degree of PhD in Natural Science in 1997 based on the thesis entitled: *Signalling transduction in exercise and insulin stimulated glucose transport in skeletal muscle*. He completed his postdoctoral training in physiology and molecular physiology at the Copenhagen Muscle Research Center (University of Copenhagen), and at Joslin Diabetes Center, Harvard University in Boston. Jørgen Wojtaszewski was appointed senior research officer at the Copenhagen Muscle Research Center in 2003. In 2004 he was appointed associate professor, and in 2008 professor at the August Krogh

Section for Molecular Physiology, Department of Exercise and Sport Sciences at University of Copenhagen. Today Jørgen Wojtaszewski is Heading the section.

His research focusses on the mechanisms by which physical activity promotes metabolic health, specifically investigating the role of the energy sensor AMP activated protein kinase in promoting adaptations to exercise training and to a single bout of exercise. For now more than 20 years he examines the interaction between exercise-induced signaling events and those induced by insulin elaborating the mechanisms by which a single bout of exercise can improve muscle insulin sensitivity. Jørgen Wojtaszewski has authored more than 245 original papers as well as more than 25 review articles in the area of metabolism and cellular signaling.

For more insights please see <https://nexs.ku.dk/english/staff/?pure=en/persons/53236>

Selected recent publications

Personalized phosphoproteomics identifies functional signaling. Needham EJ, Hingst JR, Parker BL, Morrison KR, Yang G, Onslev J, Kristensen JM, Højlund K, Ling NXY, Oakhill JS, Richter EA, Kiens B, Petersen J, Pehmøller C, James DE, **Wojtaszewski JFP**, Humphrey SJ. Nat Biotechnol. 2021 Dec 2. doi: 10.1038/s41587-021-01099-9. Online ahead of print.

Deep muscle-proteomic analysis of freeze-dried human muscle biopsies reveals fiber type-specific adaptations to exercise training. Deshmukh AS, Steenberg DE, Hostrup M, Birk JB, Larsen JK, Santos A, Kjøbsted R, Hingst JR, Schéele CC, Murgia M, Kiens B, Richter EA, Mann M, **Wojtaszewski JFP**. Nat Commun. 2021 Jan 12;12(1):304. doi: 10.1038/s41467-020-20556-8

***Information on access:** please visit <https://www.vivid.hhu.de/qualification-program/quest-lectures> Contact: Dr. Nicole Rockel, +49-211-3382-558, vivid@hhu.de



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Talk teaser

Guest lecture with Prof. Dr. Jørgen Wojtaszewski

Exercise and insulin action - when it gets personal(ized)

The interaction between exercise and insulin action has been acknowledged since the discovery of insulin 100 years ago. While this interaction can negatively impact the daily life of insulin treated physically active individuals, it also constitutes an opportunity for individuals with peripheral insulin resistance to improve glycemic control.

Lately, the pharmaceutical industry has recognized a significant therapeutic potential in uncovering the mechanisms underlying the insulin/exercise interaction. This presentation will illuminate current knowledge within this field, how it was unearthed through animal modeling and invasive human studies, and by which means recent breakthroughs have crystallized into a new promising area that we coined Personalized Phosphoproteomics.