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PET/CT Imaging as a Tool to Evaluate Tumor Accumulation and Efficiency of Nanoterapeutics

Wednesday June 18
315 Shillman Hall
11:45 a.m. – 1:00 p.m.

Refreshments will be served

ABSTRACT Advanced imaging methods are becoming increasingly important for evaluating the biodistribution and efficiency of nanoparticle based therapeutics in animal models. It is furthermore envisioned that theranostic approaches will be important for clinical translation due to the large heterogeneity in cancer patients where diagnostic imaging offers a possibility for screening patients with the right tumor characteristics to benefit from nanotherapeutics. We have recently developed a methodology to utilize PET imaging in translational research of liposome nanotherapeutics and have used this method to understand biodistribution and tumor accumulation of a number of liposome systems. Currently we are trying to utilize the developed methodology to investigate the changes in tumors during chemotherapy and get a higher mechanistic understanding of the potential treatment benefits of enzymatically activated drug delivery systems.

BIOGRAPHY Dr Andresen holds a PhD in chemistry and drug delivery from the Technical University of Denmark (DTU). He worked 6 years in the biotech company LiPlasome Pharma as head of R&D before he changed direction and started his academic research career at Riso National Research Laboratory that was later merged with DTU. Today, Prof. Andresen holds a full professor position at the Department of Micro- and Nanotechnology at DTU and he is heading the DTU Center for Nanomedicine and Theranostics. . His research interests lies at the interface between organic synthesis, biophysical chemistry and biology and he focuses on the design of nanocarrier systems for drug delivery, diagnostic and sensor applications. He has published 80 peer reviewed articles in leading international journals, filed 15 patent applications, and is the co-founder of Nanovi and MonTa Biosciences. Dr. Andresen has received multiple highly prestigious awards including the European Recearch Council's ERC award, Lundbecks young investigator award, and the young investigator award from the Danish Academy of Technical Sciences. Dr. Andresen current research is focused on nanocarrier based drug delivery systems and theranostics. Particular focus in on gaining a mechanistic understanding of how we can optimize delivery systems for chemotherapy and immunotherapy in combination with radiotherapy.

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