Come join us for this exciting Seminar by Prof Frederik Beekman & Dr Behdad Pouran!

Date: Friday, 21st January 2022

Time: 3PM to 4PM (SGT)

No Registration Required

DukeNUS Medical School

CSCB LTMI SEMINAR

Date: Friday, 21 Jan 2022
Time: 3PM – 4PM SGT

Zoom Info: Meeting ID: 864 4410 4177
Passcode: 184373

Host: Asst Prof Ann-Marie Chacko
Laboratory for Translational & Molecular Imaging (**LTMI**)
Cancer & Stem Cell Biology Programme, Duke-NUS

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SYNERGISTIC IMAGING FROM 1EV TO 1 MEV: INTEGRATED ULTRA-HIGH-DEFINITION OPTICAL TOMOGRAPHY, PET, SPECT, & X-RAY CT

In life science we have dreamed about a 3D magnifying glass that would allow us to see a variety of tissue functions and structures in a single 4D scan, and map integrated detailed dynamics of e.g., contrast agents, tracers, pharmaceuticals, receptors and indicators of therapy response in tumours. To meet these and many other imaging needs, we developed the user friendly fully integrated PET-SPECT-Optical-CT imaging platform (WMIC Innovation of the Year 2018) that includes ultra-high resolution and low dose X-ray CT, and high throughput Fluorescence & Bioluminescence imaging including quantitative optical tomography.

This platform has been designed such that any combination of modalities can be provided, and more modalities can be added as field upgrades. In this presentation, this adaptive and versatile molecular and structural imaging platform will be explained along with many scientific applications contributed by hundreds of world-wide users.



Prof Frederik Beekman
Professor of Biomedical Imaging, TU-DELFT, Netherlands
Founder & CEO of MILabs

Biography:
Prof Beekman heads the section Biomedical Imaging at TU Delft University. He co-authored over 165 journal papers and is the inventor on 16 life patent families. Dr. Beekman was honoured with many awards for his contributions to SPECT and PET technology and its application in biomedical research (recently e.g., 2013 Dutch Physics Valorisation Prize, SNMMI 2017 Edward Hoffman Memorial Award, and 2021 Hasegawa Memorial Award). His present research interests include biomedical imaging devices, image reconstruction, deep-learning and theranostics. He is an associate editor of several journals and founder and CEO/CSO of MILabs (www.milabs.com), a rapidly growing scale-up that develops and markets high performance biomedical imaging systems.

CT-GUIDED BIOLUMINESCENCE AND FLOURESCENCE TOMOGRAPHY AND PLANAR IMAGING

Today Molecular Imaging Labs (MILabs B.V) offers the highest flexibility in high performance Optical 3D and planar imaging (U-OI) for quantitative bioluminescence, fluorescence and Cherenkov imaging. Starting out with a stand-alone system one can add other modalities. This enables to meet different research needs over time in which any integrated combination of top-notch Optical, CT, PET, SPECT is possible, providing superb synergy across modalities.

The U-OI module features industry-leading ultra-sensitive imaging technology that can accommodate in vivo animal imaging of up to 10 mice as well as ex vivo tissue and micro-well plate imaging. The U-OI unit can be moved from its docking station on the bench to the CT for fully integrated Optical and X-ray CT. Using high quality CT data and advanced image reconstruction, quantitative 3D/4D Fluorescence (FLT) and Bioluminescence Tomography (BLT) can be performed. In this presentation, the technology and exciting applications by many academic users and pharma-companies across the globe will be covered.



Dr Behdad Pouran
Application Scientist
Business Development, MILabs

Biography:
Dr. Pouran completed his PhD in CT imaging of musculoskeletal tissues at University Medical Centre, Utrecht, where he continued as a post-doc focusing on multi-contrast CT imaging. He joined MILabs in 2019 as an Application Scientist with a specific focus on optical and CT imaging. He contributes to the technology and business development, customer training, scientific support and collaboration.