

MONASH BIOMEDICAL IMAGING 2020 SEMINAR SERIES

DATE: TUESDAY, 11 FEBRUARY 2020

TIME: 12:30 – 1:30PM. A LIGHT LUNCH WILL BE PROVIDED.

VENUE: MBI AUDITORIUM, 770 BLACKBURN ROAD, CLAYTON

Quantitative molecular imaging: The past, the present, any future?

Quantitative image analysis has deep roots in the usage of positron emission tomography (PET) in clinical and research settings to address a wide variety of diseases. It has been extensively employed to assess molecular and physiological biomarkers *in vivo* in healthy and disease states, in oncology, cardiology, neurology and psychiatry.

In this seminar, Professor Habib Zaidi will discuss the tremendous increase in multimodality molecular PET/CT and PET/MR imaging as both clinical and research imaging modalities in the past decade. An overview of PET image quantification and related image processing issues with special emphasis on quantitative analysis will be presented. A review will be presented on the state-of-the-art algorithms used and under development for accurate quantitative analysis in multimodality and multiparametric molecular imaging, and their validation mainly from the developer's perspective. A series of advanced developments recently carried out at the PET Instrumentation and Neuroimaging Lab of Geneva University Hospital and other active research groups will be presented. Current and prospective future applications of quantitative molecular imaging including advanced deep learning techniques will also be addressed.

View on **Zoom** at monash.zoom.us/j/611675966

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Professor Habib Zaidi is Chief Physicist and Head of the PET Instrumentation and Neuroimaging Laboratory at Geneva University Hospital and a faculty member at the medical school of Geneva University. He is also a Professor of Medical Physics at the University of Groningen (Netherlands), and Adjunct Professor of Molecular Imaging at the University of Southern Denmark.

He is actively involved in developing imaging solutions for cutting-edge interdisciplinary biomedical research and clinical diagnosis in addition to lecturing undergraduate and postgraduate courses on medical physics and medical imaging.

Professor Zaidi has been an invited speaker of over 150 keynote lectures and talks at an International level, has authored over 273 peer-reviewed articles in prominent journals and is the editor of four textbooks.

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