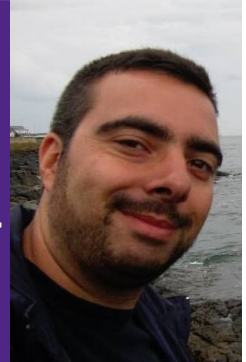


**Monday, September 27th, 2021 at 10am**

## **Rickson Mesquita, PhD**

Associate Professor, University of Campinas, Campinas, Brazil

**Title: Towards longitudinal monitoring of individual subjects with diffuse optical methods**



### **Abstract:**

Diffuse optical techniques such as near-infrared spectroscopy (NIRS) and diffuse correlation spectroscopy (DCS) can probe the brain continuously and noninvasively at the bedside. These features allow longitudinal monitoring (i.e., monitoring over different days) and attract neuroscience and clinical opportunities. However, the low signal-to-noise ratio typical of neuroimaging techniques currently limits physiological interpretation in the scenario of longitudinal monitoring of individual subjects. This talk will discuss our recent efforts to increase data reproducibility at the subject level and their impact on neuroscience with functional NIRS and neurointensive care units (neuro ICUs).

Dr. Mesquita is an Associate Professor (MS3-1) at the University of Campinas (Unicamp) and a visiting Professor at the University of Pennsylvania (Penn). He received his B.Sc. (Physics) from Unicamp in 2002, and his Ph.D. from the same university in 2009, after spending one year as a visitor student at the Optics Division of the Massachusetts General Hospital (PMI Lab, David Boas, PI). His Ph.D. thesis introduced the applications of diffuse optics to neuroscience in Brazil. He also received a degree on Licenciante in Physics in 2009 and an M.Sc. in 2005, both from Unicamp. He joined the Gleb Wataghin Physics Institute (IFGW) of the University of Campinas in February 2011, following a two-year postdoctoral fellowship at UPenn (Biomedical Optics Lab, Arjun Yodh, PI). His current interests span fundamental and applied questions in optics, medical physics and biophysics. Areas of ongoing research include: biomedical optics, light transport in diffusive media, optical properties of tissues, functional imaging and spectroscopy of living tissues, photodynamic therapy and cancer.