

## Visit of Professor José Alberto Machado da Silva from the University of Porto

**Monday, 31<sup>th</sup> October 2022**

Morning (09h30)

Training Course Day 1: Neuromodulation, closed-loop electrostimulation, and types of stimulation. Stimulation driver circuits.

Afternoon (14h00)

Tutorial – Introduction to bioelectronics and electrostimulation. Electroceuticals – history and overview of applications.

Here we will present a brief introduction to the human nervous system and an history of electrical stimulation, nerve cells and neurons, action potentials and their propagation, modelling of neurons and stimulation parameters.

**Tuesday, 1<sup>st</sup> November 2022**

Morning (09h30)

This talk will address some of the research activities currently undertaken within the Department of Electrical and Computer Engineering at FEUP, with a focus on the research activities supervised by the Visiting Professor

Afternoon (14h00)

Training Course Day 2: Types of electrodes and electrode interface modelling, Neuromuscular electrostimulation – types, applications and circuits

### About the visiting professor in ouw department



**PROFESSOR JOSÉ ALBERTO MACHADO DA SILVA** is Associate Professor in the University of Porto. His main research areas of activity include (1) Test and project for the testability of analog, RF, and mixed (analog/digital) electronic circuits; (2) Test and design for testability of analogue, RF, and mixed-signal electronic circuits; (3) Medical electronics; Medical Electronics; (4) Digitally assisted analog and RF circuits; Digitally assisted analogue and RF circuits; (5) VLSI project for analog and mixed circuits; Analogue and mixed-signal VLSI design; and (6) Signal processing.

The research group of the host Professor João Paulo Pereira do Carmo, from SEL/EESC/USP, has a collaboration with the research group of Professor José Machado since the beginning of 2021. The collaboration involves common research in biomedical instrumentation and CMOS microdevices. This research combines the expertise of USP in the fabrication of sensors and electronic modules for biomedical applications, with the expertise of University of Porto in the project of CMOS microdevices.