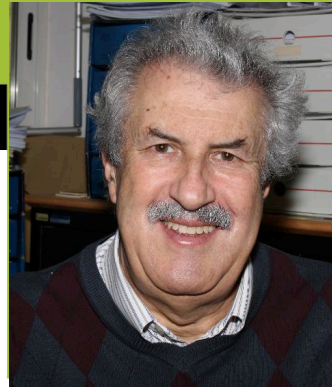


Department of Electrical Engineering

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Manuel Ortigueira

He graduated in Electrical Engineering at Instituto Superior Técnico, Universidade Técnica de Lisboa, April 1975, and got the PhD and Habilitation degrees at the same Institution in 1984 and 1991, respectively. He was professor at Instituto Superior Técnico and Escola Náutica Infante D. Henrique. He published 2 books on Digital Signal Processing and on Fractional Calculus, 3 integral texts for 3 courses and other 7 texts corresponding to several themes of different courses, and over 130 papers in journals and conferences.

Objectives

- To give contributions to a mathematically coherent Signals and Systems theory, mainly in the fractional case.
- To elaborate suitable algorithms for dealing with biomedical signals, mainly EEG and ECG.
- To implement algorithms for vibration analysis.

Methodology

- Fractional Calculus
- Spectral Analysis
- Signal decompositions: PCA, ICA, EMD, WT
- ARMA modelling

Expected Results

- A spindle detection and analysis system.
- An algorithm for tidal prediction and tide evolution.
- A Fractional Discrete-Time System theory.
- A book on Signals and Systems.