

Seminar Series in

Statistics, Modeling and Computational Applications

Joint organization of Numerical Analysis, Probability and Statistics

And Signal Processing and Data Analysis CMUP Areas

Seminar in the framework of the collaboration CINTESIS / SPDA (CMUP) / CIBER-BBN

Signal processing in obstetrics

Hernâni Gonçalves (hernanigoncalves@med.up.pt)

Center for Research in Health Technologies and Information Systems (CINTESIS),
FMUP

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Room 0.04 DMat

The combined analysis of the fetal heart rate (FHR) and uterine contractions (UC) signals, also known as cardiotocography (CTG), was introduced in the 1960s and has become widely disseminated in industrialised countries. There are several computerized systems for CTG analysis, such as the Omniview-SisPorto® developed at the University of Porto. This system performs automated CTG analysis, and provides real-time visual and sound alerts to healthcare professionals.

The continuous advances in the hardware related with the acquisition and analysis of these signals makes the exploration of linear and nonlinear methods a continuous challenge, particularly nonlinear methods related with complexity.

In addition to the FHR and UC signals, recent studies have shown that the maternal heart rate (MHR) should be another signal to be considered in this context. MHR may provide a better discrimination of FHR from MHR during labour and help in better prediction of labour outcome.

In this seminar, it will be presented an overview of some achievements and ongoing work in this field.

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