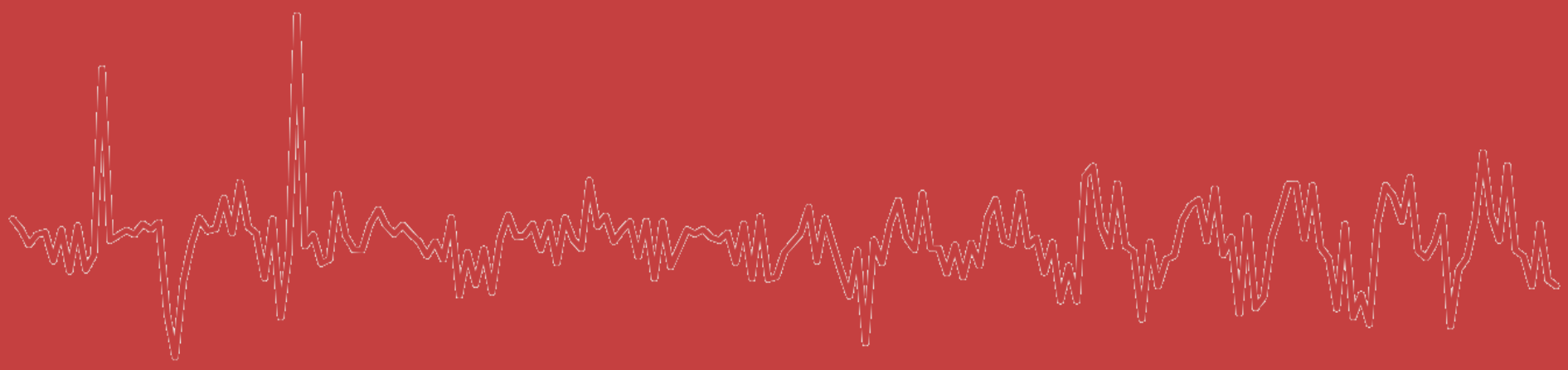


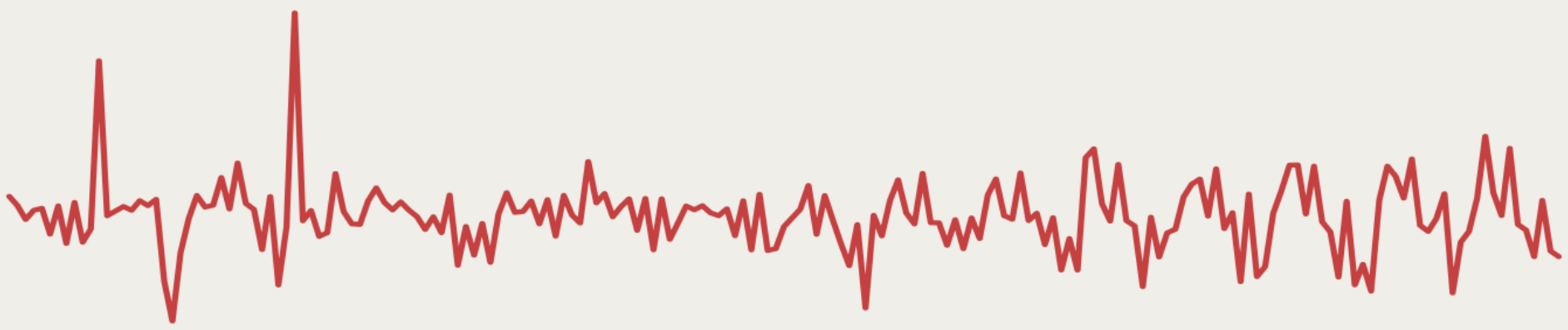
# TIMESERIES

ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ

## ERASMUS+ SHORT COURSE

30.4-11.05.2018 - B1.003 @10:00-12:00/13:00

Erasmus+



**The Course:** Time series processing can be considered either as a special case of digital signal processing or its generalization. In both cases it uses many principles which students have learned in courses TEL201 “Signal and Systems” and TEL302 “Digital Signal Processing”. The proposed course on “Time Series” will look into some specific facts about basic algorithms used for time sequences processing – relationship between correlation function and correlation coefficients, correlation function and convolution, correlation and Fourier transform. A lot of problems linked with time series processing as prediction of their behaviour in future, decomposition to its components, monitoring, and/or classification can be solved providing that mathematical model of the time series can be developed. That is why a substantial part of the course will deal with models of time series/digital signals, especially with their linear models, their computational structures (MA, AR, ARMA, ARIMA, SARIMA) and their properties, and finally, application for time series decomposition/filtering.

**The Lecturer:** Prof. Jiri Holcik graduated in Biomedical Engineering at the Faculty of Electrical Engineering of the Brno University of Technology, the Czech Republic. After the graduation in 1974 he worked at the Dept. of Biomedical Engineering at the same faculty as researcher, Assistant Professor and Associate Professor. In 2003 he became one of founding professors of the Faculty of Biomedical Engineering at the Czech Technical University in Prague, where he was the head of the Dept. of Biomedical Informatics and the Vice-Dean, successively for education, international cooperation and ICT. In 2008 he returned back to Brno and since then he has been working with the Masaryk University and its Institute of Biostatistics and Analysis. There he served as its Deputy Director for Education, responsible for a study programme of Mathematical Biology. His lifelong research interests are in digital signal/time series processing (especially in analysis of ECG and other signals of a cardiovascular system), methods of pattern recognition and cardiovascular system modelling. As for his teaching activity, he currently gives lectures in courses “Time Series (An Introduction)”, “Spectral Analysis of Time Series”, and “Introduction to Mathematical Biology”. For years he also served as National Secretary of the “Czech Society of Biomedical Engineering and Medical Informatics” and he was a member of the “Czech Society of Cybernetics and Informatics” and the IEEE-EMBS, as well. More pieces of information can be found on https://www.muni.cz/en/people/97675-jiri-holcik/cv.

Η σειρά διαλέξεων “Time Series” οργανώνεται στο πλαίσιο Erasmus+ Staff Mobility for Teaching, προσφέρεται στην αγγλική γλώσσα ειδικά σε μεταπτυχιακούς φοιτητές όλων των Σχολών.

Οι συμμετέχοντες θα λάβουν πιστοποιητικό παρακολούθησης.