

LECTURE (KV)

Title: **Computer-Aided Signal Analysis:
Methods and Applications**

Lecturer: **Prof. Jonatan Lerga, PhD
University of Rijeka, Croatia**

Time: **February 28, 2019: 08:30 – 18:00
March 1, 2019: 08:30 – 18:00**

Location: **K 012D**

Content:

- Adaptive data-driven denoising methods
 - Signal denoising
 - Image denoising
 - Video denoising
- Time-frequency signal analysis
 - Blind component separation procedure
 - Instantaneous frequency estimation (mono-component and multi-component signals)
- Entropy based signal analysis
 - Short-term entropy measures
- Applications: (biomedical signals, power system smart grids, physics etc.)

Objective of the course:

In this course, students will learn and code in Matlab adaptive data-driven signal denoising methods. In addition, students will understand concept of time-frequency signal representations using high resolution (quadratic) distributions. Also, at the end of course students will be able to apply local entropy signal measures in the time-frequency domain.

Biography:

Jonatan Lerga, Head of Department of Computer Engineering and Head of Laboratory for Application of Information Technologies with Faculty of Engineering, University of Rijeka, Croatia, received his PhD degree from the Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia in 2011. Since 2007 he has been with the Faculty of Engineering, University of Rijeka, Croatia. In 2012 he received annual award of the Croatian Academy of Engineering for his scientific achievements. He also received annual award of the City of Rijeka in 2015 and the Primorje-Gorski Kotar County in 2018. Additionally, he received awards from the Foundation of the University of Rijeka in 2008, 2010 and 2018. His main research interests are statistical signal and image processing, time-frequency signal analysis, information theory, coding and applications of signal processing methods

