

# informatik-Kolloquium

Der Fachbereich Informatik der Johannes Kepler Universität Linz<sup>1</sup> lädt in Zusammenarbeit mit der Österreichischen Gesellschaft für Informatik (ÖGI) zu folgendem Vortrag ein:

Topic: **Methods of Numerical Inversion of Laplace Transforms for Electrical Engineering and their Applications**

Presenter: **Nawfal Al-Zubaidi R-Smith MSc**  
Dept. of Radio Electronics, Brno University of Technology, Czech Republic

Datum: **Tuesday, April 24<sup>th</sup> 2018, 10:15**

Location: **JKU, Computer Science Building (Science Park 3), room S3 047**

## **Abstract:**

Investigation of numerical inverse Laplace transform (NILT) methods is an endeavor for researchers in science and engineering, especially in the electrical engineering field of applications. Mainly, NILT techniques assist on getting the time-domain simulations in related applications, e.g. solving partial differential equations that appear in linear distributed-parameter systems or those appearing while investigating signal integrity issues.

Generally, most available 1D NILT methods are very specific, i.e. they perform well on a few type of functions and hence on a limited number of applications; thus the aim of this research is focused on the development of universal NILT method and its expansion to multidimensional NILT which can cover a wide field of applications and could provide a practical mechanism for a better diagnosis and analysis of time-domain simulations, for example solving nearly non-linear circuits. This talk introduces the NILT fundamentals and concepts and presents several applications in the electrical engineering field.

## **Short Bio:**

N. Al-Zubaidi R-Smith received the BSc. in Electrical Engineering and Telecommunication from Yarmouk University, Jordan in 2009 and consequently received MSc. degree in Electrical Engineering with emphasis on Radio Communication from Blekinge Institute of Technology, Sweden in 2013. During 2013 he was a research assistant at Aarhus University of Denmark. He has been a Ph.D. candidate at Brno University of Technology in the Czech Republic since 2014. His research interests are: Numerical methods, Computer-aided simulations, Fractional Calculus, Nonlinear Dynamics, and Signal integrity issues in electronic circuits.

*Einladender: Univ.-Prof. Dr. Robert Wille  
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<sup>1</sup> Der Fachbereich (<http://informatik.jku.at>) besteht aus folgenden Instituten: Application Oriented Knowledge Processing (FAW), Bioinformatics, Computational Perception, Computer Architecture, Applied Systems Research and Statistics, Computer Graphics, Formal Models and Verification, Networks and Security, Integrated Circuits, Pervasive Computing, Software Systems Engineering, System Software, Telecooperation, Signal Processing