

## 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: **Musically Informed Audio Decomposition**

Presenter: **Meinard Müller**  
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Date: **Wednesday, 14.12.2016, 13:45 - 15:15**

Location: **JKU, Science Park 1, MT 127**

**Abstract:** In the field of music processing, there are many related issues commonly subsumed under the notion of source separation. The goal of this talk is to present various approaches for decomposing a given music signal into semantically meaningful components. In these approaches, additional information, either in the form of specific acoustic properties of the components or in the form of additional score information, is exploited. Rather than giving a comprehensive overview of source separation and its many related tasks, we considered in this talk three specific scenarios along with some key techniques that are widely used in music processing and beyond. First, we look at the task of harmonic-percussive separation. Building on a classic and well-known approach, we extend the decomposition with a third residual component that captures all sounds which are neither of clear harmonic nor of clear percussive nature. Second, we introduce a cascaded audio decomposition approach with the aim to isolate the singing voice. Third, we present an approach to audio mosaicing which is inspired by non-negative matrix factorization (NMF).

**Short Bio:** Meinard Müller studied mathematics (Diplom) and computer science (Ph.D.) at the University of Bonn, Germany. In 2002/2003, he conducted postdoctoral research in combinatorics at the Mathematical Department of Keio University, Japan. In 2007, he finished his Habilitation at Bonn University in the field of multimedia retrieval. From 2007 to 2012, he was a member of the Saarland University and the Max-Planck Institut für Informatik leading the research group *Multimedia Information Retrieval and Music Processing* within the Cluster of Excellence on *Multimodal Computing and Interaction*. Since September 2012, Meinard Müller holds a professorship for Semantic Audio Processing at the International Audio Laboratories Erlangen, which is a joint institution of the Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) and the Fraunhofer-Institut für Integrierte Schaltungen IIS. His recent research interests include music processing, music information retrieval, audio signal processing, and motion processing. Meinard Müller has been a member of the IEEE Audio and Acoustic Signal Processing Technical Committee from 2010 to 2105 and is a member of the Board of Directors of the International Society for Music Information Retrieval (ISMIR) since 2009. He has co-authored more than 100 peer-reviewed scientific papers, wrote a monograph titled *Information Retrieval for Music and Motion* (Springer, 2007) as well as a textbook titled *Fundamentals of Music Processing* (Springer, 2015, [www.music-processing.de](http://www.music-processing.de)).

Einladender: Prof. Dr. Gerhard Widmer  
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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