



Tutorial T3  
A Basic Introduction to Audio-Related  
Music Information Retrieval

### Overview

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### Meinard Müller



- Mathematics (Diplom/Master)  
Computer Science (PhD)  
Information Retrieval (Habilitation)  
Bonn University



- Combinatorics (Postdoc)  
Keio University, Japan



- Senior Researcher  
Max-Planck Institute, Saarland



- Professor: Semantic Audio Processing  
Erlangen-Nürnberg University



### Christof Weiß



- 2006 – 2012 Physics Diploma  
Würzburg University
- 2006 – 2012 Composition Diploma  
Würzburg University of Music
- 2012 – 2015 PhD studies  
Ilmenau, Fraunhofer IDMT
- Since 2015  
AudioLabs Erlangen
- 2017 PhD
- Freelancing composer



### Group Members

- Christof Weiß
- Frank Zalkow
- Stefan Balke
- Christian Dittmar
- Patricio López-Serrano
- Sebastian Rosenzweig



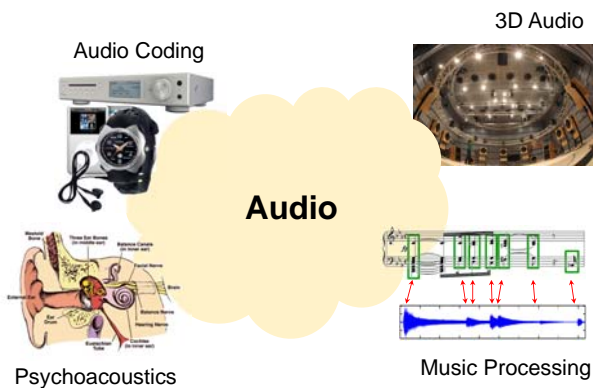
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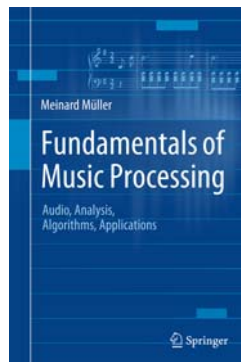
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## Book: Fundamentals of Music Processing



Meinard Müller  
 Fundamentals of Music Processing  
 Audio, Analysis, Algorithms, Applications  
 483 p., 249 illus., hardcover  
 ISBN: 978-3-319-21944-8  
 Springer, 2015

Accompanying website:  
[www.music-processing.de](http://www.music-processing.de)

## Book: Fundamentals of Music Processing

Chapter	Music Processing Scenario
1	Music Representations
2	Fourier Analysis of Signals
3	Music Synchronization
4	Music Structure Analysis
5	Chord Recognition
6	Tempo and Beat Tracking
7	Content-Based Audio Retrieval
8	Musically Informed Audio Decomposition

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## Schedule

- 14:00 – 14:10 Overview
- 14:10 – 14:30 Music Representations (Meinard Müller)
- 14:30 – 14:55 Audio Features (Meinard Müller)
- 14:55 – 15:20 Tonal Analysis (Christof Weiß)

**15:20 – 15:40 Coffee Break**

- 15:40 – 16:05 Audio Classification (Christof Weiß)
- 16:05 – 16:30 Audio Structure Analysis (Meinard Müller)
- 16:30 – 16:50 Audio Decomposition (Meinard Müller)
- 16:50 – 17:00 Conclusion

**Slides:**  
<https://www.audiolabs-erlangen.de/resources/MIR/2017-ISMIR-Tutorial/>