Introduction

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International Audio Laboratories Erlangen

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Meinard Müller

- 2007 Habilitation
  Bonn University

- 2007 – 2012
  Senior Researcher
  Saarland University & MPI Informatik

- Since 2012
  Professor: Semantic Audio Processing
  Erlangen-Nürnberg University

Group Members

- Christof Weiß
- Frank Zalkow
- Sebastian Rosenzweig
- Hendrik Schreiber

Christof Weiß

- 2006 – 2012 Physics Diploma
  Würzburg University

- 2006 – 2012 Composition Diploma
  Würzburg University of Music

- 2012 – 2015: PhD
  Ilmenau, Fraunhofer IDMT

- Since 2015: AudioLabs Erlangen
- Freelancing composer

Frank Zalkow

- 2008 – 2012 Bachelor Musicology/Music Informatics
  (University of Music Karlsruhe)

- 2012 – 2015 Master Music Informatics
  (University of Music Karlsruhe)

- 2015 – 2016 Research Fellow in Musicology
  (Saarland University)

- since 2016 PhD Student, Group Meinard Müller
  (AudioLabs)

Where are we?

Fraunhofer-Gesellschaft
- Europe’s largest organization for applied research
- 18,000 employees worldwide, total budget: 1.5 billion €
- 60 institutes covering a broad range of research areas

Fraunhofer Institute for Integrated Circuits IIS
- Largest Fraunhofer institute
- Staff >700 people
- MP3
Where are we?

Friedrich-Alexander Universität Erlangen-Nürnberg (FAU)
- One of Germany’s largest universities
- More than 35,000 students

Collaboration between FAU and Fraunhofer IIS
- Roots of “MP3” audio compression scheme
- Research on audio coding in Erlangen since 1981

International Audio Laboratories Erlangen

Audio Coding
- Prof. Dr. Jürgen Herre
  Audio Coding
- Prof. Dr. Bernd Edler
  Audio Signal Analysis
- Prof. Dr. Meinard Müller
  Semantic Audio Processing
- Prof. Dr. Emanuël Habets
  Spatial Audio Signal Processing
- Prof. Dr. Frank Wefers
  Spatial Audio Signal Processing
- Dr. Stefan Turowski
  Coordinator AudioLabs-FAU

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
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**Workshop MIR**

**Dienstag (MUT 206)**
- 14:00 – 16:00  Lecture: Introduction + Music Representations  
- 16:00 – 18:00  Lecture: Audio Features

**Mittwoch**
- 10:00 – 12:00  Lecture: Harmony Analysis (MUT 206)  
- 13:00 – 15:00  Programming Exercise: Short Time Fourier Transform (MUT 207)  
- 15:00 – 17:00  Programming Exercise: Chroma Features and Harmony Analysis

**Donnerstag**
- 10:00 – 11:00  Lecture: Music Synchronization (MUT 207)  
- 11:00 – 12:00  Lecture: Music Classification (MUT 207)  
- 13:00 – 17:00  Programming Exercise: Harmonic–Percussive Separation (MUT 206)

**Freitag (MUT 207)**
- 10:00 – 12:00  Student Mini-Projects / Further Exercises  
- 13:00 – 16:00  Student Mini-Projects / Further Exercises

Course material:  
www.audiolabs-erlangen.de/resources/MIR/2019_CourseMIR_HfM-Karlsruhe