CHAIRMEN’S INTRODUCTION

Semantic Audio is concerned with content-based management of digital audio recordings. The rapid evolution of digital audio technologies, e.g. audio data compression and streaming, the availability of large audio libraries online and offline, and recent developments in content-based audio retrieval have significantly changed the way digital audio is created, processed, and consumed. New audio content can be produced at lower cost, while also large audio archives at libraries or record labels are opening to the public. Thus the sheer amount of available audio data grows more and more each day.

Semantic analysis of audio resulting in high-level metadata descriptors such as musical chords and tempo, or the identification of speakers facilitate content-based management of audio recordings. Aside from audio retrieval and recommendation technologies, the semantics of audio signals are also becoming increasingly important, for instance, in object-based audio coding, as well as intelligent audio editing, and processing. Recent product releases already demonstrate this to a great extent, however, more innovative functionalities relying on semantic audio analysis and management are imminent. These functionalities may utilise, for instance, (informed) audio source separation, speaker segmentation and identification, structural music segmentation, or social and Semantic Web technologies, including ontologies and linked open data.

The papers included in these proceedings offer a broad overview of the state of the art and address many of the new scientific disciplines involved in this still-emerging field. Our purpose is to continue fostering this line of interdisciplinary research. This is reflected by the wide variety of invited speakers presenting at the conference.
Table of Contents

PAPER SESSION 1: MUSIC INFORMATICS AND RETRIEVAL

1-1 [Invited] Creating Research Corpora for the Computational Study of Music: The Case of the CompMusic Project—Xavier Serra, Universitat Pompeu Fabra, Barcelona, Spain

1-2 Bridging the Audio-Symbolic Gap: The Discovery of Repeated Note Content Directly From Polyphonic Music Audio—Tom Collins, Sebastian Böck, Florian Krebs, Gerhard Widmer, Johannes Kepler University Linz, Linz, Austria

1-3 Practical Implications of Dynamic Markings in the Score: Is Piano Always Piano?—Katerina Kosta, Oscar F. Bandtlow, Elaine Chew, Queen Mary University of London, London, UK

POSTERS

P1-1 Semiotic Description of Music Structure: An Introduction to the Quaero/Metiss Structural Annotations—Frédéric Bimbot, Gabriel Sargent, Emmanuel Deruty, Coertuin Guichoaoua, Emmanuel Vincent, METISS (PANAMA)
Research Group, INRIA, IRISA CNRS-UMR 6074 and Université de Rennes 1, Campus Universitaire de Beaulieu, France

P1-2 A Mid-Level Approach to Local Tonality Analysis: Extracting Key Signatures from Audio—Christof Weiss, Estefanía Cano, Hanna Lukasheich, Fraunhofer Institute for Digital Media Technology, Ilmenau, Germany

P1-3 Selection of Audio Features for Music Emotion Recognition Using Production Music—Chris Baumé,1 György Fazekas,2 Mathieu Barthen,2 David Marston,1 Mark Sandler2
1BBC Research and Development, London, UK
2Queen Mary University of London, London, UK

P1-4 Feature Preprocessing with Restricted Boltzmann Machines for Music Similarity Learning—Son N. Tran, Daniel Wolff, Tillman Weyde, Artur d’Avila Garcez, City University of London, UK

P1-5 Rhythmic Classification of Electronic Dance Music—Matthias Leimeister, Daniel Gärtner, Christian Dittmar, Fraunhofer IDMT, Ilmenau, Germany

P1-6 An Open Dataset for Research on Audio Field Recording Archives: freesfield1010—Dan Stowell, Mark Plumbley, Queen Mary University of London, London, UK

P1-7 A Framework for Automatic Ontology Generation Based on Semantic Audio Analysis—Sefki Kolozati, György Fazekas, Mathieu Barthen, Mark B. Sandler, Queen Mary University of London, London, UK

P1-8 A Semantic Web Approach to Pattern Discovery in Data and Music—Steven Hargreaves, Gerard Wiggins, Mark Sandler, Queen Mary University of London, London, UK

P1-9 Using Computer Accompaniment to Assist Networked Music Performance—Chrisoula Alexandraki, Rolf Bader
1Technological Educational Institute of Crete, Crete, Greece
2University of Hamburg, Hamburg, Germany

P1-10 Evaluation and Improvement of the Mood Conductor Interactive System—Ting Lou, Mathieu Barthen, György Fazekas, Mark Sandler, Queen Mary University of London, London, UK

P1-11 Interactive Music Applications by MPEG-A Support in Sonic Visualizer—Jesús C. García,1 Constantino Tagliatela,2 Panos Kudumakis,3 Isabel Barbancho,1 Lorenzo J. Tardón,1 Mark Sandler1
1Universidad de Malaga, Malaga, Spain
2Seconda Università Degli Studi di Napoli, Naples, Spain
3Queen Mary University of London, London, UK

P1-12 Harmonic Cues for Number of Simultaneous Speakers Estimation—Umer Rafi, Rolf Bardeli, Fraunhofer Institute for Intelligent Analysis and Information Systems, Fraunhofer IAIS, Sankt Augustin, Germany

P1-13 A GMM Approach to Singing Language Identification—Anna M. Kruspe,1,2 Jakob Abesser,1 Christian Dittmar1
1Fraunhofer IDMT, Ilmenau, Germany
2Johns Hopkins University, Baltimore, MD< USA

PAPER SESSION 2: SEMANTIC WEB, LINKED DATA, AND ONTOLOGIES FOR AUDIO

2-1 [Invited] The BBC World Service Archive Experiment—Yves Raimond, BBC R&D, London, UK [No manuscript]

2-2 Research Objects for Audio Processing: Capturing Semantics for Reproducibility—Kevin R. Pago,1 Raul Palma,2 Piotr Holubowicz,2 Graham Klyne,1 Stian Soiland-Reyes,3 Daniel Garitó,3 Rafael Belhajjame,3 Rudolf Mayer5
1University of Oxford, Oxford, UK
2Poznan Supercomputing and Networking Center, Poland
3University of Manchester, Manchester, UK
4University Politècnica de Madrid, Madrid, Spain
5Secure Business Austria, Vienna, Austria

2-3 Audio Clip Classification Using Social Tags and the Effect of Tag Expansion—Frederic Font,1 Joan Serra,2 Xavier Serra1
1Universitat Pompeu Fabra, Barcelona, Spain
2Artificial Intelligence Research Institute (IIA-CSIC), Barcelona, Spain

PAPER SESSION 3: AUTOMATIC MUSIC TRANSCRIPTION

3-1 Instrument-Centered Music Transcription of Bass Guitar Tracks—Jakob Abesser,1 Gerald Schuller2
1Fraunhofer IDMT, Ilmenau, Germany
2Technische Universität Ilmenau, Ilmenau, Germany

3-2 Improving Automatic Music Transcription Through Key Detection—Emmanouil Benetos, Andreas Iansson, Tillman Weyde, City University London, London, UK
SPECIAL SESSION: SEMANTIC AUDIO ORGANIZATION AND RETRIEVAL

Tuomas Eerola, Durham University, Durham, UK

S1-2 Creating Audio-Based Experiments as Social Web Games with the CASimIR Framework—
Daniel Wolff, Guillaume Bellec, Anders Friberg, Andrew MacFarlane, Tillman Weyde
City University London, London, UK
KTH Royal Institute of Technology, Stockholm, Sweden

KEYNOTE SPEECH

[Keynote] Informed Audio Source Separation—
Gaël Richard, Institut Mines-Télécom, Télécom ParisTech, Paris, France

SPECIAL SESSION: INTELLIGENT AUDIO PRODUCTION

S2-1 [Invited] An Industry Perspective on Commercializing Semantic Audio Technology—Jay LeBocuf, iZotope, San Francisco, CA, USA [No manuscript]

S2-2 Intelligent Audio Production Strategies Informed by Best Practices—Pedro Pestana, Joshua D. Reiss
Catholic University, Oporto, Portugal
Queen Mary University of London, London, UK

S2-3 Partial Loudness in Multitrack Mixing—Zheng Ma, Joshua D. Reiss, Dawn Black, Queen Mary University of London, London, UK

PAPER SESSION 4: SPEECH PROCESSING AND ANALYSIS

4-1 On the Influence of Alcohol Intoxication on Speaker Recognition—Jürgen T. Geiger, Boxin Zhang, Björn Schuller, Gerhard Rigoll
Institute for Human-Machine Communication, Technische Universität München, Munich, Germany
Imperial College London, London, UK

4-2 On-Line NMF-Based Stereo Up-Mixing of Speech Improves Perceived Reduction of Non-Stationary Noise—
Christian Kirst, Felix Weninger, Cyril Joder, Peter Grosche, Jürgen Geiger, Björn Schuller
Technische Universität München, Munich, Germany
HUAWEI Technologies Düsseldorf GmbH, European Research Center, Germany

APPENDIX: LATE-BREAKING DEMOS AND POSTERS (NOT PEER-REVIEWED)