

## Introduction

These are the proceedings of the Interactive Sonification Workshop 2016 (ISon 2016) that took place in Bielefeld, Germany, on December 15 - 16th 2016 organized by CITEC, Bielefeld University. The ISon 2016 meeting is the 5<sup>th</sup> International workshop on Interactive Sonification, following the initial ISon 2004 workshop held in Bielefeld and the previous ISon 2007 workshop in York, ISon 2010 workshop in Stockholm and ISon 2013 workshop in Erlangen. These meetings offer the chance to:

- meet experts in sonification,
- present and demonstrate your own research,
- strengthen your European networking in sonification research,
- learn about new exciting trends.

In this workshop we set a focus on *Adaptivity and Scaffolding* in Interactive sonification, i.e. how auditory feedback and interactive sonification provides a scaffolding for familiarizing with interaction and learning to interact, and how users adapt their activity patterns according to the feedback and their level of experience. For example, sonification of sports movement could initially focus the displayed information on the most basic pattern (e.g. active arm) and once the users progress (i.e. feedback indicates that they understand and utilize this information), increasingly subtle further cues (e.g. knees) would be made more salient. This feeds into the important question, how we can evaluate the complex and temporally developing interrelationship between the human user and an interactive system that is coupled to the user by means of interactive sonification. To make a sustainable contribution, we strongly encouraged a reproducible research approach in Interactive Sonification.

High quality was assured by a peer-reviewing process, and besides this proceedings publication, a special issue on Interactive Sonification will be published in the Springer Journal on Multimodal User Interfaces (JMUI).

## About ISon

Sonification and Auditory Display are becoming increasingly established technologies for exploring data, monitoring complex processes, or assisting exploration and navigation of data spaces. As sonification addresses the auditory sense by transforming data into sound, it enables the human users to get valuable information from data by using their natural listening skills. Some key advantages of auditory displays over visual displays are, that they can

- Represent frequency responses in an instant (as timbral characteristics)
- Represent changes over time, naturally
- Allow microstructure to be perceived
- Rapidly portray large amounts of data
- Alert listener to events outside the current visual focus
- Holistically bring together many channels of information

Auditory displays typically evolve over time since sound is inherently a temporal phenomenon. Interaction thus becomes an integral part of the process in order to select, manipulate, excite or control the display, and this has implications for the interface between humans and computers. In recent years it has become clear that there is an important need for research to address the interaction with auditory displays more explicitly.

## Contents

These proceedings contain the conference versions of all contributions to the 5<sup>th</sup> International Interactive Sonification Workshop (ISon). We very much hope that the proceedings provide an inspiration for your work and extend your perspective on the growing research field of Interactive Sonification.

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