Sound and Music Computing Sweden 2014

09:00	Registration
09:30	**Keynote: Damian Murphy** Sound Design for our Sound Environment: The Science, Art and Industrial Application of Auralisation Research
10:00	**Keynote: Sandra Pauletto** Studies on Sound Design
10:30	Coffee break with demos and posters
11:00	**Invited: Gerhard Eckel** Interaction in Zeitraum
11:20	**Invited: Federico Favero** Light Rhythms
11:40	**Roberto Bresin, Ludvig Elblaus, Kjetil Falkenberg Hansen, Lisa Månsson and Bruno Tardat** Musikcyklarna/Music bikes: An installation for enabling children to investigate the relationship between expressive music performance and body motion.
12:00	Lunch
13:00	**Ludvig Elblaus, Maurizio Goina, Marie-Andrée Robitaille and Roberto Bresin** Modes of sonic interaction in circus: three proofs of concept
13:20	**Emma Frid, Marcello Giordano, Marlon Schumache and Marcelo Wanderley** Physical and perceptual characterization of a tactile display for a live-electronics notification system
13:40	**PerMagnus Lindborg** Colour Association to Sound: A Perceptual Experiment using a CIELab Haptic Response Interface and the Jyväskylä Film Music Set
14:00	**Rikard Lindell** Crafting Interaction from Sketch to 1.0
14:20	Coffee break with demos and posters
14:50	**Anders Elowsson and Anders Friberg** Polyphonic Transcription of Music Audio, a Short Demonstration
15:10	**Bill Brunson and Henrik Frisk** Building for the Future: Research and Innovation in KMH's new facilities
15:30	Final remarks

Abstracts for invited talks and keynotes are on the next page.

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Damian Murphy Sound Design for our Sound Environment: The Science, Art and Industrial Application of Auralisation Research

The soundscape of our environment helps us to better understand the world we live in, and has a direct affect on our health and wellbeing. Human society has battled with the concept of excessive noise since hitting one rock against another produced some of the first tools, and yet the complete absence of sound in our environment can prove to be equally unsettling. If the presence of sound, both wanted and unwanted, is something that cannot be avoided, how might we design our environment to deliver a more optimal or pleasing aural experience?

Auralisation - the audio equivalent of visualization - enables us to audition virtual acoustic environments that have existed in the past, that are about to be built, or that are purely fictional, and is a key part of the modern architectural and environmental engineering design process. The techniques used enable proposed buildings and spaces, from concert halls and classrooms, to major interventions in the landscape and countryside that surrounds us, to be auditioned and tested for the acoustic impact such developments will have on our day-to-day lives.

Research in the Department of Electronics Audio Lab at the University of York, UK, is investigating new methods to improve how auralisation is both implemented and delivered. Efficient, accurate, interactive modelling and simulation is one significant challenge, especially when considering large, outdoor, potentially unbounded soundscapes with many complex dynamic sound sources. As well as improving our design and modelling processes, we are also interested in the quality of the user experience that arises as a result of this research. Working with artists we can use sound to better design aspects of the environments we simulate, while also encouraging and enabling us to interpret and understand the sounds we are surrounded by, whether past, present or future.

Sandra Pauletto Studies on Sound Design

It has been argued that sound design as an academic discipline does not really exist. However, a number of research projects in the last 10 years have begun to create the foundations of this field of study.

Within this context, I will describe some of the wide-ranging research initiatives and projects I have been involved over the past 5 years at the University of York. I will draw connections between projects that could, at first sight, seem quite separate and highlight how, when considered as a whole, they contribute to the development and definition of sound design.

Gerhard Eckel Interaction in Zeitraum

Zeitraum (2013) is a sound installation creating a paradoxical situation. Although it is not interactive from a technical point of view, a strong sense of interaction is experienced through changing one's listening position. Zeitraum creates a place where the interrelation of space and time in acoustic communication is revealed through locomotion.

Federico Favero Light Rhythms

Lighting Design is at the crossroad between philosophy and practical experience, between art and science. The Lighting Lab at KTH is established since the year 2000 and is engaged in education at international level and research. The presentation will cover the state of the art of technology in lighting and will provide examples of educational and research projects in urban and indoor environments.

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Posters

Erica Bronge and Sydney Wojnach
Effects of Background Audio on the Perception of Emotion from Virtual Characters

Anders Elowsson, Ragnar Schön, Matts Höglund, Elias Zea, Anders Friberg
Estimation of Vocal Duration in Monaural Mixtures

Peter Falthin
Goodbye Reason Hello Rhyme

Emma Frid, Roberto Bresin, Jonas Moll and Eva-Lotta Sallnäs Pysander
Sonification of Haptic Interaction in a Virtual Scene

Maurizio Goina, Marie-Andrée Robitaille and Roberto Bresin
Interactive sonification in circus performance at Uniarts and KTH: ongoing research

Demos

Rikard Lindell
C3N

Tommy Feldt, Sarah Freilich, Shaun Mendosa, Daniel Molin and Andreas Rau
Puff, Puff, Play: The Peripipe Remote Control

John Turesson & Anxiao Chen
Expressing mood with gestures and auditory feedback