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Interaction, Instruments and Performance: HCI and the Design of Future Music Technologies

Workshop organiser contact details (names, affiliation and emails)

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Dr Maria Kallionpää - Aalborg University, Kallionpaa@hum.aau.dk

Prof David De Roure – University of Oxford, David.deroure@oerc.ox.ac.uk

Prof Steve Benford - University of Nottingham,
Steve.benford@nottingham.ac.uk

Short presentation of organisers' backgrounds

Alan Chamberlain - Is a Senior Research Fellow in the Mixed Reality Lab, Computer Science at the University of Nottingham, UK. He has published numerous papers on many aspects of Human Computer Interaction and has worked on a range of research projects. He is currently interested in the development of systems in real world settings, innovation and design. He is currently a Visiting Academic at Oxford University and is part of the multi-partner Fusing Audio and Semantic Technology project. He has previously run and been part of workshops at a number of HCI, Ubicomp and CSCW conferences.

Xenia Pestova - Pianist Xenia Pestova's performances and recordings have earned her a reputation as a leading interpreter of uncompromising repertoire of her generation. Pestova's commitment to promoting music by living composers led her to commission dozens of new works and collaborate with major innovators in contemporary music. Her acclaimed recordings of core piano duo works by Cage and Stockhausen are available on four CDs for *Naxos Records*. Her solo debut of premiere recordings for the *Innova* label *Shadow Piano* was described as a 'terrific album of dark, probing music' by the *Chicago Reader*. She is Assistant Professor and Director of Performance at the University of Nottingham.

Mads Boedker - Is an Associate Professor at the Copenhagen Business School, Denmark. His research lies in the intersection of interaction design, HCI and mobilities research. A major topic in his research is how to represent users 'differently' in design work. Building on field studies and visual ethnographies he has developed mobile applications and methods to aid researchers engage in more sensory acute fieldwork. He records music with the electronic-acoustic trio Skyphone (Rune Grammofon/Lost Tribe Sound) and the synthesizer improvisation duo Vuptikunst.

Maria Kallionpää - Is an internationally active composer and pianist. She is a graduate of the Royal Academy of Music, the Universität für Musik und Darstellende Kunst Wien, University of Oxford and has also studied composition and piano at Sibelius Academy and Universität Mozarteum Salzburg. Kallionpää won the first prize of the OUPHIL composition competition in 2013. As a scholarship holder of the Kone Foundation (2016-2018), Kallionpää is jointly working as a composer and pianist in residence of the Mixed Reality Lab at the University of Nottingham, and as a postdoctoral fellow at the university of Aalborg.

David De Roure - Is a Professor of e-Research at University of Oxford and Director of the Oxford e-Research Centre. Focused on advancing digital scholarship, David works closely with multiple disciplines including social sciences (studying *social machines*), digital humanities (computational musicology), computer science (large scale distributed systems and social computing) and previously sciences and social statistics. He has extensive experience in hypertext, Web, Linked Data, and Internet of Things.

Steve Benford - Steve is Professor of Collaborative Computing in the Mixed Reality Laboratory at the University of Nottingham, UK. He is the Director of the EPSRC-funded Horizon Doctoral Training Centre and was the first Visiting Professor at the BBC. He has published numerous papers in CHI, CSCW and Ubicomp.

Discussion on the rationale for the workshop, the topics addressed and the goals

Rationale

There has been little chance for researchers, performers and designers in the UK to come together in order to explore the use and design of new and evolving technologies for performance. This workshop examines the interplay between people, musical instruments, performance and technology. Now, more than ever technology is enabling us to augment the body, develop new ways to play and perform, and augment existing instruments that can span the physical and digital realms. By bringing together performers, artists, designers and researchers we aim to develop new understandings how we might design new performance technologies.

Some Topics

- *Methods and Approaches*; What are the methods and approaches that we can employ to understanding interaction and interplay in performance and what impact does technology have on this?
- *Sonic Augmentation*; can performance and sound change the experiential attributes of places, e.g. make them more accessible, more playful?
- *Physical/digital augmentation*; how can one augment one's self or existing musical instruments and artifacts physically and digitally?

- *Meaning and Mediation*; can people narrate or make sense and movement as part of performance – how does the audience understand this?
- *Mobility and Immobility*; performance and movement, what are the dynamics of performing at rest or whilst mobile, how can technology supported co-located and distributed performance and reception?
- *Locating Content and Spatialisation*; how is performance located, how does sound and performance become part of the spatial fabric and what software tools can support this?
- *Personalization and Reflection*; how can people use new performance technologies to narrate and reflect upon experiences – both as performer and spectator?

These are some tentative implications and questions that we expect to address in the workshop.

Goals

The main goal of the workshop is to bring people together to discuss the issues mentioned previously and to explore this emergent space. As part of Audio Mostly we would like to build this community and develop a network that would engender ongoing participation, debate, scholarship and collaboration. The workshop would also like to encourage early career researchers and PhD students to attend in order to grow the community.

Acknowledgements

This research was supported through the following EPSRC projects: Fusing Semantic and Audio Technologies for Intelligent Music Production and Consumption (EP/L019981/1); Living with Digital Ubiquity (EP/M000877/1).

Discussion on the relevance and significance of the workshop to the conference and its theme “Augmented and Participatory Sound/Music Experiences”

This workshop is both relevant to the themes of the workshop and will offer significant understandings of the core themes of Augmented and Participatory Sound/Music Experiences. The workshop will bring together a range of people from academics, to industry practitioners and artists in order to fully explore issues relating to interaction, instrument conceptualization and design as well as performance. A key part of these explorations will be to understand new and emerging technologies and the way that they relate to technological augmentation in music/sound and the role of participation, both in respect to the design of such technological systems, and as performance.

A clear presentation of the workshop structure including the activities, timing and resources

- *09:00am*: Introduction and Welcome
Participants get the chance to meet each other, and settle in for the day ahead
- *10:00am*: Presentations (each 5mins and mini discussion)

Small presentations that introduce the participants' research to the group -

- 10:30am: Break for Tea/Coffee
- 11:00am: Presentations
- 11:30am: Thinking about Interaction, Performance, Music and Future Technologies

Discourse starts around the presentations and activities for the afternoon session are introduced

- 12:30pm: Lunch
- 2:00pm: Developing a Scenario
Groups develop a scenario using some existing technologies (that we will provide) to explore augmented interactive performance technologies and participatory audio/music experiences.
- 3:30pm: Break for Tea/Coffee
- 4:00pm: Research Issues, challenges, and opportunities
What are the current issues and challenges in this area, and how do we address these? – Collaboration, funding and publications
- 5:00pm: Future Steps and Closing Remarks
Future actions are discussed and workshop is wrapped up
- 6:00pm: Workshop Ends
- 7:30pm: Social - Drinks and Dinner

If workshop had previous editions, a brief history of the workshop

We recently been involved in related workshops – Audio in Place (Mobile HCI), Bela Workshop (STEIM Amsterdam), Music of Sound Symposium (Oxford University)

Desired duration (from 1h30 to a full day)

- Full Day

Desired number of participants (a range is fine)

- Up to 20

Availability: 23-25 August (Y/N), 26 August (Y/N), preference (23-25 August or 26 August)

- Prefer 23rd

A list of space and technical requirements

Some presentations will include an audio element and the use of instruments, so space should be able to accommodate this. Tables for equipment are needed.

*Sound equipment required – small PA, Microphone, Mixer, audio cables. Projector. Extension cables.

Brief statement of plans for recruiting and community-building (e.g. through a web page or other type of communication in collaboration

with Audio Mostly)

Prior to the workshop the call will be passed out using the appropriate ACM/Audio/HCI and other relevant mailing lists, social media and through a website/blog that we will set up in order to accomplish this. We will also promote via our institutional, project and group affiliations. In order to run the workshop we will have a series of technologies that will enable participants to explore the issues that emerge in the workshop. Relevant links to research papers will be provided online.

Plans to share the outcomes of the workshop (e.g. journal paper, website, blog, videos, etc.)

All papers will be archived and linked to on the workshop webpage and using social media

A 250-word draft Call for Participation to be posted on the Audio Mostly website to recruit participants for the workshop upon acceptance

This workshop examines the interplay between people, musical instruments, performance and technology. Now, more than ever technology is enabling us to augment the body, develop new ways to play and perform, and augment existing instruments that can span the physical and digital realms. By bringing together performers, artists, designers and researchers we aim to develop new understandings how we might design new performance technologies.

Participants will be actively encouraged to participant, engaging with other workshop attendees to explore concepts such as; augmentation, audienceship, physicality, data, improvisation, provenance, curation, context and temporality, and the ways that these might be employed and unpacked in respect to both performing and understanding interaction with new performance-based technologies.

Workshop candidates are requested to send a paper (4-8 pages in the [Extended Abstracts template \(landscape\)](#)) to the workshop organizers based on their research topic – this may also be a position piece, or a demonstrator that may be used in the field by workshop participants, equally audio-pieces may be submitted that relate to the theme of the workshop.

Participants will be chosen based on the relevance of their work and interest to other workshop participants. Due to the limited time, there will be a mixture of presentations, performances and demos. At least one author of accepted papers needs to register for the workshop and for the conference itself.

Papers should be submitted to: Email here
For further information see: www.stuff.here

- - For Workshop Website - -

- Paper deadline:

- Feedback to authors:
- Camera ready version: TBC
- Workshop at Audio Mostly:

Contact details of the workshop organisers who should be experts in the related fields

Alan Chamberlain University of Nottingham, Computer Science, UK
 Xenia Pestova - University of Nottingham, Department of Music, UK
 Mads Bodker – Copenhagen Business School, DK
 Maria Kalionpaa – Aalborg University, Department of Communication and Psychology, DK
 David De Roure - University of Oxford. E-Research Centre, UK
 Steve Benford - University of Nottingham, Computer Science, UK

Indications of format and length of papers (we recommend to use the same **templates** as for other Audio Mostly contributions)

Workshop candidates are requested to send a paper (4-8 pages in the [Extended Abstracts template \(landscape\)](#)) to the workshop organizers based on their research topic – this may also be a position piece, or a demonstrator that may be used in the field by workshop participants, equally audio-pieces may be submitted that relate to the theme of the workshop

A description of the paper selection process

Papers will be blind reviewed and this will be subject to discussion amongst the organisers and committee.

Important dates

We would ideally give participants 1 month to write their papers – this would then give ample time for feedback on the papers to be given back to the authors at the end of July.

Estimated paper submission volume

Up to 20 attendees

For more MRL references from the FAST project see below

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