



## HCI International 2023

23-28 July 2023,  
AC Bella Sky Hotel and Bella Center, Copenhagen, Denmark

### Call for Participation Interactive Technologies for Analysing and Visualizing Musical Structure

***Sunday, 23 July 2023 - 08:30-12:30***

**Organizer: David Meredith**

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#### Aim of the workshop

We are seeking high-quality submissions reporting on original, previously unpublished research within the area of interactive technologies for analysing and visualizing musical structure. Analysing and visualizing the structure of musical works can play a fundamental role in facilitating and enhancing the understanding and appreciation of those works among listeners, performers, composers and musicologists. For example, a performer who is learning to play a piece can benefit from having an effective visual representation of a coherent, satisfying and meaningful way of understanding the piece, perhaps in the context of other music in the same style or genre. Similarly, a concert-goer who is about to hear a piece for the first time might benefit from being presented first with an introduction to the piece, enhanced with visualizations of the work's structure and the way the work relates to other works from the same period, in the same genre or by the same composer.

If listeners, performers, composers and musicologists have access to usable and available software that automatically generates insightful analyses from digital encodings of musical works, along with high-quality encodings of the works in which they are interested, then insight-giving visualizations of the music's structure might be readily generated as required. Moreover, users might want to interact in various ways with such a generated analysis through a visualization that serves as a graphical user interface to the analysis. For example, a user might wish to hear certain themes or chords identified by the analysis, or compare part of one piece with part of a different piece that the automatically generated analysis has identified as being related. Users may also want to customize and modify a generated analysis so that it more accurately reflects how they personally interpret the piece.

Such use cases present challenging problems for software engineers and user-interface designers. The software that generates the analyses must carry out computationally

expensive processes (e.g., pattern discovery) in practical running times if the software is to be useably responsive. Different types of users may require different types of user interfaces, affording different types of interactions and visualizations that match, for example, their level of musical expertise, the aspects of the music in which they are interested, and the specific tasks for which the software is being used.

Analysis and visualization of musical structure are especially important when attempting to gain knowledge about musical traditions, genres and repertoires with which one is unfamiliar. Effective visualizations (supported by appropriate representations, encodings and data-structures) are also crucial when communicating the knowledge that has been gained to a target audience. Such a situation occurs when music from one culture is performed to an audience consisting largely of people from a different culture—for example, when Persian or Indian music is played to a European audience that is primarily familiar with classical music. However, the problem of effectively communicating the meaning of a piece of music to an audience that is unfamiliar with the cultural or stylistic context within which the piece was created can even arise when the music and the audience share the same culture—for example, an audience that listens almost exclusively to Western popular music may find it hard to appreciate a concert of Western classical music.

## Expected workshop outcome

We expect that the workshop will bring together musicologists, ethnomusicologists, software engineers and computer scientists, HCI experts, composers, musicians, and librarians and archivists interested in digitizing musical sources. By bringing together such a wide variety of experts from different domains, we expect that the event will initiate exciting interdisciplinary collaborations that could lead to future large-scale collaborative projects. We expect that the workshop will serve to strengthen the identity of an emergent multidisciplinary research community whose common goal is to develop technologies that can help a variety of types of users to better understand the music in which they are interested, interact more effectively and enjoyably with that music, and more effectively communicate knowledge about that music to a broader audience. We expect that the workshop will sharpen our understanding of what the main challenges and problems are in this domain and lay down the foundations for a roadmap for future research in the area. We also expect that this will be the first of a series of annual workshops on this topic.

## Workshop topics

This workshop will focus on the technical and interaction-design challenges involved in building effective, usable technologies for generating, visualizing and interacting with analyses of musical works. It will also welcome contributions that illustrate how such technologies can deepen our understanding of works and make them accessible to broader audiences. Contributions will also be welcome that address the challenging issues inherent in creating, curating and disseminating collections of high-quality encodings of (possibly very large) musical works, since the availability of such collections is necessary if a wide variety of users are going to be able to study and interact with the music in which they are interested.

## Workshop agenda

The following is a framework for the programme of the workshop:

| <i>Time</i> | <i>Programme event</i>   |
|-------------|--|
| 08:30       | Introduction by the organiser  |
| 08:35       | Oral presentation session 1 (three 15-minute oral presentations)   |
| 09:20       | Short break  |
| 09:30       | Oral presentation session 2 (three 15-minute oral presentations)   |
| 10:15       | Poster craze (1-minute, 1-slide presentations on a maximum of 16 posters)  |
| 10:30       | Coffee break   |
| 11:00       | Oral presentation session 3 (three 15-minute oral presentations)   |
| 11:45       | Panel session: “How can music analysis and visualization technologies deepen our understanding and broaden the accessibility of musical works from various historical periods, genres, styles, traditions and cultures?” |
| 12:30       | End of workshop  |

Authors of all accepted papers (including those giving oral presentations) are invited to present a digital poster. We plan on there being nine papers presented orally and up to 16 papers to be presented as posters. The panel discussion will follow the presentation of the papers and thus be informed by the papers that have been presented.

## Guidelines to prospective authors

### Submission for the Workshop

Prospective authors should submit their proposed papers in PDF format through the [HCII Conference Management System \(CMS\)](#). Authors may submit either a short paper (4-8 pages in the CCIS template) or a long paper (10-20 pages in the LNCS template). All authors of submissions accepted as posters will be required to create a digital poster to be presented during a 1-minute, 1-slide presentation in the “poster craze” session. Authors of papers selected for oral presentation will be required to prepare a 15-minute presentation to be given during the workshop.

### Submission for the Conference Proceedings

The contributions to be presented in the context of Workshops **will not be automatically** included in the Conference proceedings.

However, after consultation with the Workshop Organizer, authors of accepted workshop proposals that are registered for the conference, are welcome to submit through the [HCII Conference Management System \(CMS\)](#), a (possibly extended) version of their workshop contribution, to be considered for presentation at the Conference and inclusion in the “Late Breaking Work” conference proceedings, either in the LNCS as a long paper (typically 12 pages, but no less than 10 and no more than 20 pages), or in the

CCIS as a short paper (typically 6 pages, but no less than 4 and no more than 8), following peer review.

The submission deadline for the camera-ready papers (long or short) for the “Late Breaking Work” Volumes of the Proceedings is the 23rd of June 2023.

## Workshop deadlines

|  |               |
|--|---------------|
| Submission of workshop long and short papers                           | 1 April 2023  |
| Authors notified of decisions on acceptance                            | 25 April 2023 |
| Finalization of workshop organization and registration of participants | 30 April 2023 |

## Workshop organizers



**David Meredith** is an Associate Professor in the Department of Architecture, Design and Media Technology at Aalborg University, Denmark. He has worked within the field of computational music analysis for over 30 years and has over 70 publications in the area, including the edited book, *Computational Music Analysis* (Springer, 2016). His main contributions to the field have been the design and implementation of novel algorithms for pattern discovery and analysing tonal structure, some of which have been implemented in commercial music software. From 2013-2016 he was principal investigator at Aalborg University on the EU project, *Learning to Create* (FET no. 610859). Since 2022 he has been editor-in-chief of the Journal of New Music Research. He obtained his doctorate (D.Phil.) from Oxford University in and has bachelor and masters degrees from Cambridge University.

*Institution web page:* <https://vbn.aau.dk/en/persons/119171>

*Personal web page:* <https://www.titanmusic.com>

*Google Scholar page:* <https://scholar.google.com/citations?user=bs-237cAAAAJ>

## Useful links and References

HCI International 2023 Conference: <https://2023.hci.international/>

11<sup>th</sup> International Conference on Culture and Computing: <https://2023.hci.international/c&c>

International Society for Music Information Retrieval: <https://ismir.net/>

Journal of New Music Research: <https://www.tandfonline.com/journals/nnmr20>

Sound and Music Computing Network: <https://smcnetwork.org/>

## Registration regulation

Attendance in the workshops will be available as 'in-person' only. Workshops are 'closed' events, i.e. only authors of accepted workshop proposals, registered for the specific workshop, will be able to attend.

A registration fee of \$75 is applicable for workshop participants. Workshop participants who wish to attend the Conference will need to also register for the Conference.

The total number of participants per workshop cannot be less than 8 or exceed 25.