

**Exploring immersive sound spaces through artistic research  
Seeking innovative museological experiences through music**

The design of immersive sound contents allows for the exploration of experimental processes, addressing both technological and artistic perspectives, with relevant applications in artistic research contexts, and the development of artistic outputs. Immersive contents can also be used as effective communication tools in other situations and spaces, such as museological venues or other types of contexts that require community and/or visitor engagement. Combining artistic research processes with these specific purposes raises research questions as regards the complexity of ensuring an adequate interface and articulation between research and usability requirements, namely addressing the suitability of exploratory processes for public and participative contexts, as well as providing a research design encompassing collaborative and collective musical creation processes that can support the transfer of the artistic outputs to a wider public sphere.

The research issues associated with these interface/transfer processes were addressed prior to, during, and after a residency undertaken by the authors of this proposal, which developed, through a step-by-step process:

- several dedicated tools and contents, such as an instrument designed by team member Penha, adapted software, and the creation of a *corpus* of combined vocal and keyboard extended techniques;
- systematic experimentation with, and exploration of these contents, employing free and pre-structured improvisation procedures; the results were recorded by team member Conceição;
- critical appraisal of the recorded materials, through the immersion - dispersion - consolidation model (Marinho et al. 2020);
- selecting and processing relevant recorded contents, through studio work involving the entire research team.

Moreover, a video-art collaborator filmed site-specific footage and visual details, which were collaboratively integrated with the selected audio contents, in order to build a combined video/audio experience for display at the new building of the National Music Museum of Portugal in the Mafra Palace (Portugal), in 2025.

The presentation will include selected excerpts of the final outputs, describing and discussing their main features in correlation with the research processes, and demonstrating how the contents will interact with the planned space at the Museum and with its visitors.

Parallel Session



**Helena Marinho**  
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Pianist and Associate Professor at the University of Aveiro, Helena combines her performing career with academic and artistic research. She has presented solo and chamber concerts in Europe, South America and Asia, and recorded 12 CDs, playing Classical and contemporary repertoire for piano and fortepiano. She has premièred several contemporary works, and collaborates often with composers from Portugal and other countries. Several of the projects she conceived and performed, which ground her artistic-research outputs, have been selected for funding by the Portuguese Culture Ministry. Her publications include book chapters and articles, and she has been the Principal Investigator of three large-scale research projects financed by the Portuguese Government and European funds, on subjects ranging from gender studies to musical experimentation. She is an integrated researcher of the research center INET-md, and she leads its University of Aveiro branch since 2023.



**Bruno Pereira**  
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Professor at ESMAE and researcher at i2ADS - Institute for Research in Art, Design and Society at the University of Porto, where he is a member of its Scientific Council and researches the voice within contemporary performance practices. He has a degree in Singing and another in Music Production and Technology (ESMAE) and PhD in contemporary performance (FBAUP). He has performed in concerts/masterclasses/conferences in Portugal, Germany, Spain, France, Belgium, the United Kingdom, Holland, Italy, the Czech Republic, Slovenia, Russia, Ireland, Sweden, Lithuania, Latvia, Turkey, Bosnia, Brazil, Mozambique and Argentina. After more than a decade of intense activity in the field of opera and operatic singing, he has been developing a regular activity in the area of contemporary performance with the creation and presentation of various solo experimental works or in collaboration with artists such as Girilal Baars, Dimitris Andrikopoulos, Horácio Tomé-Marques, Rui Penha, Helena Marinho, Gustavo Costa, Rodrigo Malvar, António Aguiar, Telmo Marques, Oyvind Brandstegg, Mário Azevedo, Fernando José Pereira, Luis Bittencourt, among others.

Parallel Session



**Rui Peña**  
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Composer, media artist, and performer of electroacoustic music, Rui Peña was born in Porto in 1981. He completed his PhD in Music (Composition) at the University of Aveiro. His music is regularly recorded and played in festivals and concert halls around Europe and North America, by musicians such as Arditti Quartet, Peter Evans, Remix Ensemble, or the Gulbenkian Orchestra. He was a founder and curator of Digitópia (Casa da Música, Porto) and has a deep interest on the relationship between music and its technology. His recent production includes interfaces for musical expression, sound spatialisation software, interactive installations, musical robots, autonomous improvisers, and educational software. More recently, Rui has focused his attention on the problems of defining and guiding artistic research. He taught at several Portuguese institutions, in both music, art and engineering faculties, and is currently vice-president of ESMAE and a researcher at CESEM. More info at <https://ruipenha.pt>



**Marco Conceição**  
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Higher education professor, sound designer and audio technician, was born in Toronto, Canada in 1977. He completed a PhD in Spatial Audio and Surround Sound at Trinity College Dublin under the supervision of Dermot Furlong. He has collaborated with several composers, directors and musicians such as Dimitrios Andrikopolous, Jonathan Nangel, Kevin Volans, José Miguel Moreira, Filipe Martins, Nuno Rocha, Jorge Campos, Fernando Ramos, Rui Peña among others, both as a sound designer and as an audio technician. He has great interest in capturing soundscapes and field recordings with special attention to their immersive and surround attributes. In the last years he has been dedicated to the exploration and development of methods for sound spatialization, relating spatialization to sound design. He has had a regular activity in the teaching of multichannel audio and post-production content for both music and cinema, having been invited to speak at some Portuguese higher education institutions (ESEC, DEI-UC, ESART). He is currently an Adjunct Professor at ESMAE, President of ESMAE, Director of the Audiovisual Services at ESMAE and researcher at CESEM.