

AR meets AI**Researching roles and identities in musical human-machine-collaborations**

Algorithmic systems and artificial intelligence (AI) have been used in artistic processes for many years. While AI systems are usually seen as tools to support human artists, the possibility of AI systems taking a more active role as autonomous agents in the research process has significant implications for the way we approach artistic research.

From the perspective of critical posthumanities, one potential impact of this shift is the need for a reevaluation of the role of the human artist. If AI systems are able to contribute to the artistic research process as autonomous actors, it may be necessary to reassess the traditional hierarchy of the human artist as the primary creator and the AI system as the assistant. This could lead to a more collaborative approach to artistic research, in which the contributions of both the human artist and the AI system are valued and integrated into the process.

Another potential impact is the need for AI systems to reflect on their own artefacts in a way that informs a more-than-human artistic research process. This could involve the development of AI systems that are able to analyse and evaluate their own creations in order to identify elements that may be relevant to the artistic research process. This could potentially lead to a more holistic approach to artistic research, in which the insights and perspectives of the AI system are considered alongside those of human artists.

This talk will address these questions in the context of various research projects for interactive musical AI systems at the Nuremberg University of Music. In these research projects, we are examining the ways in which AIs can enhance the aesthetic dimension of collaborative musical improvisation, particularly by using robotic musical instruments. The characteristics of musical interaction with embodied AIs are not only the subject of our research question but could at the same time become themselves acting subjects in the research process. In this sense, the talk tries to speculatively sketch out roles and identities in the artistic research process between humans and artificial intelligences.



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Sebastian Trump studied jazz saxophone and classical saxophone at the Nuremberg University of Music, as well as sound studies at the Berlin University of the Arts. His digital musical instrument Orphion attracted worldwide interest and was exhibited at the Media Museum of the ZKM Karlsruhe (2012) and the Canadian Science and Technology Museum in Ottawa (2013), among others. Since 2009 he has been teaching music and digital media at the Nuremberg University of Music, and since 2015 at the Nuremberg Institute of Technology. His research focusses on interfaces between technology and performance. With a scholarship from the STAEDTLER Foundation, he received his PhD in 2019 on evolutionary algorithms in musical improvisation. He is assistant professor at the Nuremberg University of

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Music, where he conducts research on interfaces between technology and performance, especially in the fields of musical human-machine interaction and collaborative creativity.