

## Mechanical Animalities

### Robotic Puppetry and More-Than-Human Presence in Contemporary Music Composition and Performance

This project was a practice-based research on robotic puppetry in contemporary Western Art Music composition and performance. It focused on the incorporation of mechanical animal puppets as *performing objects* (following Proschan's definition) and combined pre-recorded movements with stochastic and Hidden Markov Model-based autonomous behaviour in order to explore human-machine co-presence on stage from a posthuman standpoint.

The main questions articulating the inquiry were:

- How could posthuman, *zoe-centric* conceptions of interdependence (Braidotti) reframe the performers' role when machinic figures appear to act as if with agency on stage?
- How would this perceived machinic autonomy constructed through dramaturgy, HMMs, and pre-recorded behaviors affect the audience's perception of the piece and the performers' musical and theatrical interpretation?
- What are the most effective ways to design interfaces and staging strategies that create meaningful co-presence between human performers and mechanical puppets?

The research addressed the following issues: understanding how *zoe-centric* conceptions of interdependence and machinic autonomy could influence the distribution of roles between humans and more-than-humans on stage, incorporating mechanical puppets with AI-triggered or HMM-selected behaviors to facilitate co-creative illusions of agency, examining the impact of these dramaturgical choices on both the audience's listening experiences and the performers' interpretation, and developing experimental methods for integrating posthuman theoretical framings into my musical compositions.

Creative practice was central to the project. The methodology was built on an iterative, critically reflective approach. Performer-machine interactions were designed and tested as part of newly created scenic pieces, with each iteration evaluated for its aesthetic, performative, and relational impact. This included both quantitative and qualitative methods, such as observational analysis of audience responses, feedback loops with performers to gauge interpretative shifts, and structured audience members feedback sessions.

The presentation will be accompanied by examples of performances, software, and scores. These are three documentations of pieces I will comment on:

Dysfunctional: <https://www.pedrogonzalezfernandez.com/dysfunctional.html>

**AEC European Platform for Artistic Research in Music (EPARM) 2026  
Norwegian Academy of Music (Oslo, Norway)**

Research Presentations

Ex-Natura: <https://www.pedrogonzalezfernandez.com/exnatura.html>

Symbiont: <https://www.pedrogonzalezfernandez.com/symbiont.html>



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Pedro González is a Spanish violinist, composer, and researcher specialized in multidisciplinary and intermedia art projects. He received his bachelor's degree from Escuela Superior de Música de Catalunya and later participated in the European joint Masters program in Contemporary Performance and Composition (CoPeCo) in Tallinn, Lyon, Stockholm, and Hamburg. Since 2018, he has been working on his PhD in composition at HfMT Hamburg under the guidance of Prof. Alexander Schubert. His compositions have been performed at various prestigious festivals in Europe, including Internationales Musikfest Hamburg, International Computer Music Conference, SMC, the Centre National de Création Musicale (GRAME), or the Musica Festival in Strasbourg, among others. In March 2021, Pedro was appointed Professor for Contemporary Music at ESMUC in Barcelona. In 2023, he was the recipient of a Fulbright visiting scholar grant at CCRMA, (Stanford University). He has also given seminars on live electronics and multimedia at the Musikhochschule Lübeck and works as a freelance composer and violinist in Spain and Germany.

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