

The London Interdisciplinary Music Research Initiative

Inaugural Workshop

Interdisciplinary Conversations on Expert Performance

29 April 2026, Queen Mary University of London

Andrew McPherson

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<https://instrumentslab.org/>

Enacted, not extracted: designing and performing with music-analytical concepts

We rely on language and symbols to discuss and analyse music. Designers of digital technologies often then invert analytical language into a basis for generating or processing music. Performing with digital technologies thus becomes a negotiation between different musicians, engineers, knowledge systems and sociocultural contexts. This talk will begin with a stubbornly contrarian take on some seemingly obvious premises of musical ontology. I will then examine the ways that technologies, from MIDI keyboards to programming languages to generative AI systems, influence the way we think, and examine why that influence can easily go unnoticed. Finally, I will speculate on what this situation might mean for designers and engineers seeking alternatives to the prevailing ways of conceptualising music technology.

Elaine Chew

Professor of Engineering, King's College London | eniale.kcl.ac.uk

Founder, Digital Music Theranostics Laboratory | cosmos.isd.kcl.ac.uk

I can capture expert performance and musician physiology, so now what? – Dissecting empirical traces of expert performance

The ubiquity of wearable sensors has made possible the capture and real-time visualisation of musician physiology during performance. Together with concurrent recording of music information, we now have the means to document, notate, and study the music performed with musician physiology during performance. Data capture is only a start to empirical understanding of performance and its connection to physiologic response. I shall present some mathematical and computational approaches to representing and modelling intangible aspects of expert performance like expressivity and interpretation, and how they tie in to cardiorespiratory response. The approaches draw from our work in digital music theranostics which uses music as a tool for cardiovascular diagnostics and therapeutics.

Videos

[1] Schubert Trio Op.100, Andante con moto performed by Hilary Sturt (vln), Ian Pressland (vlc), Elaine Chew (pno) at Yamaha-NEXO System Designers Conference, Burgtheatre im

Kasino, Vienna, Austria -

https://youtube.com/playlist?list=PLD_xOPCDBZDPTfrijpmVKacRUrYSzo9vnX&si=bSaVz2wAcJfVTiyK

[2] Boulez Reloaded (Best of) by Elaine Chew (pno), Thierry Miroglio (per), Gérard Assayag (soma2) at the Espace de Projection, Paris, France -

https://youtu.be/dMAG_ommOGQ

[3] New Scientist video: Using music to diagnose heart conditions -

<https://www.instagram.com/reel/DWmL6FyAjzm> (social media accompanies feature on heart:brain axis -

<https://www.newscientist.com/article/2519667-the-profound-effect-the-heart-brain-connection-has-on-your-health/>)

Resources

[1] A framework for modeling performers' beat-to-beat heart intervals using music features and Interpretation Maps - <https://doi.org/10.3389/fpsyg.2024.1403599>

[2] CosmoNote: A Web-based Citizen Science Tool for Annotating Music Performances - <http://doi.org/10.17743/jaes.2022.0057>

[3] A Perceiver-Centered Approach for Representing and Annotating Prosodic Functions in Performed Music - <https://doi.org/10.3389/fpsyg.2022.886570>

[4] End-to-End Bayesian Segmentation and Similarity Assessment of Performed Music Tempo and Dynamics without Score Information -

<https://doi.org/10.1177/20592043241233411>

[5] Traces.js: A Javascript library for presenting music, physiology, and other time-series on the web - <https://zenodo.org/records/17641975>

Mira Benjamin

Lecturer in Music, City St George's, University of London | <https://mirabenjamin.com/>

Three phenomenotechnical illuminations: Windfell

In this audiovisual performance-talk I respond to Ben Spatz's invitation for performers to 'return to the language of technique' in order to get to the 'aboutness' of embodied work. Using a combination of recorded audio, annotated video and live playing, I interrogate embodied technique in James Weeks' *Windfell* for solo performer, drawing on Gaston Bachelard's framework of *phenomenotechnique* via Spatz's (2020) writings on embodied theatre practices. The talk presents current developing work on 'phenomenotechnical illumination'—an audiovisual research method that exposes the thick intersection of various technical framings—and proposes how such an articulation may offer insight into the knowledge that inheres in embodied performance.

George Waddell

Performance Research and Innovation Fellow, Royal College of Music
Honorary Research Associate, Faculty of Medicine, Imperial College London
<https://performancescience.ac.uk/>

Under the spotlight: developing and studying expertise in performance environments

Any experienced performer knows that the spaces where they learn their expert practice feel very different from the venues where they perform it. A musician on stage, a surgeon in the theatre, or an athlete on the pitch faces a complex and dynamic set of factors that can fundamentally change the nature and outcomes of their performance. This talk will focus on the challenges of preparing for, executing, and studying performance where it happens including some of the latest techniques and technologies being developed to bridge the gap between the practice room and the stage.

Video:

<https://www.youtube.com/watch?v=K0eMCV7vJg8>

Panel discussion

with **Andrew McPherson, Elaine Chew, Mira Benjamin, and George Waddell**

In line with LIMRI's aim to foster innovation and collaboration by creating a forum for interdisciplinary and cross-institutional dialogues, we will explore different approaches to interdisciplinary research in the panel. The discussion will explore how expert performance relates and diverges from other ways of knowing music, how music expertise may facilitate music research, and how thinking about performance and expertise shapes, or should shape, research directions. More broadly the panel will share their experiences conducting interdisciplinary and collaborative research.