49th International Computer Music Conference (ICMC 2024)

Sound in Motion

Seoul, South Korea 7 - 13 July 2024

Editors:

Hee Seng Kye Richard Dudas

ISBN: 979-8-3313-1131-5

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact International Computer Music Association at the address below.

International Computer Music Association 1819 Polk Street #330 San Francisco, CA 94109

Phone: (734) 878-3031

www.computermusic.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

Table of Contents

Paper Session 1 - Piece and Paper I

- 2 Time Travels, So Does the Sound: Exploring Memories Stuck in Between Sophie Jung
- 6 AlloThresher: Multimodal Granular Synthesizer Myungin Lee, Jongwoo Yim
- 10 Mollspeak Unreal Spatial Synthesis for a Narration Olivier Pasquet
- 14 Liquidation: Bridging Acoustic Piano and Electronic Soundscapes through Real-Time Performance System Sujin Kim, Daeun Kim

Paper Session 2A - Piece and Paper II

- 18 Zen of Aggression: Composing the Transformational Hybrid Berk Yagli
- 26 Go To Music Move 37 Sebastien Thon
- 30 Frasi ipermetriche *Hypermetrics in Computer-Assisted Algorithmic Composition Environment*Ken Paoli
- 34 Promotion and Development of Music Programming Language in Music
 Universities in Southwest China An Example from Sichuan
 Conservatory of Music
 Wanjun Yang, Jinhao Han

Paper Session 2B - Musical Gestures and Analysis

- 38 Microphone-based Data Augmentation for Automatic Recognition of Instrument Playing Techniques Nicolas Brochec, Tsubasa Tanaka, Will Howie
- 44 A Switching Beat-Following Algorithm for Interactive Conducting Systems Zengguang Wu, William Raffe, Michael Hobbs
- 48 GB-ABBX : A Framework for Enhancing Beatbox Performance Using Gesture Sensing

Kento Otani, Mitsuyo Hashida, Haruhiro Katayose

Paper Session 3A - Piece and Paper III

- 52 Exploring Immersive Sound through a Workshop with the Open Source Tool Live 4 Life: User Insights and Preferences on Event vs. Track-based spatialization and Channel vs. Object-based paradigms Christophe Lengelé, Philippe-Aubert Gauthier
- Foresta di Corpi Elettrici Reflections between field recording and spatialization techniques
 Valentina Ciniglio
- 62 A City the Goes Away: Constructing a Contemporary Patrimonial Memory through electroacoustic composition in the case of El Filo Errante

 Jose I Lopez
- 66 Catástrofes (2023): Creative Processes in Synthesis, Audiovisual and Sound Spatialization
 Danilo Rossetti

Paper Session 3B - Software and Hardware Systems I

- 70 Emerging Patterns: Music Generation through Markovian Feedback Felipe Tovar Henao
- 74 rr: the Development of a new Max Package Facilitating Gradual or Randomized Parameter Changes Across Note Sequences Jonathan Pitkin
- 78 The Aliased Complex Oscillator as a Paradigm for Analog Physical Modeling Sound Synthesis Clemens Wegener, Max Neupert
- 82 Reality Check a Framework for Preserving Real-Time Electronic Music Realizations
 Miller Puckette

Paper Session 4A - New Instruments for Musical Expression I

- 86 Music-Centric Description of Performance with Data-Driven Musical Instruments
 Jeffrey Stolet
- 90 *dlld: a Tangible Sound Object at Hand* Sergey K Kasich
- 94 Long-Term, Store-Front Robotics: Interactive Music for Robotic Arm, Caxixi and Frame Drums Richard Savery, Fouad Sukkar

Paper Session 4B - Perception and Cognition

- 102 Musical Agents, Agency, & AI: Towards a Phenomenological Understanding Ted Moore
- 106 Visualization of Melodic Gravity in Pops Computational Model of Hierarchical Implication Realization by Complementary Use of IRM and GTTM
 - Hiroki Sawamura, Mitsuyo Hashida, Haruhiro Katayose
- 114 Examining the Effect of Phrase Structure Introduction on Performance Timing Prediction
 - Koki Domoto, Mitsuyo Hashida, Haruhiro Katayose

Paper Session 5A - Piece and Paper IV

- 122 On the Prowl: A Report of the Approaches to Electroacoustic Improvisation of the Laptop Trio Totaleee
 Giuseppe Pisano, Paolo Montella, Andrea Laudante
- 128 Integrating Higher Order Ambisonics and Cognitive Assemblages in Immersive Sound Composition Paulo C. Chagas, Konstantin Fontaine
- 132 "J.B. Remembers J.B.": A System for Dynamic Improvisation Accompaniment
 Jeff Albert
- 134 Was It Really Just The Dress? Change in Sound through Motion. A
 Comparison of Subjective Auditory Perception and Measurable Acoustic
 Phenomena in Swinging Loudspeakers and Moving Body.
 Peter Färber, Annkathrin Poepel, Angela Stoecklin

Paper Session 5B - Software and Hardware Systems II

- 138 MIDI.CITI: Designing an Experience-oriented Musical Cityscape Kunwoo Kim, Ge Wang
- 142 Reprogrammable Effects Pedals on the Daisy Seed Platform Alois Cerbu, Carmine-Emanuele Cella
- 146 MoNoDeC: the Mobile Node Controller for audience-involved sound diffusion Nick Hwang, Anthony T Marasco
- 150 Analog ring modulation for historical music performances
 Tomas Koljatic, Michel Rozas, Cristián Garcés, Juan Parra Cancino, Rodrigo
 F Cadiz

Paper Session 6A - Sound Spatialization

- 158 Mobile Loudspeakers as an Alter Ego Peter Färber, Junghae Lee, Giorgio Tedde
- 162 Levels of Spectral Diffusion Julián Ávila Sausor
- 170 Multi-channel spatialization /revisited: preserving perceived sound source angle projected in distance

 John M Chowning

Paper Session 6B - Studio Reports

- 174 Cincinnati Center for Computer Music 2024
 Kieran McAuliffe, Felipe Tovar-Henao, Mara M Helmuth, Yunze Mu, Carl
 Jacobson, Hefang Ma
- 178 Studio Report: Purdue University Department of Music
 Clay Williams, Monte Taylor, Tim Nadolsky, Mark French, Kristen Yeon-Ji
 Yun, Tae Hong Park

Paper Session 7A - Computer Music History and Culture I

- 182 From Composing History to Composing with History Saadi Daftari
- 186 Problems in Accessing Music for Piano and Electronics in Japan Hyunmook Lim
- 192 Technical Implementation and Artistic Expression Characteristics of Multimedia Electronic Music Creation in China Shanshan Dai, Ren Gui
- 198 Changing terms naming categories. A systematic approach to performance information

 Miriam Akkermann

Paper Session 7B - Music Representation & Networked Music

- 202 *OMM: an OpenMusic library for Mathematical Morphology* Carlos Agon, Gonzalo Romero-García, Isabelle Bloch
- 206 An Extension of the Note-Based Tonnetz to 31-Tone Equal Temperament Jason Hoopes
- 210 A Networked Musico-Spatial Virtual Environment Jeremy J Ham, Uwe Woessner
- 214 'Distant Concerto', New Genre of Network Computer Music in the 21st Century; Realization and Possibilities Gabin Kim

Paper Session 8A - Computer Music History and Culture II

- 218 DAFNE+: A blockchain platform for preservation and valorisation of experimental music and sound production
 Hugues Vinet, Greg Beller, Miller Puckette, Guillaume Piccarreta
- 222 The Future is Here: Opportunities and Challenges of Avatar Technology for Music Performance Wanjun Yang, Haokun Yang, Mingliu Yangxu
- 226 The Interpretive-Generative Spectrum and Its Role in the Form of Live-Performed Electroacoustic Music Victor Zheng

Paper Session 8B - Computer Music History and Culture III

- 230 Queer Soundscapes: deconstructing gender identifiers in vocal and bodily sounds through a technologically-aided music composition

 Fotis Rovolis, Thanos Polymeneas Liontiris
- 234 Rap is Art: Creating Spaces for the Interpretation of Misunderstood Voices
 TeAiris J Majors
- 240 Phil Winsor: An Exemplar of the Artist Technologist Ken Paoli
- 244 Towards Sustainable Sonic Arts Practices: Less Glitz, More Grit PerMagnus Lindborg

Paper Session 9A - Piece + Paper V

- 250 Nightports at Hull Minster: Transporting a Site-Specific Musical Work Across Physical and Virtual Spaces Matthew Barnard, Adam Martin, Mark Slater
- 258 Enough: a radically vulnerable composition approach for gesturally mediated human voice
 Sophie Rose

Paper Session 9B - New Instruments for Musical Expression II

- 266 Multiplayer Performance Scores for VR David Kim-Boyle
- 270 *The Robo-Cajon: An Example of Live Performance with Musical Robotics*Austin A Franklin
- 274 Collaboration Between Robots, Interfaces and Humans: Practice-Based and Audience Perspectives
 Anna Savery, Richard Savery