Table of Contents

DAY 1 Session 1: Artistic Practice, Sonification and Sound in Society

Musitopia: Designing Interactive Musical Environments for Health and Wellbeing 1
Raquel Lucena, Mario Ortega, Ariana Pereira and Rafael Ramírez

VIGIL 17: EMBEDDED MONOCULAR DEPTH ESTIMATION AND GRADIENT SONIFICATION IN SITE-SPECIFIC PRACTICE 9
Daniel Manz and Daniel Hearn

MACHINA INQUIETA – RESTAGING ASHBY'S HOMEOSTAT 17
Marco Doettlinger, Arthur Flexer, Patrik Lechner and Thomas Grill

THE MTU LAPTOP ENSEMBLE: INTEGRATING HYBRID SYNTHESIS, SPECTRAL SONIFICATION AND GESTURE ANALYSIS INTO PRACTICE-BASED PERFORMANCE 24
Cárthach Ó Nuanáin, Eric Browne, Brian Sheehan, Aoife Claffey and Juan Francisco Martinez

This Way Up: Evaluating Frequency–Elevation Mapping in Audio–Language Models 34
Vincent Lostanlen and Mathieu Lagrange

MuSA Voice: An Intelligent Platform for Automated, Reflective Vocal Technique Analysis 41
Suvi Haeaerae, Isabelle Oktay and Rafael Ramírez-Meléndez

BioKybérnēsis: Case Studies on Biomusic and Bioaesthetics in Contemporary Sound Performance 49
Matt Rogerson, Penelope Bekiari, Lou Barnell and Courtney Askey

ALGORITHM-BENDING AS TACTICAL MUSICKING: DSP DEVIANCE AND AUGMENTED SAXOPHONES IN THE ERRO. PROJECT 57
Alberto Barberis and Bera Romairone

Rendering alternative recorded histories of music 64
Nick Collins and Andrew Brown

Towards minimal loudness sound masking to enhance sound comfort in offices: an exploratory experiment 70
Clara Boukhemia, Mathieu Lagrange and Nicolas Misdariis

DAY 1 Session 2: Space, Networks, Audiences and Immersion

Ambisonics: Introducing an Accessible, Distributed Approach 75
Thomas Rushton, Romain Michon, Tanguy Risset, Clemens Wegener and Pierre Lecomte

Ambiviz: A Python toolbox for Ambisonic audio and 360-degree video visualization 80
Jinyue Guo, Maham Riaz and Alexander Refsum Jensenius

From SPRAWL to MESH: Networked Music Systems for Touring and Stage Integration .. 86
Henry Windish and Henrik von Coler

AUDIENCE AS PERFORMER: A SMARTPHONE WEB-APPLICATION FOR REAL-TIME SOUND CONTRIBUTION 92
Davor Vincze and Maurice Oeser

Exploring Methods for Measuring Audience Body Motion in Concert Halls 99
Hugh Alexander von Arnim, Finn Upham and Alexander Refsum Jensenius

ORGANIC REFLECTIONS: A STOCHASTIC FRAMEWORK FOR REAL-TIME AUDIOVISUAL COMPOSITION ACROSS AR, VR, AND PROJECTION 107
Deniz Caglarcan

Xplosive Collision: Designing a Noise-Oriented Networked Music System Based on Dyadic, Interdependent Game Mechanics 114
Luca Morino, Francesco Ardan Dal Rì, Fabio Cifariello Ciardi and Nicola Conci

From Spatialization to Spatial Structure: A Spatial Grammar for Electroacoustic Composition 121
Marcela Pavia

DYNAMIC GAME AUDIO ANALYSIS IN THE CONTEXT OF HORROR GAMES 127
Victor Schmaedecke, Genaro Costa, Claudio Carvilhe and Carlos Nascimento Silla Junior

A Real-Time Procedural Music Generation System Based on Affective Content of Low-Level Video Features 135
Filippo Giabelli, Federico Avanzini and Giorgio Presti

DAY 2 Session 1: AI, Co-Creation and Intelligent Musical Interaction

Strategies for Musical Entanglement - Shaping Co-Creative Interplay through Harmonic and Melodic Visualization of Intent in Somax2 143
Marco Fiorini and Miles Okazaki

Interactive Melody Generation and Robotic Saxophone Performance: The RoboSax Melody Slot Machine 151
Masatoshi Hamanaka and Gou Koutaki

Curve2Melody: Sketch-Guided Melody Generation 158
Cristina Jorda i Custal, Tejaswinee Kelkar and Stefano Fasciani

Toward Instruction-Guided Interactive Low-Latency Generation for Acoustic Music } 166
Yinghao Ma and Hannes Gamper

Style-specific accompaniment generation via constrained discrete optimization 172
Stephanie Lew, Wee Kheng Leow and Kat R. Agres

Beat Tracking for Real-Time Human-Computer Live Improvisation 180
Joris Monnet, Michael Wollny and Martin Rohrmeier

A critical data case study in human-machine co-creation of electro-acoustic music 188
Arthur Flexer

Neuralyzer: An AI Chatbot in Partiels 194
Pierre Guillot

Conversing for Coexistence . . . 201
Patrik Lechner, Marco Döttlinger and Thomas Grill

An Exploratory Study on the Effects of AI Song Generation on Agency, Authenticity, Creativity, and Connectedness in Musicians and Nonmusicians . . . 207
Dana Swarbrick and Suvi Saarikallio

DAY 2 Session 2: Musical Structure, Analysis and Computational Musicology

MUSICAL PATTERN DISCOVERY AT REGULAR TIME INTERVALS THROUGH MATHEMATICAL MORPHOLOGY: AN APPLICATION TO METRIC STRUCTURE ANALYSIS . . . 215
Mathys Daniel, Paul Lascabettes, Moreno Andreatta and Isabelle Bloch

Diachronic Modeling of Tonal Coherence on the Tonnetz Across Classical and Popular Repertoires . . . 223
Weilun Xu, Edward Hall and Martin Rohrmeier

MINING CONTRAST PATTERNS IN JAZZ GUITAR SOLOS . . . 231
Arne Eigenfeldt and Darrell Conklin

Music Similarity Estimation from Jukebox Embeddings . . . 236
Johannes Grafinger, Gerhard Widmer and Jan Schlüter

Unsupervised Evaluation of Deep Audio Embeddings for Music Structure Analysis. . . . 242
Axel Marmoret

Adapting Deep Learning-based Meter Tracking to Carnatic Music . . . 250
Satyajeet Prabhu, Thomas Nuttall, Vivek Vijayan and Martín Rocamora

Score-Informed Transformer for Refining MIDI Velocity in Automatic Piano Transcription 258
Zhanhong He, Roberto Togneri and David Huang

Reharmonization Grammar Rules in Jazz Improvisation . . . 266
George Konstandelakis and Christina Anagnostopoulou

A Computational Model for Predicting Perceived Tension in Electronic Dance Music Buildups . . . 273
Stefanos Biliousis and Sofia Dahl

BMdataset: A Musicologically Curated LilyPond Dataset . . . 280
Matteo Spanio, Ilay Guler and Antonio Rodà

DAY 3 Session 1: Audio Processing, Synthesis and Computational Sound

Differentiable Feedback Delay Networks via Closed-Form Time-Domain Backpropagation . 288
Antoine Salmona and Rémi Mignot

MULTI-SCALE LATENT TRAJECTORY MODELLING FOR AUDIO TEXTURE SYNTHESIS . . . 296
Aaron Dees, Susan McKeever and Seán O'Leary

From Music Audio to Expressive Dynamics Control: Transcribing MIDI CC1 from Real Music Performances via Differentiable Analysis-by-Synthesis . . . 304
Yifan Xie and Mathieu Barthet

Predicting Timbre Traits for Interpretable Assessment of Musical Sound Synthesizers 311
Théo Chasle Cauchy, Modan Tailleur, Lindsey Reymore, Fanny Roche and Mathieu Lagrange

An Evolutionary Algorithm for Automatic Guitar Amplifier Modeling 319
Benjamin Quiédeville, Tanguy Risset, Romain Michon and Stéphane Letz

Exploring Latent Space Audio Generation for Data Sonification 327
Ernst Stötzner and Andreas Nürnberger

Fifty Shades of Compression 335
Diemo Schwarz, Rémi Mignot, Cöme Peladeau, Haoran Sun, Étienne Démoulin, Geoffroy Peeters, Hichem Maaref and Dominique Fourer

Zero-Delay Feedback for FM Cross-Modulation 343
Luc Döbereiner and Dario Sanfilippo

An open source solution for live computation and broadcasting of sound descriptors 350
Valerio Orlandini

HIERARCHICAL RETRIEVAL-AUGMENTED GENERATION FOR MULTIMODAL MUSIC QUESTION–ANSWERING USING VECTOR-BASED SEMANTIC RETRIEVAL 358
Anna-Maria Christodoulou, Kyrre Glette and Alexander Refsum Jensenius

DAY 3 Session 2: Performance, Instruments and Embodied Interaction

Chelys Sonorum: A Quasi-Autonomous Guitar 367
Guglielmo Diana

InvisiblePiano: Enabling Gesture-Based Right-Hand Monophonic Piano Performance using a Smartphone Camera via Statistical Machine Translation 374
Chihiro Mita, Kento Watanabe, Takayuki Nakatsuka, Tomoyasu Nakano, Masataka Goto and Takayuki Itoh

ESP-NOW MIDI Protocol and Enomik (ESP-NOW MIDI Kit): Wired and Wireless MIDI Devices With an Optional Code-Free Workflow 382
Thomas Geissl

A MULTI-PROTOCOL ADAPTIVE MICROTUNING ARCHITECTURE: BRIDGING MTS, MPE, AND MIDI 2.0 FOR STRUCK-STRING JUST INTONATION 388
Rui Su, Joseph Timoney and Damián Keller

TidalBind: Towards Interactive Real-Time Control And Declarative Mapping In Live Coding 395
Gordan Kreković and Antonio Pošćić

Programming a music performance instrument for a wandering mind and clumsy hands 400
Jean-Philippe Drecourt

Humanoid Musical Robots as Experimental Interfaces for Music-Evoked Emotion 407
Vincent Cheung and Jia-Yeu Lin

EFFECT-TIME CUE SCHEDULING FOR DISTRIBUTED GAZE-BASED MUSICAL PERFORMANCE 414
Doohyun Jung

CHALLENGES FOR EYE-TRACKING IN NATURALISTIC MUSIC-READING SETUPS: A PILOT STUDY 419
Charlotte Schneider

INCLUSIVE PERFORMATIVE ECOSYSTEMS: AI, BCI, AND BIOFEEDBACK FOR ACCESSIBLE MUSICAL INTERACTION 426
Sara Montagni