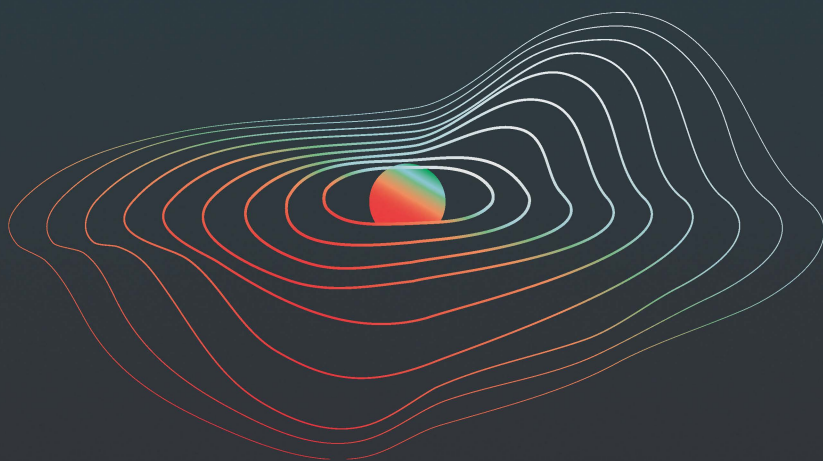


International Conference for Auditory Display (ICAD 2024)



ICAD 2024
International Conference on Auditory Display
June 24–28, 2024

First held in 1992, ICAD is a highly interdisciplinary conference with relevance to researchers, practitioners, artists, and graduate students working with sound to convey and explore information. The conference is unique in its specific focus on auditory displays and the range of interdisciplinary issues related to their use. This year's theme is Sonification // Spatialization, a blending of ICAD's expertise in sonification with EMPAC's expertise in spatialized audio. Spatialization offers sonification additional dimensions for conveying information. EMPAC's state-of-the-art spatial audio systems include a 512-channel wave field synthesis array with the highest spatial aliasing frequency in the world and multiple permanently installed higher-order ambisonic arrays.

WIFI

eduroam or Rensselaer's public WiFi network: rpi_public_webauth
Sessions will timeout after about 15 minutes.
Simply reconnect to start a new session.

PARKING

There is free street parking along **8th Street** and **College Avenue**.
If the College Avenue Garage is open, you can park at 67 College Avenue behind EMPAC.
See map on website for more information.
The 2-hour limit signs can be ignored on 8th Street.

VENUES

All events will take place within **EMPAC at 50 8th Street**.

7th Floor

Check-in, Lobby, and Studio Beta

6th Floor

Mezzanine

5th Floor

EMPAC Studio 2
Evelyn's Cafe at EMPAC

4th Floor

EMPAC Theater

MORE INFO AT
ICAD2024.ICAD.ORG



KEYNOTE BIOS

Braxton Boren

Associate Professor of Audio Technology
American University

Braxton Boren is Associate Professor of Audio Technology at American University. He received a BA in Music Technology from Northwestern University in 2008. He was awarded a Gates Cambridge Scholarship to attend the University of Cambridge, where he earned his MPhil in Physics in 2010. He completed his PhD in Music Technology at NYU's Music and Audio Research Laboratory in 2014. He worked as a postdoctoral researcher at Princeton University's 3D Audio and Applied Acoustics Laboratory from 2014–2016. Braxton's research focuses on using acoustic simulation techniques to allow musicians to hear and perform in virtual spaces that no longer exist.

Eric Lyon

Professor of Practice
Virginia Tech

Eric Lyon is a composer and audio researcher. His software includes "FFTease" and "LyonPotpourri." He is the author of "Designing Audio Objects for Max/MSP and Pd," and "Automated Sound Design," a book that presents technical processes for implementing oracular synthesis and sound processing across a wide range of audio applications. Lyon's work has been recognized with a ZKM Giga-Hertz prize, MUSLAB award, the League ISCM World Music Days competition, and a Guggenheim Fellowship. Lyon is Professor of Practice in the School of Performing Arts at Virginia Tech, and is a Faculty Fellow at the Institute for Creativity, Arts, and Technology.

ORGANIZERS

Conference Co-chairs:
Samuel Chabot & Jonas Braasch

Installations & Demos Chair:
Samuel Chabot

Papers Co-chairs:
Tim Ziemer & Prithvi Ravi Kantan

Student ThinkTank Co-chairs:
Areti Andreopoulou & Niklas Rönnerberg

Posters & Extended Abstracts Chair:
Myounghoon Jeon "Philart"

Special Session on Spatial Audio:
Samuel Chabot & Todd Vos

Concert Chairs:
Samuel Chabot & Todd Vos

Steering Chair:
Matti Gröhn

Workshops & Tutorials Chairs:
Samuel Chabot & Derek Brock

Sustainability Advisor:
Thomas Hermann

TUESDAY, JUNE 25

8–9AM

Check-in + Coffee

9–11AM

Opening Remarks + Paper Session 1:
Astronomy

EMPAC Theater

11AM–NOON

Keynote: Braxton Boren

EMPAC Theater

NOON–1:30PM

Lunch

Evelyn's Café at EMPAC

1:30–3PM

Paper Session 2: ML + Analytics

EMPAC Theater

3–5PM

Paper Session 3: Life + Geosciences

EMPAC Theater

WEDNESDAY, JUNE 26

8–9AM

Check-in + Coffee

9–11AM

Paper Session 4: Tools, Games
+ Interaction

EMPAC Theater

11AM–NOON

Keynote: Eric Lyon

EMPAC Theater

NOON–1:30PM

Lunch

Evelyn's Café at EMPAC

1:30–3PM

Paper Session 5: Spatialization

EMPAC Theater

3–5PM

Spatial Audio + Immersive Demos

EMPAC Theater

5–6PM

Break + Light Reception

Evelyn's Café at EMPAC

6–8PM

Concert

EMPAC Theater

THURSDAY, JUNE 27

8–9AM

Check-in + Coffee + Board Elections

9–11AM

Morning Workshops

Simon Linke

EMPAC Theater

Robert Whalen, Katherine Skovira,

Jonas Braasch

EMPAC Studio 2

11AM–NOON

Demos + Posters

Throughout EMPAC

NOON–1:30PM

Lunch

Evelyn's Café at EMPAC

1:30–3:30PM

Afternoon Workshop

Bruce Walker and Auralee Walmer

EMPAC Theater

3:30–5PM

Demos + Posters

Throughout EMPAC

Evening

Organized Event

FRIDAY, JUNE 28

8–9AM

Check-in + Coffee

9AM–NOON

Paper Session 6: Sustainability

EMPAC Theater

NOON–1:30PM

Open Mic + Closing Remarks

EMPAC Theater

WORKSHOPS

Exploring the Impulse Pattern Formulation as a physically motivated sonication framework

Simon Linke

Hands-On Workshop on Creating Multimodal (Audio and Visual) Graphs Using the Highcharts Sonification Studio

Bruce N. Walker and Auralee Walmer

Developing New Models for Prosody and Expression in Augmentative Assistive Communication Devices

Robert Whalen

Real-Time Voice Mapping

Katherine Skovira

PAPER SESSION 1: ASTRONOMY | TUESDAY, 9–11AM

Accessible Sonification of Total Solar Eclipse 2024:

Accessible Map and Multimodal Virtual Reality Experience

Auralee Walmer, Nicolette Cash, Wenqing Yin, Teairis Majors, Brandon Biggs, and Bruce Walker

*Auralization of Magnetic Multiscale Satellite Data: Toward Integrated Audification in Space Science**

Kristina Collins, Robert Alexander, Jaye Verniero, and Robert Candey

Spin-Wave Voices: Sonification of Nanoscale Spin Waves as an Engagement and Possible Research Tool

Santa Pile, Oleg Lesota, Silvan David Peter, Christina Humer, and Martin Gasser

*Schizosymphony: \ From Schizophrenia Brainwaves to Narrative Soundscapes**

Hyunkyung Shin, Xinhui Li, Zening Fu, and Henrik von Coler

PAPER SESSION 2: ML + ANALYTICS | TUESDAY, 1:30–3PM

SOMson – Sonification of Multidimensional Data in Kohonen Maps

Simon Linke and Tim Ziemer

*Interpreting Data through Creative Audiovisualisation (IDCA)**

Louise Harris

*Multidimensional cross-correlated datasets extraction from reference audio files**

Marco Cernuto and Renato Messina

Artificial Life in Integrated Interactive Sonification and Visualisation: Initial Experiments with a Python-Based Workflow

Jack Armitage, Miguel Crozzoli, and Daniel Jones

PAPER SESSION 3: LIFE + GEOSCIENCES | TUESDAY, 3–5PM

Iterative Design of Auditory Displays Involving Data Sonifications and Authentic Ocean Data

Jon Bellona, Huaigu Li, Jessica Roberts, Amy Bower, and Leslie Smith

Audio-visual Analytics of Geoscientific Data with Immersive Interactions

Shamima Yasmin and Chowdhury Qaizar Jamal

Sounding Numbers: The Sonification Object as an Interface in “I am the Ocean”

Miguel Crozzoli and Thor Magnusson

DNA Sonification Using 8-Channel Audio for Data Analyses and Music Composition

Mark Temple

Cenotaph and Elegy of Contagion: Collective Immersion of National-Level COVID-19 Fatality Data in the United States

M. Jerry Huang, Stephanie Loveless, and Jonas Braasch

PAPER SESSION 4: TOOLS, GAMES + INTERACTION | WEDNESDAY, 9-11AM

Results from the CURAT Sonification Game

Tim Ziemer

Accessibility of Shooting Task for Blind and Visually Impaired: A Sonification Method Comparison

Florian Apavou, Tifanie Bouchara, and Patrick Bourdot

Pitch is More Efficient than Delay to Induce Weight Perception in Augmented Reality

Louis Lafuma, Guillaume Bouyer, Olivier Goguel, and Jean-Yves Didier

Temporal Imagery for Aural Diversity: Auditory Displays as Artifacts of Sonic Art Encounters Between Unaided and Cochlear Implant Listeners

Sharath Chandra Ramakrishnan

Adapting Audio Mixing Principles and Tools to Parameter Mapping Sonification Design

Prithvi Kantan, Sofia Dahl, and Erika G. Spaich

PAPER SESSION 5: SPATIALIZATION | WEDNESDAY, 1:30-3PM

Influence of Recording Technique and Ensemble Size on Apparent Source Width

Renzhi Guo and Jonas Braasch

CoRoT Light Curve Ambsonics/Binaural Sonification

Adrian Garcia Riber and Francisco Serradilla Garcia

Exploring Spatialization: A Method for Subjective Assessment of Soundscape Preference Using Immersive Environments

Milena Jonas Bem, Samuel Chabot, and Jonas Braasch

*A Spatial Audio System for Co-Located Multi-Participant Extended Reality Experiences**

Yi Wu, Agnieszka Roginska, Keru Wang, Zhu Wang, and Ken Perlin

PAPER SESSION 6: SUSTAINABILITY | FRIDAY, 9AM-12PM

AmbiSynth - Monitoring Room Climate with Generative Modular Synthesizers

Markus Berger and Joern Ploennigs

Birdsongification: Contextual and Complementary Sonification for Biology Visualization

Elias Elmquist, Malin Ejdbo, Alexander Bock, David S. Thaler, Anders Ynnerman, and Niklas Rönnerberg

Composing Music from Black Hole AGN Spectra

David Ibbett

Exploring the Acoustic Footprint of Tourism: Spatial Capture, Analysis, and Preliminary Evaluation of the Naxos's Island Soundscape

Giorgos Dedousis, Konstantinos Bakogiannis, Emmanouil Lianis, and Areti Andreopoulou

EMPAC STAFF

Catherine Abbott / Curatorial Project Manager
Katherine C.M. Adams / Associate Curator, Time-Based Visual Arts
Dave Bebb / Senior Network Administrator
Peter Bellamy / Senior Systems Administrator
Jonas Braasch / Associate Director, Research
Shannon Briggs / Research Associate
Eric Brucker / Lead Video Engineer
Samuel Chabot / Research Engineer
Gordon Clement / Integration Engineer
John Cook / Operations Manager,
Box Office & Front of House
Dorothy Dávila-Evans / Guest Services Coordinator
David DeLaRosa / Desktop Support Analyst
Sarah Feagan / Artist Services Coordinator
Kimberly Gardner / Manager, Administrative Operations
Michael Hanrahan / Senior Event Technician
Ryan Jenkins / Senior Video Engineer
Shannon Johnson / Manager, Web
Michael A. Lake / Master Carpenter
Robin Massey / Senior Business Administrator
Stephen McLaughlin / Senior Audio Engineer
Alvis Mosely / Senior Event Technician, Video
Kallen Muste / Production Technician, Shops
Caroline Nelson / Curatorial Administrator
Madison Noel / Operations Coordinator
Sam O'Connor / Production Technician, Venues
Suzanne Pohl / Business Coordinator
Amadeus Julian Regucera / Curator, Music
Andrew Smith / Operations Coordinator
Kim Strosahl / Production Coordinator
Jeff Svatek / Senior Audio Engineer
Kathryn TeBordo / Manager, Communications and Grants
Michael Valiquette / Graphic Designer
Stephanie Van Sandt / Director for Stage Technologies
Todd Vos / Lead Audio Engineer
David Whalen / Research Scientist

EMPAC 2024 Spring is made possible by Rensselaer Polytechnic Institute.
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