

MARK CARTWRIGHT

Brooklyn, NY

www.markcartwright.com

RESEARCH INTERESTS

I research and develop methods and tools to support new interactions for understanding and creating sound.

Keywords: machine listening, human-computer interaction, sound and music AI, machine learning, audio, music, environmental sound, sound accessibility, crowdsourcing, creativity support tools, human-AI interaction, music information retrieval, digital signal processing

CURRENT APPOINTMENT

New Jersey Institute of Technology, Newark, NJ

Assistant Professor, Department of Informatics

Jan. 2021 – present

Core Faculty, Center for AI Research

Sep. 2021 – present

EDUCATION

Northwestern University, Evanston, IL

2016

Ph.D., Computer Science

Dissertation: Supporting Novice Communication of Audio Concepts for Audio Production Tools

Committee: Bryan Pardo (advisor), Darren Gergle, Doug Downey

Stanford University, Stanford, CA

2007

M.A., Music Science and Technology

Advisor: Julius O. Smith III

Northwestern University, Evanston, IL

2004

B.Mus., Music Technology (with Honors)

Certificate in Sound Design

Advisor: Gary Kendall

PROFESSIONAL EXPERIENCE

New Jersey Institute of Technology, Newark, NJ

Assistant Professor, Department of Informatics

Jan. 2021 – present

Graduate Faculty, Department of Computer Science

Sep. 2023 – present

Core Faculty, Center for AI Research

Sep. 2021 – present

New York University, New York, NY

Affiliated Faculty, Music and Audio Research Lab

Sep. 2021 – present

Research Assistant Professor, Dept. of Computer Science and Engineering

Jan. 2019 – Dec. 2020

Research Scientist, Center for Urban Science and Progress

Jan. 2019 – Dec. 2020

Postdoctoral Researcher, Dept. Music and Performing Arts Professions

Sep. 2016 – Dec. 2018

Music and Audio Research Laboratory; P.I.: Juan Pablo Bello

Northwestern University, Evanston, IL
Research Assistant, Dept. of Electrical Engineering and Computer Science
Interactive Audio Lab; P.I.: Bryan Pardo Sep. 2009 – Aug. 2016

Adobe Systems, San Francisco, CA
Research Intern, Adobe Research Feb. 2015 – May 2015
Creative Technologies Lab; Mentors: Gautham Mysore and Matt Hoffman

Queen Mary University of London, London, UK
Visiting Student Researcher, Department of Electronic Engineering
Center for Digital Music; Hosts: Josh Reiss and Andrew McPherson Feb. 2013 – Nov. 2013

PacketVideo, Palatine, IL
Digital Signal Processing Engineer Sep. 2007 – Aug. 2009

Big House Audio, Chicago, IL
Audio Post Production Engineer Nov. 2005 – May 2006

RESEARCH FUNDING

Collaborative Research: HCC: Medium: AI-Supported Audio Captioning of Non-Speech Information Jul 15, 2025 – Jun 30, 2028
National Science Foundation – CISE HCC Core program (\$799,997)
PI: Mark Cartwright, Co-PI: Magdalena Fuentes, Sooyeon Lee

Unrestricted Gift May 27, 2025
Adobe, Inc (\$18,000)
PI: Mark Cartwright

Sound Captioning for Accessibility Jun 1, 2023 – May 31, 2025
Music and Audio Research Lab (MARL) Faculty Seed Grant (\$8,000)
PI: Magdalena Fuentes, Co-PI: Mark Cartwright, Sooyeon Lee

III: Medium: Spatial Sound Scene Description Jul 1, 2020 – Aug 31, 2024
National Science Foundation – CISE III Core program (\$1,056,155)
PI: Juan Pablo Bello, Co-PI: Agnieszka Roginska, Mark Cartwright, Brian McFee

Open World Sound Event Recognition in Longitudinal Audio Data 2021–2022
NJIT Faculty Seed Grant (\$7,500)
PI: Mark Cartwright

HONORS, AWARDS, AND FELLOWSHIPS

IEEE WASPAA Special Best Paper Award 2021
Northwestern University Terminal Year Fellowship 2016
ACM CHI Best Paper Award Honorable Mention 2015
ACM Multimedia Best Demo Award 2014

PUBLICATIONS

Journal Publications

8. May, L., Clemens, M., Dang, K., Ohshiro, K., Sridhar, S., Wee, P., Fuentes, M., Lee, S., Cartwright, M. ‘Choices? That’s The Dream’: Challenges and Opportunities in Non-Speech Information Closed-Captioning. In *Frontiers in Computer Science (sec. Human-Media Interaction)*, vol. 7, 2025.
7. Knight, E.C., Rinehart, T.A., de Zwaan, D, Weldy, M.J., Cartwright, M., Hawley, S., Larkin, J.L., Lesmeister, D., Bayne, E.M., Kitzes, J. Individual Identification in Acoustic Recording. In *Trends in Ecology and Evolution*, vol. 39 (9), 2024.
6. Rulff, J., Miranda, F., Hosseini, M., Lage, M., Cartwright, M., Dove, G., Bello, J.P., Silva, C. Urban Rhapsody: Large-scale Exploration of Urban Soundscapes. In *Computer Graphics Forum*, vol. 41(3), pp. 209–221, 2022.
5. Mendez, A.E.M., Cartwright, M., Bello, J.P., Nov, O. Eliciting Confidence for Improving Crowdsourced Audio Annotations. In *Proceedings of the ACM on Human-Computer Interaction*, vol. 6(CSCW1), 2022.
4. Pardo, B., Cartwright, M., Seetharaman, P., Kim, B. Learning to Build Natural Audio Production Interfaces. In *Arts*, vol. 8(3), 110, 2019.
3. McFee, B., Kim, J.W., Cartwright, M., Salamon, J., Bittner, R., Bello, J.P. Open-Source Practices for Music Signal Processing Research: Recommendations for Transparent, Sustainable, and Reproducible Audio Research. In *IEEE Signal Processing Magazine*, vol. 36(1), 2019.
2. Lostanlen, V., Salamon, J., Cartwright, M., McFee, B., Farnsworth, A., Kelling, S., Bello, J.P. Per-Channel Energy Normalization: Why and How. In *IEEE Signal Processing Letters*, vol. 26(1), 2019.
1. Cartwright, M., Seals, A., Salamon, J., Williams, A., Mikloska, S., MacConnell, D., Law, E., Bello, J.P., Nov, O. Seeing Sound: Investigating the Effects of Visualizations and Complexity on Crowdsourced Audio Annotations. In *Proceedings of the ACM on Human-Computer Interaction*, vol. 1(CSCW), 2017.

Refereed Conference and Workshop Publications

45. Morse, J., Naderi, A., Gaudl, S., Cartwright, M., Hoover, A., Nelson, M.J. Expressive Range Characterization of Open Text-to-Audio Models. In *Proceedings of the AAAI conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE)*, 2025.
44. Anaraky, R., Cartwright, M., Nov, O. The Role of Auditory Environments and Anxiety in Detecting Phishing Emails. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2025.
43. Ohshiro, K., Cartwright, M. Audio Engineering for Podcasts by deaf and Hard of Hearing Creators. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2025.
42. Sridhar, S., Cartwright, M. Compositional Audio Representation Learning. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2025.

41. May, L., Williams, A., Hassan, S., Cartwright, M., Lee, S. Towards a Rich Format for Closed Captioning. In *Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2024.
40. May, L., Ohshiro, K., Dang, K., Sridhar, S., Pai, J., Fuentes, M., Lee, S., Cartwright, M. Unspoken Sound: Identifying Trends in Non-Speech Audio Captioning on YouTube. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.
39. Ohshiro, K., Cartwright, M. Audio Engineering by People Who Are Deaf and Hard of Hearing: Balancing Confidence and Limitations. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2024.
38. Sridhar, S., Cartwright, M. Multi-label Open-set Audio Classification. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2023.
37. Cartwright, M., Fuentes, M., Mydlarz, C., Miranda, F., Bello, J.P. Does a quieter city mean fewer complaints? The Sounds of New York City During COVID-19 Lockdown. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2023.
36. Ohshiro, K., Cartwright, M. How people who are deaf, Deaf, and hard of hearing use technology in creative sound activities. In *Proceedings of International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2022.
35. Wang, Y., Cartwright, M., Bello, J.P. Active Few-Shot Learning for Sound Event Detection. In *Proceedings of INTERSPEECH*, 2022.
34. Srivastava, S., Wu, H., Rulff, J., Fuentes, M., Cartwright, M., Silva, C., Arora, A., Bello, J.P. A Study on Robustness to Perturbations for Representations of Environmental Sound. In *Proceedings of the European Signal Processing Conference (EUSIPCO)*, 2022.
33. Fuentes, M., Zhao, D., Lostanlen, V., Cartwright, M., Mydlarz, C., Bello, J.P. MONYC: Music of New York City Dataset. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2021.
32. Cramer, A., Cartwright, M., Pishdadian, F., Bello, J.P. Weakly Supervised Source-Specific Sound Level Estimation in Noisy Soundscapes. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2021.
31. Wang, Y., Bryan, N., Salamon, J., Cartwright, M., Bello, J.P. Who calls the shots? Rethinking few-shot learning for audio. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2021. **Special Best Paper Award**
30. Wang, Y., Bryan, N., Cartwright, M., Bello, J.P., Salamon, J. Few-Shot Continual Learning for Audio Classification. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021.
29. Srivastava, S., Roy, D., Cartwright, M., Bello, J.P., Arora, A. Specialized Embedding Approximation for Edge Intelligence: A Case Study in Urban Sound Classification. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021.
28. Cartwright, M., Cramer, A., Mendez, A.E.M., Wang, Y., Wu, H., Lostanlen, V., Fuentes, M., Dove, G., Mydlarz, C., Salamon, J., Nov, O., Bello, J.P. SONYC-UST-V2: An Urban Sound Tagging Dataset with Spatiotemporal Context. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2020.
27. Wang, Y., Salamon, J., Cartwright, M., Bryan, N.J., Bello, J.P. Few-Shot Drum Transcription in Polyphonic Music. In *Proceedings of the International Society for on Music Information Retrieval Conference (ISMIR)*, 2020.

26. Cartwright, M., Mendez, A.E.M., Cramer, J., Lostanlen, V., Dove, G., Wu, H., Salamon, J., Nov, O., Bello, J.P. SONYC Urban Sound Tagging (SONYC-UST): A Multilabel Dataset from an Urban Acoustic Sensor Network. In *Proceedings of the Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2019.
25. Cartwright, M., Cramer, J., Salamon, J., Bello, J.P. TriCycle: Audio Representation Learning from Sensor Network Data Using Self-Supervision. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2019.
24. Cohen-Hadria, A., Cartwright, M., McFee, B., Bello, J.P. Voice Anonymization in Urban Sound Recordings. In *Proceedings of the IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2019.
23. Mendez, A.E.M., Cartwright, M., Bello, J.P. Machine-Crowd-Expert Model for Increasing User Engagement and Annotation Quality. In *Proceedings of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA)*, 2019.
22. Kumari, S., Roy, D., Cartwright, M., Bello, J.P., Arora, A. EdgeL3: Compressing L3-Net for Mote Scale Urban Noise Monitoring. In *Proceedings of the Workshop on Parallel AI and Systems for the Edge (PAISE)*, 2019.
21. Wang, Y., Mendez, A.E.M., Cartwright, M., Bello, J.P. Active Learning for Efficient Audio Annotation and Classification with a Large Amount of Unlabeled Data. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2019.
20. Cartwright, M., Dove, G., Mendez, A.E.M., Bello, J.P., Nov, O. Crowdsourcing Multi-label Audio Annotation Tasks with Citizen Scientists. In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI)*, 2019.
19. Cartwright, M., Bello, J.P. Increasing Drum Transcription Vocabulary Using Data Synthesis. In *Proceedings of the International Conference on Digital Audio Effects (DAFx)*, 2018.
18. Cartwright, M., Salamon, J., Seals, A., Nov, O., Bello, J.P. Investigating the Effect of Sound-Event Loudness on Crowdsourced Audio Annotations. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.
17. Cartwright, M., Pardo, B., Mysore, G. Crowdsourced Pairwise-Comparison for Source Separation Evaluation. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2018.
16. Salamon, J., MacConnell, D., Cartwright, M., Li, P., Bello, J.P. Scaper: A Library for Soundscape Synthesis and Augmentation. In *Proceedings of the IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2017.
15. Cartwright, M., Pardo, B. The Moving Target in Creative Interactive Machine Learning. In *Proceedings of the Workshop on Human Centred Machine Learning (HCML)* at the Conference on Human Factors in Computing Systems (CHI), 2016.
14. Brewer, R., Cartwright, M., Karp, A., Pardo, B., Piper, A.M. An Approach to Audio-Only Editing for Visually Impaired Seniors. In *Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2016.
13. Cartwright, M., Pardo, B., Mysore, G., Hoffman, M. Fast and Easy Crowdsourced Perceptual Audio Evaluation. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2016.
12. Ford, J., Cartwright, M., Pardo, B. MixViz: A Tool to Visualize Masking in Audio Mixes. In *Proceedings of the 139th International Audio Engineering Society Convention (AES)*, 2015.

11. Cartwright, M., Pardo, B. VocalSketch: Vocally Imitating Audio Concepts. In *Proceedings of ACM Conference on Human Factors in Computing Systems (CHI)*, 2015. **Best Paper Award Honorable Mention**
10. Cartwright, M., Pardo, B. SynthAssist: An Audio Synthesizer Programmed With Vocal Imitation. In *Proceedings of the ACM International Conference on Multimedia (ACM MM)*, 2014. **Best Demo Award**
9. Cartwright, M., Pardo, B. SynthAssist: Querying an Audio Synthesizer by Vocal Imitation. In *Proceedings of New Instruments for Musical Expression (NIME)*, 2014.
8. Cartwright, M., Pardo, B. Translating Sound Adjectives by Collectively Teaching Abstract Representations. In *Proceedings of the Collective Intelligence Conference*, 2014.
7. Cartwright, M., Pardo, B., Reiss, J. Mixploration: Rethinking the Audio Mixer Interface. In *Proceedings of the International Conference on Intelligent User Interfaces (IUI)*, 2014.
6. Cartwright, M., Pardo, B. Social-EQ: Crowdsourcing an Equalization Descriptor Map. In *Proceedings of the International Conference on Music Information Retrieval (ISMIR)*, 2013.
5. Cartwright, M., Pardo, B. Novelty Measures as Cues for Temporal Salience in Audio Similarity. In *Proceedings of the Workshop on Music Information Retrieval with User-Centered and Multimodal Strategies (MIRUM)* at the ACM International Conference on Multimedia (ACM-MM), 2012.
4. Cartwright, M., Pardo, B. Building a Music Search Database Using Human Computation. In *Proceedings of the Sound and Music Computing Conference (SMC)*, 2012.
3. Cartwright, M., Rafii, Z., Han, J., Pardo, B. Making Searchable Melodies: Human vs. Machine. In *Proceedings of the Workshop on Human Computation (HCOMP)* at the AAAI Conference on Artificial Intelligence (AAAI), 2011.
2. Huq, A., Cartwright, M., Pardo, B. Crowdsourcing a Real-World On-Line Query By Humming System. In *Proceedings of the Sound and Music Computing Conference (SMC)*, 2010.
1. Cartwright, M., Jones, M., Terasawa, H. Rage in Conjunction with the Machine. In *Proceedings of New Instruments for Musical Expression (NIME)*, 2007.

Non-Refereed Publications

2. Cartwright, M., Pardo, B. Audio Production with Intelligent Machines. Presented at Workshop on *Collaborating with Intelligent Machines: Interfaces for Creative Sound*, ACM Conference on Human Factors in Computing Systems (CHI), 2015.
1. Cartwright, M., Pardo, B. Interactive Learning for Creativity Support in Music Production. Presented at Workshop on *Semi-Automated Creativity*, ACM Creativity and Cognition, 2011.

Patents

1. Cartwright, M., Pardo, B. "Systems, Methods, and Apparatus to Search Audio Synthesizers using Vocal Imitation," U.S. Patent US9390695B2, filed October 27, 2015, and issued July 12, 2016.

INVITED LECTURES, SEMINARS, AND PANELS

23. New York University MARL Seminar
"Update on Accessible Audio Captioning"

November 7, 2024

22. Audio Engineering Society Symposium on AI and the Musician June 7, 2024
“How will generative AI reshape music?” (Moderator)
21. New York University MARL Seminar November 8, 2023
“Accessible Audio Captioning”
20. Workshop on the Detection and Classification of Acoustic Scenes and Events September 22, 2023
“Townhall Discussion” (Moderator)
19. 184th Meeting of the Acoustical Society of America May 11, 2023
“A Retrospective on Monitoring Noise Pollution with Machine Learning in the Sounds of New York City Project”
18. New York University MARL / IDM Seminar March 3, 2022
“Human-Centered Machine Listening and Audio Processing”
17. New Jersey Institute of Technology Informatics Seminar February 24, 2020
“Machine Listening with Limited Labeled Data: From Crowdsourcing to Self-Supervision”
16. New York University Center for Data Science Seminar February 6, 2019
“Building a Machine-Listening System to Monitor, Analyze, and Mitigate Urban Noise Pollution”
15. Audio Engineering Society Latin American Conference Keynote September 24, 2018
“Building a Machine-Listening System to Monitor, Analyze, and Mitigate Urban Noise Pollution”
14. Cornell Tech May 11, 2018
“Crowdsourcing Audio Annotations”
13. University of Victoria March 8, 2018
“Human-Centered Audio Processing”
12. Midwest Music and Audio Day (MMAD) June 23, 2017
“A Study on Best Practices for Crowdsourced Annotation of Sound Events”
11. Workshop on Cross-Disciplinary and Multi-Cultural Perspectives on Musical Rhythm and Improvisation III, NYU Abu Dhabi March 21, 2017
“Towards Data-Driven Models of Rhythm”
10. New York University Music and Audio Research Lab (MARL) Seminar October 20, 2016
“Give me a <ka-CHUNK>’: Rethinking the Interaction Paradigm of Audio Production Tools”
9. University of Washington DUB Seminar June 1, 2016
“Give me a <ka-CHUNK>’: Rethinking the Interaction Paradigm of Audio Production Tools”
8. University of Toronto April 7, 2016
“Give me a <ka-CHUNK>’: Rethinking the Interaction Paradigm of Audio Production Tools”
7. University of Illinois at Chicago March 2, 2016
“Give me a <ka-CHUNK>’: Rethinking the Interaction Paradigm of Audio Production Tools”
6. Bay Innovative Signal Hackers (BISH) Bash September 17, 2015
“Crowdsourced Audio Quality Evaluation”
5. KAIST (Korea Advanced Institute of Science and Technology) April 24, 2015
“Natural Communication and Exploration in Audio Production Interfaces”
4. Birmingham City University August 6, 2014
“Natural Communication and Exploration in Audio Production Interfaces”
3. Institut de Recherche et Coordination Acoustique/Musique (IRCAM) July 4, 2014
“Natural Communication and Exploration in Audio Production Interfaces”

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| 2. Midwest Music Information Retrieval Gathering (MMIRG)
“SynthAssist: Querying a Synthesizer Using Vocal Imitation” | June 14, 2014 |
| 1. Telecom Paristech
“Building a Personalized Audio Equalizer Interface” | June 13, 2013 |

TUTORIALS

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| 1. International Society for on Music Information Retrieval Conference
“Programming MIR Baselines from Scratch: Three Case Studies” | 2021 |
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ACADEMIC SERVICE

University

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| Merit Rubric Committee of the Department of Informatics | 2024 |
| Chair Search Committee of the Department of Informatics | 2022–2023 |
| Faculty Search Committee of the Department of Informatics | 2021–2023 |

Conference Organization

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| Finance Chair, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics | 2023, 2025 |
| General Chair, Northeast Music Informatics Special Interest Group (NEMISIG) Workshop | 2022 |
| General Co-Chair, Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE) | 2019 |
| Local Organizing Committee, Midwest Music Information Retrieval Gathering | 2011, 2014 |

Challenge Organization

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| Task Organizer, IEEE AASP Challenge on Detection and Classification of Acoustic Scenes and Events | 2019–2020 |
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Steering Committee

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| Workshop on Detection and Classification of Acoustic Scenes and Events | 2023–present |
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Technical Committee

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| IEEE SPS Audio and Acoustic Signal Processing Technical Committee | 2023–present |
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Grant Reviewing

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| National Science Foundation | 2023–2024 |
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Program Committee

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| International Society for Music Information Retrieval Conference | 2020–2021, 2025 |
| IEEE Workshop on Applications of Signal Processing to Audio and Acoustics | 2025 |
| IEEE International Conference on Acoustics, Speech, and Signal Processing | 2025 |
| ACM Conference on Computer-Supported Cooperative Work and Social Computing | 2021 |
| International Conference on Digital Audio Effects | 2018 |

Journal Reviewing

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| Journal of the Acoustical Society of America, IEEE Transactions on Audio, Speech and Language Pro- | |
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cessing, International Journal of High School Research, Journal of New Music Research, ACM Transactions on Accessible Computing, PLOS One, IEEE Signal Processing Letters, International Journal of Digital Earth, MDPI Applied Sciences, IEEE Transactions on Multimedia, Elsevier Machine Learning with Applications, Journal of the Audio Engineering Society, Acta Acustica united with Acustica, IEEE Signal Processing Magazine, ACM Transactions on Interactive Intelligent Systems, Springer Journal on Multimodal User Interfaces, Springer Information Retrieval Journal

Conference Reviewing

ACM SIGCHI Conference on Human Factors in Computing Systems, Workshop on Detection and Classification of Acoustic Scenes and Events, IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, International Society for Music Information Retrieval Conference, IEEE International Conference on Acoustics, Speech, and Signal Processing, ACM Symposium on User Interface Software and Technology, European Signal Processing Conference, International Conference on Digital Audio Effects, ACM Conference on Computer-Supported Cooperative Work and Social Computing, ACM Conference on Creativity and Cognition, International AAAI Conference on Web and Social Media, ACM IUI Workshop on Intelligent Music Interfaces for Listening and Creation, ACM International Conference on Intelligent User Interfaces, ACM International Conference on Multimedia, ACM International Conference on Tangible, Embedded and Embodied Interaction, International Computer Music Conference, International Conference on Human-Computer Interaction with Mobile Devices and Services, IEEE International Workshop on Multimedia Signal Processing

Doctoral Thesis Committee

Danzel Serrano, New Jersey Institute of Technology	2025
Enis Coban, City University of New York	2024–2025
Hoo Phuoc Dang, New Jersey Institute of Technology	2025
Tom Xi, New York University	2025
Charis Cochran, Drexel University	2025
Al Shahriar Rubel, New Jersey Institute of Technology	2025
Jiaxing Zhang, New Jersey Institute of Technology	2023–2025
Wenbo Wang, New Jersey Institute of Technology	2023–2025
Kantida Nanon, New Jersey Institute of Technology	2023–2024
Andrew Wiggins, Drexel University	2023–2024
Ana Elisa Mendez Mendez, New York University	2021–2023

Doctoral Thesis Reading

Toni Heittola, Tampere University	2021
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Doctoral Candidacy Committee

Al Shahriar Rubel, New Jersey Institute of Technology	2024
Jiaxing Zhang, New Jersey Institute of Technology	2022
Charis Cochran, Drexel University	2022
Wenbo Wang, New Jersey Institute of Technology	2022

Kantida Nanon, New Jersey Institute of Technology 2022

Other Academic Service

Mentor, Women in Music Information Retrieval mentoring program 2019–2025

TEACHING EXPERIENCE

Courses

Instructor, IS-665 Data Analysis for Information Systems 2025
New Jersey Institute of Technology

Instructor, IS-465 Advanced Information Systems 2024
New Jersey Institute of Technology

Instructor, CS-698 ST: Machine Listening 2023
New Jersey Institute of Technology

Instructor, CS-485/IS-485 ST: Machine Listening 2022–2023
New Jersey Institute of Technology

Instructor, IS-247 Designing the User Experience 2022–2023
New Jersey Institute of Technology

Instructor, IS-657 Spatiotemporal Urban Analytics 2021
New Jersey Institute of Technology

Instructor, IS-485/698 ST: Machine Listening 2021
New Jersey Institute of Technology

Teaching Assistant, EECS-352 Machine Perception of Audio and Music 2015
Northwestern University

Teaching Assistant, DSGN 395-20 Data as Art 2014
Northwestern University / School of the Art Institute of Chicago

Teaching Assistant, EECS-349 Machine Learning 2012
Northwestern University

Teaching Assistant, EECS-348 Introduction to Artificial Intelligence 2011
Northwestern University

Doctoral Advising

Keita Ohshiro, New Jersey Institute of Technology Expected 2026

Sripathi Sridhar, New Jersey Institute of Technology Expected 2026

Masters Advising

Aaron Basch, New Jersey Institute of Technology 2022

Danzel Serrano, New Jersey Institute of Technology 2022

Student Mentorship

Naevid-Lorenz Sablay, Undergraduate, New Jersey Institute of Technology 2025

Jonathan Morse, Undergraduate, New Jersey Institute of Technology	2024–2025
Alp Hance, Undergraduate, New Jersey Institute of Technology	2023–2025
Matthew DeFranceschi, Undergraduate, New Jersey Institute of Technology	2024
Mithun Manivannan, Undergraduate, New Jersey Institute of Technology	2024
Krishi Shah, Undergraduate, New Jersey Institute of Technology	2024
Jhanvi Pai, Undergraduate, New Jersey Institute of Technology	2022–2023
Vignesh Nethrapalli, Undergraduate, New Jersey Institute of Technology	2023
Sangeeta Srivastava, Doctoral, Ohio State University	2018–2022
Yu Wang, Doctoral, New York University	2018–2022
Ana Elisa Mendez Mendez, Doctoral, New York University	2017–2022
Simran Kaur, Undergraduate, New Jersey Institute of Technology	2022
Mehakpreet Kaur, Undergraduate, New Jersey Institute of Technology	2022
Anthony Detorfino, Undergraduate, New Jersey Institute of Technology	2022
Aurora Cramer, Doctoral, New York University	2018–2021
Danielle Zhao, Undergraduate, New York University	2020
Marin Hyatt, High School Senior, New York University ARISE	2019–2020
Center for Urban Science and Progress capstone project, New York University	2020
Center for Data Science capstone project, New York University	2019
Bianca Brusco, Masters, New York University	2018–2019
Alice Cohen-Hadria, Doctoral, IRCAM	2019
Center for Urban Science and Progress capstone project, New York University	2019
Gregory Reardon, Masters, New York University	2018
Giordan Escalona, High School Junior, New York University ARISE	2018
Ariadna Paltis, High School Junior, New York University ARISE	2017
Naomi Horsford, High School Senior, New York University ARISE	2017
Ayanna Seals, Doctoral, New York University	2016–2017
Aaron Karp, Undergraduate Junior, Northwestern University	2016
Jonathan Ford, Masters Student, Northwestern University	2015
David Sumber, Undergraduate Senior, Northwestern University	2012

PRESS AND INTERVIEWS

PBS News Hour	July 10, 2025
“Opera uses AI to give people with non-verbal disabilities a voice”	
Forbes	June 16, 2025
“3D Sensing And AI Give Operatic Voice To Non-Verbal Performers”	

NPR Weekend Edition “Two nonverbal actors star in a new opera — with an assist from AI”	June 3, 2025
ABC 7 KETV Omaha “Sensorium Ex’ opera performs at the Common Sense Festival”	May 25, 2025
NJIT Research “Listening to Noise and Nature with Smart Ears”	June 22, 2022
New York Times “The Coronavirus Quieted City Noise. Listen to Whats Left”	May 22, 2020
NBC 4 New York “The City That Never Makes a Peep: NYCs Quietest Days on Record Have Come Amid Shutdown”	May 22, 2020
NPR Here and Now “Volunteers Flock To Sign Up As Citizen Scientists”	April 14, 2020
Big Picture Science “The ears have it—Noise: noxious or necessary?”	January 20, 2020
NPR Here and Now “Noise is New York City’s biggest civic complaint. Researchers are trying to help turn it down”	May 29, 2019
The New Yorker “Is noise pollution the next big public-health crisis?”	May 6, 2019
Gizmodo “You can help train AI to pinpoint NYCs noisiest neighborhoods in an effort to shut them up”	March 11, 2019
The Verge “Help fight noise pollution by identifying these sound clips collected from urban sensors”	March 10, 2019
NBC 4 New York “NYU Project Could Help Alleviate NYC Noise Pollution”	March 6, 2019
AM New York “Think you know the sounds of the city? Noise pollution experts needed”	March 5, 2019
Metro “You can help researchers curb NYC noise pollution as a citizen scientist”	February 28, 2019
MIT Technology Review “Query-by-Humming Musical Search Engine Launched”	July 23, 2010

ADDITIONAL EDUCATION

Stanford University , Stanford, CA Summer Institute for Entrepreneurship Graduate School of Business	July 2007
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ARTISTIC COLLABORATIONS

‘Sensorium Ex’ Opera, AI Systems Developer and Advisor	2024–2025
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MUSICAL DISCOGRAPHY

“Piñata” with <i>volcano!</i> , The Leaf Label	2012
“Piñata (single)” with <i>volcano!</i> , The Leaf Label	2012
“So Many Lemons (single)” with <i>volcano!</i> , The Leaf Label	2009
“Paperwork” with <i>volcano!</i> , The Leaf Label	2008
- New York Times “Critic’s Choice” (September, 2008)	
“Africa Just Wants To Have Fun (7-inch)” with <i>volcano!</i> , The Leaf Label	2008
“Apple or a Gun (7-inch)” with <i>volcano!</i> , The Leaf Label	2006
“Beautiful Seizure” with <i>volcano!</i> , The Leaf Label	2005
- DrownedInSound.com’s #2 Album of the Year (2006)	
“Chicago Union Station” with <i>Cartwright, Moorefield, Weeter</i>	2004
- Organised Sound DVD, Cambridge University Press (2004)	
- International Computer Music Conference DVD (2004)	

CONFERENCE / FESTIVAL PRESENTATION OF COMPOSITIONS

“Six Corners” by <i>Cartwright, Moorefield, Weeter</i>	
- Third Practice	2006
- New Music Northwestern Festival	2005
“Chicago Union Station” by <i>Cartwright, Moorefield, Weeter</i>	
- Electronic Music Midwest	2005
- Society for Electro-Acoustic Music in the United States	2005
- International Computer Music Conference	2004

SELECTED MUSICAL PERFORMANCES

<i>volcano!</i> at Daytrotter.com, Rock Island, IL	December 7, 2012
<i>volcano!</i> at WBEZ’s 848, Chicago, IL	June 12, 2012
<i>volcano!</i> at Millenium Park, Chicago, IL	May 31, 2010
<i>volcano!</i> at Tabula Rasa, Moscow, Russia	April 29, 2009
<i>volcano!</i> at SWN Festival, Cardiff, UK	November 24, 2008
<i>volcano!</i> at Botanique, Brussels, Belgium	November 5, 2008
<i>volcano!</i> at Interzona, Verona, Italy	October 25, 2008
<i>volcano!</i> at Radio RAI (Italian National Radio), Bolzano, Italy	October 23, 2008
<i>volcano!</i> at Lido, Berlin, Germany	October 21, 2008
<i>volcano!</i> at Harbourfront Centre, Toronto, Canada	August 25, 2006
<i>volcano!</i> at Villette Sonique Festival, Paris, France	June 24, 2006
<i>volcano!</i> at Huw Stephens Session (BBC Radio 1), London, UK	June 27, 2006
<i>volcano!</i> at SXSW, Austin, TX	March 17, 2006

PROFESSIONAL MEMBERSHIPS

ACM (Association for Computing Machinery)

IEEE (Institute of Electrical and Electronics Engineers)

National Academy of Inventors