

CURRICULUM VITAE

Paul Hembree, PhD | music & interactive media
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Bridging classical composition, experimental music, and software engineering, I have spent my career since 2018 advocating for composer-centered approaches to musical AI development. At every organization where I've worked, I've helped maintain ethical standards—privileging fairly compensated creative labor over exploitative data practices and rejecting the use of scraped copyrighted materials. My development philosophy centers on augmentation rather than automation: building systems that engage creators in productive dialogue with technology, generating aesthetic outcomes that transcend what human or machine could achieve in isolation.

PROFESSIONAL EXPERIENCE

BandLab Technologies – Music Procedural Generation Team

Popular social media and digital audio workstation app for mobile devices and web, with 60 million worldwide users.

2025 Lead Software Engineer (June 2022 —March 2025)

Lead software engineer on procedural generation techniques for symbolic music (scores and MIDI) used internally at Bandlab. Designs software for a team of several composer-producers to accelerate and enhance their work in creating tracks for Bandlab users. The techniques used do not rely on scraping or stealing copyrighted or user data; all data used by the team is created by the team.

Shutterstock, Inc. – Audio Machine Learning Team

Global provider of stock photography, stock footage, stock music, and editing tools.

Acquired Amper Music in November 2020, including generative music technology and engineering personnel.

2022 Software Engineer I (Nov. 2020 —March 2022), **Software Engineer II** (March 2022 —June 2022)

Developer on music information retrieval and graph-based music taxonomy projects, including audio feature extraction, neural network design and unit tests for audio similarity embedding models. Helped develop a reverse audio search microservice on a wholly-owned catalogue of 34,000 tracks, allowing users without a background in music terminology to search with audio itself. Collaborated with music producers on taxonomy design, paying careful attention to non-Western contributions in the catalogue to avoid bias in ML models. Taxonomy includes more than 14,000 unique tags in more than 70 categories.

Amper Music, Inc. – Artificial Intelligence Composition

Former start-up founded by film composers and sound designers, offering a web-based AI composition tool allows non-musicians the capability of sculpting production-ready audio using simple inputs. Clients have included Mastercard, Universal Music Group, Tencent, LG, Adobe, The New York Times, National Public Radio, and Reuters.

2020 Lead Asset Developer (Nov. 2019 —Nov. 2020)

Principal software developer in the Creative department, focusing on creating internal tools in Lua that generate scripts responsible for musical decision making, and as such, works closely with the Engineering department. Used composition expertise to curate harmonic and rhythmic data assets for the artificial intelligence composer, with over 300 genre-mood combinations.

2019 Asset Developer (Aug. 2018 —Nov. 2019)

Software developer in the Creative department, focusing on Lua scripts responsible for musical decision making. Created a proof-of-concept in Wwise showing applicability of Amper-generated music to adaptive audio in video games. Continued to curate musical data assets.

2018 Asset Creator (May 2018 —Aug. 2018)

Used composition expertise to curate harmonic and rhythmic data assets for the artificial intelligence composer. Assisted with developing software in the Creative department.

University of California, San Diego Music Department & Freelance

Algorithmic composition software development, sound design, audio recording, editing, mixing, mastering and electronic music performance for Pulitzer prize-winning composer Roger Reynolds.

2025 Computer Music Programmer and Performer (2015-Present)

Venues and presenters include the Park Avenue Armory, the Phillips Collection, and the Darmstadt New Music Summer Course, with collaborators including the JACK quartet and violinist Irvine Arditti. Funding provided by various music presenters and ensembles.

2015 Computer Music Research Assistant (2011-2015)

Venues and presenters include the National Gallery of Art, Harvard and Columbia universities, with collaborators including Mark Dresser and Alarm Will Sound. Funding by the University of California.

University of Colorado at Boulder College of Music, Pendulum New Music Series**2009 Production Manager (2006-09)**

Stage management, advertising, graphic design, videography, web design, and administrative assistance for 24 new music concerts over 3 years.

TEACHING EXPERIENCE

Western Michigan University Music Department – Lecturer

2020 Fall Basic Music Theory II (Chromaticism)

Bard College Music Department, Electronic Music Program – Part-Time Visiting Assistant Professor

2018 Spring Interactive Performance and Composition with MAX/MSP/Jitter

2017 Fall Topics in Music Software: Video Game and Media Composition

Skidmore College Documentary Studies / Media & Film Studies – Lecturer

2018 Spring Advanced Digital Media / Installation Art (Studio Art Department)

2018 Spring Photogrammetry and 360 Degree Audio/Video (John. B. Moore Doc. Film Studies Collaborative)

2017 Fall Interactive Media Programming in Unity (John. B. Moore Documentary Film Studies Collaborative)

2017 Spring Interactive Media Programming in Unity (John. B. Moore Documentary Film Studies Collaborative)

2017 Spring Video Games: History, Culture & Design (Media and Film Studies Department)

University of California, San Diego Music Department – Instructor

2015 Winter Video Game Music and Sound Design: History, Culture & Techniques

2014 Summer “Love, Death and Counterpoint:” Renaissance Music in Western Europe

2013 Spring Introduction to Composition —III, with Vocal, Guitar and Brass Instrumentation

University of California, San Diego Music Department – Graduate Teaching Assistant

2014 Winter Video Game Music and Sound Design: History, Culture & Techniques

2011 Winter Eighteenth Century Counterpoint

2010 Fall Sixteenth Century Counterpoint

2010 Summer American Music History

2010 Spring Basic Music Theory, Keyboard and Aural Skills —III

2009 Fall Basic Music Theory, Keyboard and Aural Skills —I

University of Colorado at Boulder College of Music – Graduate Teaching Assistant

2006-09 Fall/Spr. Introduction to Music Technology and Electronic Music

EDUCATION

- 2015 **Ph. D. in Music, Composition program, supported by Computer Music**
 Tuition waiver and stipend from teaching and computer music research.
 University of California, San Diego (UCSD)
 Committee: Roger Reynolds (chair), Mark Dresser, Miller Puckette, Amy Alexander, Samuel Buss
 Composition Instructors: Roger Reynolds, Philippe Manoury, Lei Liang, Chinary Ung
- 2009 **M. Mus. in Composition, with an Emphasis in Technology**
 Tuition waiver and stipend from teaching.
 University of Colorado at Boulder College of Music
 Committee: Daniel Kellogg (chair), John Drumheller, Jeremy Smith
 Composition Instructors: Daniel Kellogg, Carter Pann, Michael Theodore, John Drumheller
- 2005 **B. Mus. in Composition, *magna cum laude***
 University of Oregon School of Music
 Composition Instructors: Robert Kyr, David Crumb, Terry McQuilkin, Jeffrey Stolet

SELECTED EVENTS AS SPEAKER

- 2025 “Generative Beats Without AI: Euclidean Rhythms for Interactive Music”
GameSoundCon, Burbank Convention Center, Los Angeles, CA (Oct. 29)
- 2023 “*Audible Geometry*: Using Coordinate Systems as a Resource for Music Generation”
Roguelike Celebration, remote conference hosted from San Francisco, CA (Oct. 22-23)
- 2021 “Algorithmic Music Projects in concert music and elsewhere” —Guest Lecture
 Algorithmic & Computer Assisted Composition
 hosted by Prof. Michelle Lou —**U.C. Santa Cruz** (May. 6)
- 2020 “*Audible Geometry*: System for Procedurally Generating and Remixing Audio & Music” —Guest Lecture
 Composition Seminar hosted by Prof. Fernanda Navarro —**Arizona State Univ.** (Nov. 9)
- 2019 “*Audible Geometry*: System for Procedurally Generating and Remixing Audio & Music” —Guest Lecture
 Algorithmic & Computer Assisted Composition
 hosted by Prof. Michelle Lou —**U.C. Santa Cruz** (Nov. 13)
- 2019 “*Audible Geometry*: System for Procedurally Remixing Audio Based on Geometric Representations of Pitch”
GameSoundCon, Millennium Biltmore Hotel, Los Angeles, CA (Oct. 29)
- 2019 “Amper Music: How and Why an AI Music Composition Company is Hiring Composers”
ICMC: International Computer Music Conference —New York University (June 16)
- 2019 “Amper Music: A Phenomenological Approach to Curating AI Music Composition”
SEAMUS: Society for Electro-Acoustic Music in the U.S. Conference —Berklee College (Mar. 21)
- 2017 “*Audiovisual Alchemy*: A Synesthetic Experience in Virtual Reality”
Skidmore College Encore Series —Outreach Lectures (Nov. 7 & 9)
- 2017 “Learning and Performing Brian Ferneyhough's *Time and Motion Study No. 2*”
DUCKRUBBER (James Bean, T.J. Borden, Hembree), Recital Hour, **U. Mass Lowell**, (Mar. 23)

- 2016 “Audiovisual Alchemy”
GameSoundCon, Millennium Biltmore Hotel, Los Angeles, CA (Sept. 28)
- 2016 “Apocryphal Chrysopoeia: Live, Procedurally Generated Audiovisual Media”
Univ. of Illinois, Composition Forum Guest Lecture (Mar. 1)
- 2016 “Apocryphal Chrysopoeia: Live, Procedurally Generated Audiovisual Media”
Illinois State Univ., Composition Seminar Guest Lecture (Feb. 2)
- 2014 “*Sounding Orbs*: A Generative audiovisual Instrument”
Music / Tech EXPO —**Art Institute of California**, San Diego, CA (May 10)
- 2014 “A Spatial Interpretation of Edgard Varèse’s *Ionisation* in 4-channel diffusion”
SUNY: Univ. at Buffalo, NY (Apr. 9)
- 2014 “Electroacoustic and audiovisual Compositions, 2012-2014”
Harvard Group for New Music, Cambridge, MA (Feb. 24)
- 2014 “On composing *Ikarus-Azur*” —**Pacific Regent**, La Jolla, CA (May 5)
- 2013 “Pre-concert talk with director Steven Schick and composer Paul Hembree”
La Jolla Symphony and Chorus —Mandeville Auditorium, UCSD (Dec. 7-8)
- 2012 “The Uncanny in my Music”; Acanthes Academy @ IRCAM
ManiFeste “Rendezvous for Emerging Creation”—Paris, France (June 20)
- 2010 “Spatial Projection in the Music of Edgard Varèse: Meaning, Origins, and Performance Practice”
Varèse Symposium —Conrad Prebys Experimental Theater, UCSD (Dec. 8)

RECORDINGS & PUBLICATIONS

- 2025 **The Promises of Darkness** (Compact Disc / Digital Release)
Music by Roger Reynolds, performed by the Mathias Reumert Group, with Paul Hembree, computer musician.
Includes *Positings* (2013)(see Collaborations).
Ekkozone 05. <https://divineartrecords.com/recording/the-promises-of-darkness/>
- 2023 **Roger Reynolds: For A Reason** (Double Compact Disc Set)
Music by Roger Reynolds, performed by Irvine Arditti, Pablo Gomez Cano, Liz Pearse, Steven Schick, and Paul Hembree. Includes *Dream Mirror* (2010), *Shifting/Drifting* (2015) and *Sketchbook* (1985)(see Collaborations). Neuma 128. Engineering by Paul Hembree, Jacob Sundstrom, and Tornike Karchkhadze.
<https://neumarecords.org/home/ols/products/roger-reynolds-for-a-reason>
- 2023 **Lost Levels** (Digital Release)
Music by Paul Hembree, original soundtracks to the games *Goodnight Traffic City* and *Rite of Tephra*
Published on Bandcamp: <https://paulhembree.bandcamp.com/album/lost-levels>
- 2023 **8-Bit Roots Revival** (Digital Release)
Music by Paul Hembree, inspired by harmonic analyses of classic chiptunes
Published on Bandcamp: <https://paulhembree.bandcamp.com/album/8-bit-roots-revival>

- 2022 **Woolgatherer Original Soundtrack** (Digital Release)
Music by Paul Hembree, original soundtrack for the game *Woolgatherer*
Published on Bandcamp: <https://paulhembree.bandcamp.com/album/woolgatherer-ost>
- 2019 **Aspiration** (Double Compact Disc Set)
Music by Roger Reynolds, performed by Irvine Arditti, Paul Hembree, inauthentica, and Mark Menzies.
Includes *Shifting/Drifting* (2015)(see Collaborations). Kairos 0015051KAI. Engineering by Paul Hembree, Josef Kucera and Nicolas Tipp. <https://kairos-music.com/products/recording/0015051kai>
- 2018 **Sixfold Symmetry: Pattern in Art and Science**: Teagle Grant Exhibition-Based Teaching Report
Edited Volume. Edited by Roe-Dale, Rachel, and Rachel Seligman. Features procedurally generated art by students in my course Video Games: History Culture & Design (Spring 2017)
- 2016 **“Audiovisual Alchemy.”** In *Proceedings of the first research track of GameSoundCon: The Art, Technology and Business of Game Audio*, Sept. 27-28, Millennium Biltmore Hotel, Los Angeles, CA: 9-16.
<http://www.gamesoundcon.com/2016-game-audio-research>
- 2015 **Ouroboros and Apocryphal Chrysopoeia: Aesthetics and Techniques** (Dissertation)
(Audiovisual Software Instrument, Large-Scale Composition, & Technical Manual)
Published by the Univ. of California, San Diego
- 2015 **Four Real-Time Algorithms** (Technical Manual)
with Roger Reynolds and Jaime E. Oliver La Rosa, co-authors
Published by Edition Peters
- 2013 **“A Spatial Interpretation of Edgard Varèse’s *Ionisation* using Binaural Audio”**
Perspectives of New Music, vol. 51, no. 1 (2013): 256-261. (Journal Article and Compact Disc)
with Dustin Donahue, percussion
- 2011 **Sound Check No. 5** (Compact Disc)
Released by UCSD Music Department, featuring *Passion* (2009).
Curated by Philippe Manoury, mastered by Tom Erbe
- 2009 **Invisible College Quartet: Codes & Cyphers** (Compact Disc)
Mystery Cabal MC2009-3. Paul Hembree, keyboard, Brandon Vaccaro, guitar, Chris Rippey, bass, Steven Snowden, horn

WORKS – sorted by most recent event

found objects (2025)

- non-realtime generative audio media (Python/JS app on AWS Lambda/Amplify)** software
100% ethical generative beats based on Euclidean rhythms & substitution systems
<https://www.foundobjects.org>
- 2025 Demonstration at GameSoundCon, Burbank Convention Center, Los Angeles, CA (Oct. 29)

Des Wahnsinns sanfte Flügel (2015/2025)

- fixed audio media with or without soprano (Pure Data)** 11 min.
- 2025 PdMaxCon25~ —University of Illinois School of Music Auditorium, Urbana, IL (Sept. 5)
- 2015 Leslie Leytham: The Lonely Voice —Mengi Gallery, Reykjavik, Iceland (Nov. 20)

Grapple (2011)

- drum kit, glockenspiel, live digital audio media** **6 min.**
- 2024 Thursdays at Noon —Dustin Donahue, perc. — Walter Hall, University of Toronto (Nov. 21)
- 2024 Percussive Arts Society Int'l Convention —Dustin Donahue, perc. — Indiana Convention Center (Nov. 14)
- 2016 Dustin Donahue, perc. —University of Washington (Mar. 3)
- 2011 Dustin Donahue, perc. —Conrad Prebys Experimental Theater, UCSD (Oct. 24)

Book of Delay Lines (2024)

- vibraphone and live digital audio media** **7 min.**
- Commissioned by Steve Solook
- 2024 Unpremiered; Released as a score following video: <https://youtu.be/yUW1d84yjkz> (Oct. 26)

Flieg, Kindlein, Flieg (2016)

- SSAA chorus, piano** **5 min.**
- 2019 Sing About It: 21st Century Song —Amasong: Champaign-Urbana's Premiere Lesbian/Feminist Chorus
McKinley Prebyterian Church, Champaign, IL (Jan. 26-27)
- 2016 Flight: Songs of Migration —Amasong: Champaign-Urbana's Premiere Lesbian/Feminist Chorus
McKinley Prebyterian Church, Champaign, IL (Apr. 9-10)

Anneal (2018)

- horn, trumpet, trombone** **7 min.**
- 2018 Second Sunday Concert Series —Boston Modern Brass —Jason Huffman, tpt., Emily Wiebe, hn., C. Neil
Parsons, btbn. —Boston Sculptors Gallery (Apr. 8)

19-Tone Color Wheel (2018)

- any instrument(s), live audiovisual media (MAX/Jitter)** **10 min.**
- 2018 Adam Tinkle and Paul Hembree —Lunchtime Concerts —Bard College, NY (Mar. 15)
- 2018 Adam Tinkle and Paul Hembree —Super Dark Mondays —One Caroline, Saratoga Springs, NY (Mar. 3)
- 2018 Adam Tinkle and Paul Hembree —GZ Basement, RPI Experimental Music Media Club
Rensselaer Polytechnic Institute, Troy, NY (Feb. 24)

JALEXOWNS (2018)

- saxophone, trumpet, live audiovisual media (MAX/Jitter)** **10 min.**
- 2018 Adam Tinkle and Paul Hembree —Lunchtime Concerts —Bard College, NY (Mar. 15)
- 2018 Adam Tinkle and Paul Hembree —Super Dark Mondays —One Caroline, Saratoga Springs, NY (Mar. 3)
- 2018 Adam Tinkle and Paul Hembree —GZ Basement, RPI Experimental Music Media Club
Rensselaer Polytechnic Institute, Troy, NY (Feb. 24)

Triple Crown (2018)

- improvised live audio media (MAX)** **45 min.**
- 2018 DUCKRUBBER —Center for New Music —San Francisco, CA (Jan. 16)
- 2018 DUCKRUBBER —Conrad Prebys Experimental Theater, UCSD (Jan. 9)

Pulmonary Hyphomycosis (2017)

- trumpet, live audiovisual media (MAX/Jitter)** **8 min.**
- 2017 Sam Wells and Paul Hembree —Dept. of Electronic Music —Bard College, NY (Nov. 16)
- 2017 Neue Forum 5: Sam Wells & Paul Hembree —ShapeShifter Lab, Brooklyn, NY (Feb. 13)

Audiovisual Alchemy (2016-17)**live audiovisual media/virtual reality (Unity/C#/Pure Data)****software**

- 2017 Sam Wells and Paul Hembree —Dept. of Electronic Music —Bard College, NY (Nov. 16)
- 2017 Mise-En Place Bushwick Open Studios —Brooklyn, NY (Sept. 23)
- 2016 Preview: Game Sound Con —Millennium Biltmore Hotel —Los Angeles, CA (Sep. 27-28)

Cerebral Hyphomycosis (2016)**cello, live audiovisual media (MAX/Jitter)****7 min.**

- 2017 DUCKRUBBER —The Waverly Project —New York Univ. (Mar. 31)
- 2017 DUCKRUBBER —Stony Brook Univ., NY (Mar. 29)
- 2017 DUCKRUBBER —Dept. of Electronic Music —Bard College, NY (Mar. 27)
- 2017 DUCKRUBBER —Univ. Mass Lowell, (Mar. 23)
- 2017 DUCKRUBBER —Hosted by David Forrest —The Factory, Cambridge, MA (Mar. 22)
- 2016 Tyler J. Borden, cello + Paul Hembree, electronics —Darmstadt International Summer Course for New Music
Lichtenbergschule Open Space —Germany (Aug. 5)
- 2016 Tyler J. Borden DMA Recital —Conrad Prebys Experimental Theater, UCSD (Apr. 6)

Harsh Noise Improv. (2015)**any instrument, live audio media (Pure Data)****10 min.**

- 2017 Sam Wells and Paul Hembree —Dept. of Electronic Music —Bard College, NY (Nov. 16)
- 2017 Neue Forum 5: Sam Wells, trumpet & Paul Hembree, computer musician
ShapeShifter Lab, Brooklyn, NY (Feb. 13)
- 2016 with Adam Tinkle, alto saxophone
The Fifth International Pure Data Conference —Maxwell's Tavern, Hoboken, NJ (Nov. 16)
- 2015 with Drew Ceccato, tenor saxophone —Qualcomm Institute IDEAS: Initiative for Digital Exploration of Arts
and Sciences -- Qualcomm Institute VROOM, UCSD (June 29)

Apocryphal Chrysopoeia (2015)**live audiovisual media (MAX/Jitter)****10 min.**

- 2017 Neue Forum 5: Sam Wells, trumpet & Paul Hembree, computer musician
ShapeShifter Lab, Brooklyn, NY (Feb. 13)
- 2016 New York City Electroacoustic Music Festival —National Sawdust (June 5)
- 2016 The Callithumpian Consort —Jordan Hall, New England Conservatory, Boston, MA (Feb. 18)
- 2015 Qualcomm Institute IDEAS: Initiative for Digital Exploration of Arts and Sciences
Qualcomm Institute VROOM, UCSD (June 29)
- 2015 NIME: New Interfaces for Musical Expression Conference
Louisiana State Univ., Baton Rouge, LA (May 31)
- 2015 SEAMUS: Society for Electro-Acoustic Music in the U.S. Conference
Virginia Tech., Blacksburg, VA (Mar. 26)
- 2015 N_SEME: National Student Electronic Music Event, Bowling Green State Univ., OH (Mar. 6)

Blue Sky Catastrophe (2010/13)**trumpet****7 min.**

- 2017 Sam Wells and Paul Hembree —Dept. of Electronic Music —Bard College, NY (Nov. 16)
- 2017 Neue Forum 5: Sam Wells & Paul Hembree —ShapeShifter Lab, Brooklyn, NY (Feb. 13)
- 2016 Radical Brass, Vol. 4 —Sam Wells, trumpet —Spectrum, New York City (Jan. 3)
- 2015 June in Buffalo Festival and Conference —Sam Wells, trumpet —SUNY: Univ. at Buffalo (June 7)
- 2015 Sam Wells presents works for Trumpet and Electronics
Sam Wells, trumpet —Conrad Prebys Experimental Theater, UCSD (Mar. 8)

- 2015 Northern Arizona Univ. Guest Artist Series
Sam Wells, trumpet —Northern Arizona Univ., Flagstaff, AZ (Mar. 5)
- 2011 Written for and recorded by Peter Evans, as part of the International Contemporary Ensemble's 2011 Callt2
Residency —Studio A, UCSD (Jan. 18)

Chemical Oscillator (2011)**live audiovisual media (MAX/Jitter)****8 min.**

- 2017 Sam Wells and Paul Hembree —Dept. of Electronic Music —Bard College, NY (Nov. 16)
- 2017 Neue Forum 5: Sam Wells, trumpet & Paul Hembree, computer musician
ShapeShifter Lab, Brooklyn, NY (Feb. 13)
- 2015 Qualcomm Institute IDEAS: Initiative for Digital Exploration of Arts and Sciences
Qualcomm Institute VROOM, UCSD (June 29)
- 2012 St. Louis Composers' Night —Tavern of Fine Arts, St. Louis, MO (Oct. 17)
- 2011 California Electronic Music Exchange Concerts
Littlefield Concert Hall Mills College, Oakland, CA (Apr. 24)
- 2011 California Electronic Music Exchange Concerts
Conrad Prebys Experimental Theater, UCSD (Apr. 22)
- 2010 San Diego New Music Collective California Tour —Swarm Gallery, Oakland, CA (Aug. 8)

Light from Outside (2012)**soprano, percussion, live audio media (Pure Data)****15 min.**

- 2017 Aurora Borealis Duo —XX New Music Miami ISCM Festival —Florida Int'l Univ. (Feb. 2)
- 2016 Tiffany DuMouchelle Faculty Recital, Univ. at Buffalo (SUNY) (Mar. 24)
- 2015 Bank of the West Music Series —Aurora Borealis Duo —Cheyenne Central High School (Apr. 7)
- 2013 Aurora Borealis Duo —Conrad Prebys Concert Hall, UCSD (Apr. 8)
- 2013 UCSD Gluck Outreach Concerts —Aurora Borealis Duo —Spring Valley Community Center (Mar. 22)
- 2013 UCSD Gluck Outreach Concerts —Aurora Borealis Duo —Downtown Senior Center (Mar. 19)
- 2013 UCSD Gluck Outreach Concerts —Aurora Borealis Duo —Bayside Community Center (Mar. 12)
- 2012 UCSD Pierrot Project —Conrad Prebys Experimental Theatre, UCSD (Apr. 21)

Ouroboros (2014-15)**ensemble, live audiovisual media (MAX/Jitter)****18 min.**

- 2015 Hembree Dissertation Recital; UCSD graduate musicians, David Medine, conductor
Conrad Prebys Experimental Theater, UCSD (May 17)

Nimbus (2011)**chamber orchestra****8 min.**

- 2015 Exit 128 Chamber Orchestra —First Baptist Church, Columbia, MO (May 10)
- 2013 Red Note Composition Competition finalist
- 2011 ASCAP Morton Gould Awards finalist
- 2011 Palimpsest (UCSD New Music Ensemble) —Conrad Prebys Concert Hall, UCSD (Nov. 16)

Sounding Orbs (2014)**live audiovisual media (MAX/Jitter)****15 min.**

- 2014 California Electronic Music Exchange Concerts
Littlefield Concert Hall, Mills College, Oakland, CA (Apr. 19)
- 2014 UCSD Spring Festival, "Immersion: Soundtracks for Sea Life"
Scripps Institute Birch Aquarium, La Jolla, CA (Apr. 13)

Ikarus-Azur* (2013)*SATB chorus and large orchestra****15 min.**

2013 La Jolla Symphony & Chorus (Thomas Nee Commission) —Mandeville Auditorium, UCSD (Dec. 7-8)

Werkstoffwissenschaft* (2013)*trio, fixed audio media (Pure Data)****7 min.**

2013 ensemble et cetera —Conrad Prebys Recital Hall, UCSD (May 18)

Lumière: Glacée et Réfractée* (2012)*chamber orchestra****8 min.**2012 Acanthes Academy @ IRCAM: ManiFeste “Rendezvous for Emerging Creation”
Ensemble Intercontemporain —Le Centquatre, Paris, France (June 28)***Eclipses* (2009/2012)****trumpet, fixed audiovisual media (MAX/Jitter)****8 min.**

Collaboration with Stephen Dunn, trumpet

2012 Creinconcert, Ronzo-Chienis, Italy (June 23-24)

Nosferatu* (2011/1922)*live film score (quartet, fixed audio media)****84 min.**

Film score to F.W. Murnau's film, commissioned by UCSD German Studies Program

2011 San Diego New Music Collective —Mandeville Auditorium, UCSD (Oct. 21)

Passion* (2009)*soprano, ensemble****12 min.**

2010 San Diego New Music Collective —Swarm Gallery, Oakland, CA (Aug. 8)

2010 New Music Forum Festival of Contemporary Music (Aug. 7)

San Diego New Music Collective —San Francisco Community Music Center, CA

2010 First-Year Graduate Recital —Conrad Prebys Hall, UCSD (Jan. 22)

Antikythera Mechanism* (2008-09)*chamber orchestra, audiovisual media (MAX/Jitter)****35 min.**2009 Hembree master's thesis recital —Univ. Colorado musicians, Boulder Laptop Orchestra
ATL&S Black Box Theater, Boulder, CO (Apr. 11)2009 Pendulum New Music series: Alarm Will Sound Graduate Composer Readings
Grusin Hall, Univ. of Colorado —Boulder, CO (Jan. 18)***Hénon Map* (2008)****laptop orchestra (MAX)****8 min.**

2009 Pendulum New Music series —Boulder Laptop Orchestra —ATL&S Black Box Theater, Boulder, CO (Mar. 18)

2008 International Society of Improvised Music Conference —Boulder Laptop Orchestra
Lamont School of Music, Denver, CO (Dec. 7)***Nyx & Eris* (2007 – 2008)****chamber ensemble****12 min.**

Edward Levy Commission, Univ. of Colorado at Boulder

2009 Modern Miscellanea: The Playground Ensemble

Hamilton Recital Hall, Newman Center —Denver, CO (Jan. 29)

2008 Pendulum New Music series —Tasman String Quartet and Arundo Winds
Grusin Hall, Univ. Colorado, Boulder, CO (Mar. 5)

Jökulhlaup (2007)**piano****5 min.**

- 2009 Colorado Music Educators Conference —Heide Brende, piano —Colorado Springs, CO (Jan. 23)
- 2008 New Keys Series; Kate Campbell, piano —Lisser Hall, Mills College, Oakland, CA (Nov. 15)
- 2008 Colorado Composers Concert —The Playground Ensemble
Heide Brende, piano — King Center, Metro. State College of Denver, CO (Apr. 25)
- 2008 Michael Ippolito, piano —Temple Terrace Presbyterian Church, Tampa, FL (Jan. 6)
- 2007 Guest Artist Recital —Michael Ippolito, piano
Morphy Recital Hall, Univ. of Wisconsin —Madison, WI (Nov. 7)
- 2007 Michael Ippolito, piano —Redeemer Lutheran Church, Minneapolis, MN (Oct. 21)
- 2007 Oregon Bach Festival: Piano Reborn —Kate Campbell, piano
Beall Hall, Univ. of Oregon, Eugene, OR (July 7)

Meditation on a Spent .38 Shell (2004-05)**fixed audio media (Kyma)****7 min.**

- 2008 Electro-Acoustic Juke Joint —Delta Music Institute, Cleveland, MS (Nov. 15)
- 2005 Eugene Composers Collective —Downtown Initiative for Visual Arts, Eugene, OR (Winter)
- 2005 Future Music Oregon —School of Music, Univ. of Oregon, Eugene, OR (May 21)

Model Bride (2008)**film score (fixed audio media)(Reason)****7 min.**

- 2008 48 Hour Film Festival, Denver Edition —Austin Heller, director (Team Glamorous Duplicity)
Gothic Theater, Denver, CO (Aug. 26)

Voltage Controlled Passacaglia (2007)**live audiovisual media (Moog synthesizer)****12 min.**

- 2007 New West Electronic Arts & Music Organization Festival
ATL&S Black Box Theater —Boulder, CO (Oct. 13)
- 2007 Pendulum New Music series —ATL&S Black Box Theater, Boulder, CO (Feb. 28)

Archaeopteryx (2006 – 2007)**sextet****9 min.**

- 2007 ASCAP Morton Gould Young Composers Awards finalist
- 2007 Pendulum New Music series —The Playground Ensemble
Grusin Hall, Univ. of Colorado, Boulder, CO (Sept. 26)
- 2007 Modern Miscellana —The Playground Ensemble
Hamilton Recital Hall, Newman Center, Denver, CO (Sept. 18)
- 2007 MusicX Festival —Cincinnati College-Conservatory of Music musicians
Cincinnati College-Conservatory of Music, Cincinnati, OH (June 15)
- 2007 Colorado Composers Concert —The Playground Ensemble —Bethany Lutheran Church, Denver, CO (May 25)
- 2007 Pendulum New Music series —eighth blackbird Graduate Composer Readings
Grusin Hall, Univ. of Colorado, Boulder, CO (Feb. 5)

Der Doppelgänger (2007)**contrabassoon and live audio media****7 min.**

- 2007 Aspen Underground —Helena Kopchick, contrabassoon, Paul Hembree, computer
Aspen Community Church, Aspen CO (Jul. 30)

COLLABORATIONS – sorted by most recent event

Reynolds Collected Electroacoustic Works***cueable fixed audio media*****10+ hr.**

Collaboration with Roger Reynolds, composer, and Jacob Sundstrom, Kyle Johnson, Jaime Oliver la Rosa, Jacob Sudol, Josef Kucera, Trevor Henthorn and others to collect, restore or record cueable performance materials for all 75 electroacoustic pieces by Reynolds, going back to 1962.

To be distributed with scores and parts by Wise Classical.

Contributing project management, computer music performance and audio engineering.

2025 Initial collection and engineering phase of 45/75 works in cueable 2, 4 or 8-channel audio formats

Positings (2012-13)***quintet, live audio media (Pure Data)*****20 min.**

Collaboration with Roger Reynolds, composer

Contributed interactive audio programming and performance.

2025 Compact Disc: The Promises of Darkness. Ekkozone 05.

2021 Offbeat Festival —Ekkozone Ensemble (contributed fixed-media audio) —Copenhagen Distillery (Oct. 27)

2018 June in Buffalo Festival and Conference —Ensemble Signal —SUNY: Univ. at Buffalo (June 9)

2014 Miller Theatre Composer Portraits —Ensemble Signal —Columbia Univ., New York, NY (Feb. 22)

2013 LA International New Music Festival —Southwest Chamber Music
Zipper Concert Hall, Los Angeles, CA (Mar. 2)

Sketchbook (1985/2022)***pianist/soprano, live audio media*****30 min.**

Collaboration with Roger Reynolds, composer, Liz Pearce, pianist/soprano.

Contributed fixed- or live-media vocal processing

2024 Faculty Recital —Liz Pearce, sop./pno. —Winona State University, MN (Mar. 19)

2023 Double Compact Disc: For A Reason. Neuma 128 (see Recordings & Publications)

Knowing / Not Knowing (2022-2024)***voices, percussion, trombone, audiovisual media*****80 min.**

Collaboration with Roger Reynolds, composer, Kyle Johnson, video design, Jacob Sundstrom, sound design, Robert Castro, stage director, Steven Schick, conductor, Juan Carlos Acosta, choir conductor, Leslie Ann Leytham, creative producer. Contributed editing, mixing & mastering of recorded voice materials.

2024 UC San Diego Park & Market, East Village, San Diego, CA (Mar. 17)

Rite of Tephra (2017-20)***video game (Unity / C#)*****software**

By Platypus Games, a collaboration with William Hembree (artist & programmer)

Contributed procedural terrain generation programming, original score and interactive audio programming

Self-published on Itch.io: <https://platypusgames.itch.io/rite-of-tephra>

Original soundtrack (orchestra):

20 min.

I. Title, II. Exploration (procedurally remixed harmony with Audible Geometry)

2023 Digital EP: Lost Levels. (see Recordings & Publications)

2023 “*Audible Geometry*: Using Coordinate Systems as a Resource for Music Generation”

Roguelike Celebration, remote games conference hosted from San Francisco, CA (Oct. 22-23)

2019 Audible Geometry (Procedurally Remixed Music System) presented at GameSoundCon
Millennium Biltmore Hotel, Los Angeles, CA (Oct. 29)

Goodnight Traffic City (2017)**video game (Javascript / Tone.js)****software**

Collaboration with Loren Schmidt, game developer & Kia Labeija, artist

Contributed original score, sound design and audio programming.

Original soundtrack (piano & electronics)

15 min.

2023 Digital EP: Lost Levels. (see Recordings & Publications)

2017 Day of the Devs, The Midway, San Francisco, CA (Nov. 11)

2017 Game Developer's Conference (Mild Rumpus orchard)

Moscone Convention Center —San Francisco, CA (Feb. 27 —Mar. 3)

2016 La Mama Galleria (Visual AIDS Everyday Project) —New York, NY (Nov. 17 —Dec. 10)

PERSISTENCE (2019-2023)**cello, live audio media****30 min.**

Collaboration with Roger Reynolds, composer, Alexis Decharmes, cello, Kyle Johnson, video artist, Jacob

Sundstrom, computer musician.

Contributed audio editing, mixing & mastering for a digital video release.

2023 Digital video release (<https://youtu.be/0pIl25lmwa4?si=4Rze4b6EdMmh2dZd>)***Shifting/Drifting (2015)*****violin, live audio media (Pure Data)****23 min.**

Collaboration with Roger Reynolds, composer, and violinist Irvine Arditti

Contributed interactive audio programming, performance & sound design, audio engineering on Kairos CD.

2023 Double Compact Disc: For A Reason. Neuma 128 (see Recordings & Publications)

2019 Double Compact Disc: Aspiration. Kairos 0015051KAI (see Recordings & Publications)

2018 June in Buffalo Festival and Conference —SUNY: Univ. at Buffalo (June 7)

2016 Darmstadt International Summer Course for New Music —Orangerie —Darmstadt, Germany (Aug. 4)

2015 CCRMA Concerts —Stanford Univ., Palo Alto, CA (Oct. 5)

2015 Wild Beast, CalArts, Valencia, CA (Sept. 30)

2015 *Art Power: Innovation Series – Conrad Prebys Experimental Theater, UCSD (Sept. 25)****Dream Mirror (2010)*****guitar, live audio media (Pure Data)****22 min.**

Roger Reynolds, composer

Contributed interactive audio performance for the recording.

2023 Double Compact Disc: For A Reason. Neuma 128 (see Recordings & Publications)

2014 Audiovisual documentary project “For a Reason” —Pablo Gomez Cano, guitar, Kyle Johnson, videography

Callt2 (Nov. 16-18)

Woolgatherer (2020-22)**video game (Unity / C# / Wwise)****software**

By Platypus Games, a collaboration with William Hembree (artist & programmer)

Contributed original score, sound design and interactive audio programming.

2022 Digital Album: Woolgatherer OST (see Recordings & Publications)

2022 Original Soundtrack (orchestra, chorus & electronics):

45 min.

I. Spring Day, II. Spring Night, III. Summer Day, IV. Summer Night, V. Autumn, VI. Winter Day ,

VII. Winter Night, VIII. Winter Solstice

Duo for Actual and Human Celli (2017)**cello, two amplified performers****12 min.**

Jenna Lyle, composer; commissioned by DUCKRUBBER (formerly The Heterodyne Trio)

- 2018 DUCKRUBBER —Center for New Music —San Francisco, CA (Jan. 16)
- 2018 DUCKRUBBER —Conrad Prebys Experimental Theater, UCSD (Jan. 9)
- 2017 DUCKRUBBER —The Waverly Project —New York Univ. (Mar. 31)
- 2017 DUCKRUBBER —Stony Brook Univ., NY (Mar. 29)
- 2017 DUCKRUBBER —Dept. of Electronic Music —Bard College, NY (Mar. 27)
- 2017 DUCKRUBBER —Univ. Mass Lowell, (Mar. 23)
- 2017 DUCKRUBBER —Hosted by David Forrest —The Factory, Cambridge, MA (Mar. 22)

FLiGHT (2013-16)**string quartet, audiovisual media (Pure Data)****70 min.**

Collaboration with Roger Reynolds, composer, the JACK Quartet, video artist Ross Karre

Contributed interactive audio programming, performance & sound design.

- 2017 West Coast Premiere: UCSD Conrad Prebys Music Center (Nov. 30)
- 2016 Premiere: The Park Avenue Armory —New York City (Oct. 31)
- 2016 Preview: Univ. of Colorado at Boulder —ATL&S Black Box Theater (Oct. 3-10)
- 2016 Preview: UCSD Conrad Prebys Music Center (Aug. 25 —Sept. 3)
- 2016 Preview: The Philips Collection —Washington, DC (May 22)
- 2015 Preview: American Music Festival —National Gallery of Art, Washington, DC (Mar. 8)
- 2015 Preview: James Madison Univ. Contemporary Music Festival —Harrisonburg, VA (Feb. 19)

Sound Geometries (2003)**chamber ensemble, live audio media (MAX)****25 min.**

Collaboration with Pauline Oliveros, composer, and Zach Leyton, computer musician on 2016 performance.

Contributed interactive audio performance.

- 2017 WNYC New Sounds Live —Darmstadt Ensemble —Brookfield Place Winter Garden, NYC (Oct. 12)
- 2017 Remembering Pauline Oliveros —International Contemporary Ensemble —Park Avenue Armory, NYC (Feb. 6)
- 2016 Pauline Oliveros & the International Contemporary Ensemble
Fisher Center LUMA Theater, Bard College (Sept. 17)

his body falling into the repose of his organs (2017)**cello and live audio media (MAX)****10 min.**

Élise Roy, composer; commissioned by DUCKRUBBER (formerly The Heterodyne Trio)

- 2017 DUCKRUBBER —The Waverly Project —New York Univ. (Mar. 31)
- 2017 DUCKRUBBER —Stony Brook Univ., NY (Mar. 29)
- 2017 DUCKRUBBER —Dept. of Electronic Music —Bard College, NY (Mar. 27)
- 2017 DUCKRUBBER —Univ. Mass Lowell, (Mar. 23)
- 2017 DUCKRUBBER —Hosted by David Forrest —The Factory, Cambridge, MA (Mar. 22)

Justice / Justice: Arias (2001/2016)**soprano, percussion, live audio media (Pure Data)****50 / 25 min.**

Roger Reynolds, composer; Collaboration with Aurora Borealis Duo & Alice Teyssier

Contributed interactive audio programming & performance.

- 2017 *Arias*. A Musical Feast —Burchfield Penney Art Center (SUNY Buffalo State) (May 12)
- 2016 *Arias*. Baird Hall, Univ. at Buffalo (SUNY) (Mar. 24)
- 2012 *Complete Opera*. Conrad Prebys Experimental Theater, UCSD (Mar. 11)

Time and Motion Study No. 2 (1973-76)**cello, live audio media (MAX)****24 min.**

Brian Ferneyhough, composer

DUCKRUBBER (James Bean & Paul Hembree, electronics and T.J. Borden, cello)

(formerly The Heterodyne Trio)

Contributed interactive audio programming and performance.

2017 DUCKRUBBER —The Waverly Project —New York Univ. (Mar. 31)

2017 DUCKRUBBER —Stony Brook Univ., NY (Mar. 29)

2017 DUCKRUBBER —Dept. of Electronic Music —Bard College, NY (Mar. 27)

2017 DUCKRUBBER —Univ. Mass Lowell, (Mar. 23)

2017 DUCKRUBBER —Hosted by David Forrest —The Factory, Cambridge, MA (Mar. 22)

2015 June in Buffalo Festival and Conference —SUNY: Univ. at Buffalo (June 7)

2015 Wednesdays @ 7; Palimpsest ensemble —Conrad Prebys Concert Hall, UCSD (Mar. 4)

Passages 8, 9, 10 and 11 (2012-16)**intermedia performance (MAX/Jitter)****75 min.**

Collaboration with Roger Reynolds, composer

Contributed interactive audiovisual programming, performance, sound design & moving images.

2016 No. 11: "Collaboration, Cage, Takemitsu, Xenakis, the Sublime, and Obligation"

with the Arditti String Quartet, preproduction support by Johannes Regnier

Darmstadt Int'l. Summer Course for New Music —Orangerie —Darmstadt, Germany (Aug. 3)

2014 No. 10: "Musings on "Good Lives": Relationships, Sustenance, Aspirations, Truth, Secrets, Boundaries, Purpose, Flight"

The Making of the Modern World Public Lecture Series: The Good Life

Conrad Prebys Concert Hall, UCSD —La Jolla, CA (Mar. 3)

2013 No. 9: "Collaboration, Xenakis, Cage, Takemitsu, the Sublime, and Aesthetic Experience"

with Steven Schick, percussion, Rachel Beetz, flute

Michael Ricca, audio postproduction

Ross Karre, Kyle Johnson, and Frankie Martin, video postproduction

Conrad Prebys Concert Hall, UCSD —La Jolla, CA (Mar. 13)

2012 No. 8 "On Learning, Varèse, Cage, Ashley, Musical Experience, and Intermedia"

with John Pickford Richards, viola, Bill Kalinkos, clarinet

John Knowles Paine Concert Hall —Harvard Univ., Cambridge, MA —(Dec. 6)

A Mind of Winter (2009-10)**trio, live audio media (Pure Data)****16 min.**

Roger Reynolds, composer

Contributed interactive audio performance.

2016 Callithumpian Consort —Jordan Hall, New England Conservatory (Feb. 18)

2015 Callithumpian Consort —Conrad Prebys Concert Hall, UCSD (Oct. 21)

2014 Slee Sinfonietta —Lippes Concert Hall, SUNY: Univ. at Buffalo (Apr. 8)

Kokoro (1992/2013)**violin, live audio media (Pure Data)****24 min.**

Collaboration with Roger Reynolds, composer, on new live spatialization

Contributed interactive audio programming and performance.

2015 Mark Menzies, violin —Wild Beast, CalArts, Valencia, CA (Apr. 5)

Jupiter (1987/2014)**flute, live audio media (Pure Data)****30 min.**

Philippe Manoury, composer -- Contributed interactive audio performance
 Collaboration with Kyle Johnson and Yeung-Ping Chen on curation.

2014 {Sound Initiatives}: Three Flutes (co-curator)

Michael Matsuno, flute —Conrad Prebys Experimental Theatre, UCSD (June 2)

MARKed MUSIC (2010-14)**contrabass, live audiovisual media (Pure Data, JackTrip)****20 min.**

Collaboration with Roger Reynolds, composer and Mark Dresser, bass, on 2013-14 revisions
 Contributed interactive audio performance & telematic audio.

2014 Telematic Concert between UCSD & NYU —M. Dresser, bass, J. Oliver, computer (Feb. 11)

2013 Telematic Concerts between UCSD & UC Irvine —M. Dresser, bass (Feb. 14/21)

Submerged Memories (2006/2012)**narrator, ensemble, media (Final Cut, MAX/Jitter)****25 min.**

Collaboration with Roger Reynolds, composer
 Contributed interactive audiovisual programming & performance.

2013 UCSD grad. student musicians —Qualcomm Institute VROOM, UCSD (Apr. 20)

Toward Another World (2011)**clarinet, live audio media (Pure Data)****12 min.**

Roger Reynolds, composer; Contributed interactive audio performance.

2012 Fromm Foundation Visiting Prof. Portrait Concert

Bill Kalinkos, clarinet —Paine Concert Hall, Harvard Univ., Cambridge, MA (Dec. 6)

Laconisme de l'aile (1982)**flute, live audio media (Pure Data)****8 min.**

Kaija Saariaho, composer; Contributed interactive audio programming & performance to UCSD production.

2012 Rachel Beetz, flute —Conrad Prebys Concert Hall, UCSD (May 8)

Ping (1968/2011)**small ensemble, live audiovisual media (Pure Data)****24 min.**

Roger Reynolds, composer

Contributed restoration of materials, interactive audio programming & performance.

2011 Rachel Beetz, fl., Ross Karre, perc., Roger Reynolds, piano

Conrad Prebys Experimental Theater, UCSD (May 27)

FREELANCE WORK

2025 Freelance Arranger, Engraver, Audiovisual Technologist (2007-Present)

Previous clients include: Ekkozone (Copenhagen), Darmstadt Ensemble (New York), Irvine Arditti (London), International Contemporary Ensemble (New York), the JACK Quartet (New York), the Callithumpian Consort (Boston, MA), Ensemble Signal (Rochester, NY), the Aurora Borealis Duo (Buffalo, NY), Cappella Orpheus (Champaign, IL), Amasong (Champaign, IL), violinist / Prof. Mark Menzies (CalArts), trumpeter / Prof. Edwin Harkins (UC San Diego), soprano Lucy Shelton (New York), flutist Matteo Cesari (Italy), composer Brian Griffeth-Loeb (San Diego, CA), saxophonist Eliot Gattegno (San Diego, CA), violinist Batya MacAdam-Somer (San Diego, CA), percussionist Bonnie Whiting (San Diego, CA), guitarist Pablo Gómez (San Diego, CA), the Boulder Laptop Orchestra, pianist Hsing-ay Hsu (Boulder, CO). *Also see* COLLABORATIONS *for details on major creative projects.*

COMMISSIONS, SCHOLARSHIPS, GRANTS, AWARDS & HONORS

- 2021 Shutterstock Hackathon First Prize Winner (Footage to Sound Effects cross-asset rec. system prototype)
- 2017 Funded Teaching with Tang Museum *Sixfold Symmetry: Pattern in Art and Science* (portion of Teagle Grant)
- 2015 Music Department Competitive Travel Grant (UCSD)
- 2015 Graduate Student Association Competitive Travel Grant (UCSD)
- 2013 Red Note Competition, Chamber Orchestra Division Finalist
- 2013 La Jolla Symphony & Chorus Thomas Nee Commission Prize
- 2013 Music Department Competitive Travel Grant (UCSD)
- 2012 American Music Center (New Music USA) Composer's Assistance Program Grant
- 2012 ASCAP Morton Gould Student Composer Awards Finalist
- 2012 Music Department Competitive Travel Grant (UCSD)
- 2011 UCSD German Studies Program Commission for F.W. Murnau *Nosferatu* Film Score
- 2008 Center for Humanities and the Arts Eaton Grant (Univ. Colorado)
- 2008 ASCAP Morton Gould Student Composer Awards Finalist
- 2007 MusicX eighth blackbird Competition Finalist
- 2007 Edward Levy Commission Prize (Univ. Colorado)
- 2006 College of Music Dean's Small Grant (Univ. Colorado)
- 2005 Award for Outstanding Work in Composition (Undergraduate Division, Univ. Oregon)

SERVICE WORK

- 2025 Roger Reynolds Trust —Library Cataloguing & Composition Sketches / Scores Preservation (2016-present)
- 2015 Composition Focus (Colloquium) Organizing Committee —UCSD (2014-15)
- 2015 Judge: Undergraduate Composition Juries —UCSD (May)
- 2014 Co-curator: {Sound Initiatives} Electroacoustic Music Series
 - "Vox Mea" —Conrad Prebys Experimental Theatre, UCSD (Mar. 15)
 - "Three Flutes" —Conrad Prebys Experimental Theatre, UCSD (June 2)
- 2014 Curator: UCSD Spring Festival, "Immersion: Soundtracks for Sea Life"
 - Scripps Institute Birch Aquarium, La Jolla, CA (Apr. 13)
- 2014 UCSD Spring Festival Videographer (2010-14)
- 2013 Judge: Undergraduate Composition Juries —UCSD (May)
- 2012 Judge: Young Composers Competition —Webster Univ. Community Music School (Oct.)
- 2012 Web Design Consultant: John Cage Centennial Festival —Washington, DC (Aug.)
- 2010 Board Member and Videographer: The Playground Ensemble, Denver Univ. (2008-10)
- 2006 Artistic Director & Co-founder: New Frontiers Chamber Symphony —Eugene, OR (2005-06)
- 2005 Assistant to the Director: Oregon Bach Festival Composers Symposium —Eugene, OR (Sum.)

TECHNICAL EXPERIENCE

Programming Languages (Python, C#, Lua), Databases (Airtable, MySQL, PostgreSQL)
 DevOps (REST APIs with Flask/FastAPI, Docker, AWS Lambda/API Gateway/Amplify)
 Music Information Retrieval & Machine Learning tools (librosa, music21, pytorch, GRU, LSTM, Transformers/LLMs)
 Version Control (git, Bitbucket, github, Plastic SCM) & Project Management / Issue Tracking (Jira, Confluence)
 Games & VR (Wwise, Unreal Engine, Unity/C#, Processing)
 Digital Audio Programming (MAX/Mitter, Pure Data, Tone.js, SuperCollider, Kyma)
 Digital Audio Workstations (Reaper, ProTools, Reason, Logic, Audacity)
 Photogrammetry & Structure-from-Motion Tools (VisualSFM, Meshlab and Blender)
 3D Video / Audio (Adobe Premiere, Reaper Ambisonics Toolkit, Google Resonance)

A/V Engineering (Studio & Live Recording, Live Sound Engineering, Projection Design, Show Control)
Web & Graphic Design (HTML, CSS, Adobe Photoshop, GIMP, Inkscape)
Video Editing (Final Cut, Adobe Premiere)
Music Engraving Software (Sibelius, Finale)

CERTIFICATIONS

AVIXA Recognized Audiovisual Technologist
Biamp Tesira: AV Processing and Distribution —Software Programmer Level 02
Biamp / Cambridge QTX Sound Masking: Configure & Deploy
QSC Q-Sys Programmer Level 0