

Selected Works and Exhibitions *(abridged)*

[1991 – present] **200+ Credits**, Producing, Recording, Mixing, Mastering, Sound Design, Interactive, Mobile, AR/VR, and Games

[2023] **c2**, Discordant Arcana

[2021] **Society for Electro-Acoustic Music in the United States**

[2019] **OtoCast** Mobile App, The City of Emeryville. Content Producer/Sound Designer and Audio Engineer

[2019] **ZED**, Eagre Games. Multiplatform/VR, Recording Engineer, Sound Designer, VO Editor, Dialog Processing / Mastering

[2018] **Dead Secret Circle**, Robot Invader. Multiplatform/VR, Recording Engineer, Sound Designer, VO Editor, Dialog Processing / Mastering

[2017] **Narcosis**, Honor Code. Multiplatform/VR, Audio support

[2017] **Stratum**, Center for New Music, San Francisco, CA

[2016] **Salvatore Ferragamo**, Composer, Lo Splendore Della Vita, International. >1M views

[2016] **St0cHastAk0v1Ch**, autocomposer. A fully programmable sequencer application developed in a graphical environment. Probability distribution autocomposer functionality with Dmitri Shostakovich homage-scale constraint. Controls for independent and global pitch and velocity, independent and vector linear pitch and modulation, independent and global note on/off, and quick-drum-sequencer section.

[2015] **Electroacoustic Compositions for Guitar** featuring Mike Keneally

[2015] **Nightingale**, sonification of Phaedrus. Plato's dialog Phaedrus represented by sound and musical traits, morphology, phonology.

[2015] **Skeuomorph**, algorithmic concatenation. Atmospheric story generated from a narration library employing corpus-based concatenative synthesis.

[2014] **Designing Musical Software**, San Francisco State University, A.S. Theater. Presentation of live audio coding in a graphical environment, followed by an interactive performance utilizing original music software.

[2014] **Earthquakes (Remix)**, The Candle Thieves

[2014] **Simulacrum**, formant transformations with Kyma

[2013] **Face2Phase**, facial gestural controller for audio and visual synthesis

[2013] **PSY**, Composer, Vogue Italia feature, International

[2013] **c2**, Boulevard, Chicago, IL. Electronic performance, laptop, physical objects, electronics, controllers

[2012] **Adaptive Systems Toolkit**, development in Kismet, graphical environments for interactive design

[2012] **Katy Perry**, algorithmically produced composition, Vogue Italia, International

[2011] **GQ**, Composer, International

[2011] **Laptop Quintet**, Impromptu, CCRMA, Stanford University, Stanford, CA

[2011] **PETA**, Composer, Save the Seals campaign, International

[2010] **Playboy**, Composer, features, International

[2010] **SynthesImage**, spectral synthesis, audio sonification of imagery. Spectral synthesis audio sonification of image gallery.

[2010] **Twisted Tools**. Sound Designer and Drum Programmer for Vortex, Scapes, Rolodecks, S-Layer, and Buffeater instruments.

[2009] **CodeTrain**, algorithmic analysis and performance. Algorithmic compositional tool coded in LISP to create new interpretations in the style of John Coltrane. The software is designed to recognize patterns in rhythm, note order, and melodic, harmonic, and contrapuntal movements and progressions, producing new music in the style of the recorded data set.

[2008] **Glitch Machine v1.2**. LISP-coded system used to analyze and modulate rhythm data sets and create rhythmically new, complex, and polyrhythmic patterns.

[2008] **c2**, Tonic Room, Chicago, IL. Electronic performance, laptop, physical objects, electronics, controllers

[2007] **a-morph-ous**, algorithmic composer. Transformative algorithmic compositional software written under the mentorship of David Cope and his Experiments in Musical Intelligence, with the original intent to produce new symphonic works in the styles of Gustav Mahler and Béla Bartók. Developed as a model, the software recognizes patterns in rhythm, note order, and melodic, harmonic, and contrapuntal progressions, producing new music in the style of the input data set. Developed as three analysis systems: polyphonic without rhythm for intractability, polyphonic with rhythm utilizing a Markov decision model, and polyphonic with rhythm and measure structure using a Markov model while constraining analysis to smaller segments for less divergent composition.

[2007] **eLiS**, list sonification. Data analysis tool written in Common LISP. Intentioned initially to provide an auditory representation of inaudible information such as earthquake activity, populations across locations, weather patterns, and extraterrestrial storms. eLiS scales and translates lists of information into MIDI pitch, velocity, on-times, duration, and channels, among other parameters, to observe audibly.

[2006] **IMPULSION** - electroacoustic improvisation & field recording soundscape. Multi-channel installation of an improvised performance of a self-designed percussion instrument and found sounds processed by discrete impulse responses captured at their original recording location - autonomously generated, the signals are processed to effect perception.

[2006] **Legends The Game**, complete sound design

[2006] **Viriconium**, Muse Gallery, Chicago, IL. Autonomous and interactive prepared percussion and synthesis installation utilizing a recursive feedback instrument.

- [2005] **Girl on a Train**, McGonigal's, Barrington, IL. Live electronics, sound, and light experiments with live electronic ensemble 7 League Boots
- [2005] **Scientist**, Dub Producer Hopeton Brown, Engineer
- [2004] **Colour and Silence**, The Onion, Chicago, IL. Electronic performance, live electronics, sound and light experiments, noisemakers, controllers, drum kit
- [2004] **Explorer Smart Globe**, LeapFrog, Sound Designer and Editor
- [2004] **String dissection**. An interactive music concatenation system developed within a game engine.
- [2003] **c2**, Lilly's, Chicago, IL. Electronic performance, laptop, physical objects, electronics, controllers, drum kit
- [2002] **Billy Joel**, Arranger, Rock for the Rainforest, Carnegie Hall
- [2002] **Carole King**, Arranger, Rock for the Rainforest, Carnegie Hall
- [2002] **Elton John**, Arranger, Rock for the Rainforest, Carnegie Hall
- [2002] **James Taylor**, Arranger, Rock for the Rainforest, Carnegie Hall
- [2002] **Siedah Garrett** (Michael Jackson/Madonna), Engineer, Siedah
- [2002] **Smokey Robinson**, Arranger, Rock for the Rainforest, Carnegie Hall
- [2002] **Sting**, Arranger, Rock for the Rainforest, Rainforest Foundation Concert, Carnegie Hall
Reconceptualization of previously composed work. Worked with Musical Director Narada Michael Walden on high-profile conversancy benefit spearheaded by Sting and Trudie Styler.
- [2001] **About Time**, tape effects study
- [2000] **Jacked Kerowack**, Composed by transforming recordings of Jack Kerouac reading his work. Conversely, the spoken word is affected by parameters unique to the newly generated composition.
- [1999] **इंडिया**, field recording library created throughout Australia and India
- [1998] **Duets**, J. Angelo (saxes, flute) C. Colatos (drums/electronics) live 90.7 FM SFPR
- [1997] **Blight**, Cerrillos Historical Society, Duet, w/ J. Angelo. Cerrillos, NM
- [1997] **Inharmonique**, Michael Wilding Gallery, Santa Fe, NM. Installation, drone, two reel-to-reel tape machines and electronics, experiments in equal temperament, alternative tunings, and beating.
- [1997] **صلح**, Improvised processed drone ensemble. Whispering Dove, Santa Fe, NM
- [1996] **Percussion Ensemble**, International Community School, Addis Ababa, Ethiopia
- [1996] **አዲስ**, field recording library created throughout East Africa
- [1996] **Baroque Ornaments**, Santa Fe Art Institute, Santa Fe, NM. Artist-in-residence. Soundscape installation for tape and projection of reimagined and recorded historical and contemporary local sound.

Selected Broadcasts, Radio *(Writer, Producer, and On-Air Host)*

[05.31.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Steve Reich
[05.24.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Grisey and Murail
[05.17.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Alexander Scriabin
[05.10.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Morton Feldman
[05.03.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Daphne Oram
[04.26.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Prince Far I
[04.19.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: King Tubby
[04.12.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: François Bayle
[04.05.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Pierre Schaeffer
[03.29.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Edgard Varèse
[03.22.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Éliane Radigue
[03.15.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Laurie Spiegel
[03.08.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Pierre Boulez
[03.01.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Bernard Parmegiani
[02.22.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Mathews and Risset
[02.22.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Pauline Oliveros
[02.15.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Earle Brown
[02.08.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: David Bowie
[02.01.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: R. Stevie Moore
[01.25.98] Co-Host KSFR 90.7 FM, Santa Fe Public Radio, Stereo Jelly: Punk, Noise, Avant-Garde
[01.25.98] KSFR 90.7 FM, Santa Fe Public Radio, All Talk Don't Bounce
[01.25.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: La Barbara and Monk
[01.18.98] Co-Host KSFR 90.7 FM, Santa Fe Public Radio, Stereo Jelly: Punk, Noise, Avant-Garde
[01.18.98] KSFR 90.7 FM, Santa Fe Public Radio, All Talk Don't Bounce
[01.18.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Coltrane, Jones, Ali
[01.11.98] Co-Host KSFR 90.7 FM, Santa Fe Public Radio, Stereo Jelly: Punk, Noise, Avant-Garde
[01.11.98] KSFR 90.7 FM, Santa Fe Public Radio, Eclecticism: Reggae, Rap, Jazz, Electronic, World
[01.11.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Pérotin and Arvo Pärt
[01.04.98] Co-Host KSFR 90.7 FM, Santa Fe Public Radio, Stereo Jelly: Punk, Noise, Avant-Garde
[01.04.98] KSFR 90.7 FM, Santa Fe Public Radio, Eclecticism: Reggae, Rap, Jazz, Electronic, World
[01.04.98] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Ayler, Coleman, Dophy, Braxton
[12.28.97] Co-Host KSFR 90.7 FM, Santa Fe Public Radio, Stereo Jelly: Punk, Noise, Avant-Garde
[12.28.97] KSFR 90.7 FM, Santa Fe Public Radio, Eclecticism: Reggae, Rap, Jazz, Electronic, World
[12.28.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: The Velvet Underground
[12.21.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Iannis Xenakis
[12.14.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Terry Riley
[12.07.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Scelsi and Schnittke
[11.30.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Berg and Webern
[11.23.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Aphex Twin
[11.16.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Squarepusher
[11.09.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Autechre
[11.02.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Negativland
[10.26.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Alvin Lucier
[10.19.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Christian Wolff
[10.12.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: David Tudor
[10.05.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: La Monte Young
[09.28.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: John Cage
[09.21.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Messiaen and Satie
[09.14.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: Fela Kuti
[09.07.97] KSFR 90.7 FM, Santa Fe Public Radio, Artist Portrait: KRS-ONE

Selected Writings

[2023] AUGMENTING THE REALITY OF ACCESSIBLE LEARNING ENVIRONMENTS

The integration of Augmented Reality (AR) technology holds immense potential to revolutionize accessible digital learning environments for individuals with disabilities. The framework provides opportunities for immersive, interactive, and inclusive learning experiences that enhance student engagement. The present research explores the theoretical foundations and technological advancements of AR in addressing the unique needs of people with disabilities, focusing on practical applications and prospective advances, exploring how AR can integrate visual and auditory cues for learners with hearing and sight impairments, incorporate haptic feedback and gesture recognition to facilitate tactile and kinesthetic interactions for students with motor impairments and tailor content delivery methodologies for those with cognitive disabilities. The study emphasizes the significance and efficacy of AR in catalyzing equitable and empowering online learning environments and highlights implications for all learners, enabling individuals with disabilities to participate and thrive fully.

[2017] LEARNING EFFICACY OF MULTIMEDIA IN INTERACTIVE AUGMENTED REALITY ENVIRONMENTS

Augmented Reality is an incipient technology rooted in traditional multimedia with attractive applications for education. Mobile devices travel with billions of people globally, and the inherently mobile nature of AR, with its simple and inexpensive implementation relative to the potentialities exhibited for pervasive, personal, and connected learning, indicates that it is poised to supplement the future of multimodal educational dissemination. The present study explored the learning efficacy of multimedia forms within interactive augmented reality environments. The results are important for confirming academic quality when employing emergent practices. This information may be of value for educators, instructional designers, and learners seeking to utilize empirical evidence as the basis of educational design decisions and learning strategies. The study isolated media types within AR experiences and evaluated their efficacy for learning.

[2016] EFFECTS OF ARTS EDUCATION AND UNDERSERVED COMMUNITIES

This article explores the potential of arts education access and practice and advocates that arts education is integral to human rights, social justice, and intellectual, democratic, and cultural inclusivity with qualities of importance to the empowerment and equity of underrepresented communities.

[2016] ADAPTIVE LEARNING DESIGN IMPLICATIONS: EFFECTS OF MULTIMEDIA ON LEARNING EFFICACY AND COGNITIVE LOAD

An experimental and data-driven study to inform effective adaptive learning domain model development decisions with an incipient exploration of cognitive load and learning efficacy when utilizing multimedia stimuli. These platforms' systems rely on sophisticated feedback from human interaction, educational theory, learning analytics, and educational data mining. The pilot comprised an overview of the proposed research, relevant literature on orthogonal and intersecting agendas, imbricated methodological experimentation, data processing, and anticipated challenges. Results demonstrate that media types and combinations of media exhibit varying cognitive load, consequently impacting learning efficacy.

[2009] APPLE PRO TRAINING SERIES: Logic Pro 9 and Logic Express 9: Professional Audio Production

Technical Reviewer, Apple Pro Training Series: Logic Pro 9 and Logic Express 9: Professional Audio Production

[1989] THE TEAM SEGA® NEWSLETTER JAN. '89, No. 5