

## Education

- 2021 **Doctor of Philosophy, Music Composition**  
University of California, Santa Barbara, USA  
Dissertation: "Hearing the Infinitesimal: From Classical to Quantum Music"  
Committee: João Pedro Oliveira (chair), Curtis Roads, JoAnn Kuchera-Morin
- 2021 **Master of Science, Media Arts & Technology**  
University of California, Santa Barbara, USA  
Thesis: "CHON: From physical simulation to musical gesture"  
Committee: Curtis Roads (chair), JoAnn Kuchera-Morin, Karl Yerkes
- 2019 **Master of Arts, Music Composition**  
University of California, Santa Barbara, USA  
Committee: Clarence Barlow (chair), Curtis Roads, Ben Levy
- 2013 **Bachelor of Arts, Interdisciplinary Major in Music and Psychology (with distinction)**  
St. Thomas University, Fredericton, Canada

## Additional Masterclasses, Workshops, Academies

- 2019 **Field Recording:** Douglas Quin, Philip Samartzis (Bogong Centre for Sound Culture, Australia)
- 2019 **Live Electronics:** Alvis Vidolin, Nicola Bernardini (Accademia Musicale Chigiana, Italy)
- 2019 **Acousmatic Composition:** Annette Vande Gorne, Hans Tutschku (Musiques & Recherches, Belgium)
- 2013 **Conducting:** Alfredo Coral (St. Thomas University, Canada)

## Awards, Grants, & Fellowships

- 2022 **MA/IN Festival Honorary Mention**  
*Psi*
- 2022 **Destellos International Electroacoustic Competition 2021 Public Jury Honorable Mention**  
*Psi*
- 2021 **Dorothy and Sherrill C. Corwin Award for Excellence in Composition**  
*1<sup>st</sup> prize in solo/chamber category for Coacervate*
- 2020 **Musica Nova International Electroacoustic Music Competition 2020 Finalist**  
*De Rerum Natura*
- 2020 **Destellos International Electroacoustic Competition 2020 Honorable Mention**  
*De Rerum Natura*
- 2020 **SIMEC Electroacoustic Music Competition 2020 Finalist**  
*De Rerum Natura*
- 2020 **Graduate Division Dissertation Fellowship**  
*Highly competitive award for excellence in doctoral research*
- 2020 **MAT Merit Research Stipend**  
*For academic excellence and service to the program*
- 2020 **ASCAP/SEAMUS Award Finalist**  
*De Rerum Natura (under the name "Dimensionless")*
- 2019 **Summer Culture and Community Grant**  
*For organizing the UCSB Summer Music Festival*
- 2019 **Dorothy and Sherrill C. Corwin Award for Excellence in Composition**  
*1<sup>st</sup> prize in Percussion category for Sisyphe Heureux*

## Awards, Grants, & Fellowships (cont.)

- 2019 **Dorothy and Sherrill C. Corwin Award for Excellence in Composition**  
*2<sup>nd</sup> prize in Electroacoustic category for Glossopoeia*
- 2019 **Peter Racine Fricker Research Stipend**
- 2018 **International Doctoral Recruitment Fellowship**
- 2018 **Summer Cultural and Enrichment Grant**  
*For organizing the UCSB Summer Music Festival*
- 2018 **Corwin Grant**  
*For organizing the UCSB Summer Music Festival*
- 2017 **The Peter Racine Fricker Fellowship for Studies in Composition**
- 2017 **UCSB Regents Departmental Fellowship**
- 2017 **International Doctoral Recruitment Fellowship**
- 2017 **Peter Racine Fricker Research Stipend**
- 2016 **The Peter Racine Fricker Fellowship for Studies in Composition**
- 2016 **UCSB Regents Departmental Fellowship**

## Teaching Experience

### *Academic Appointments*

- 2023- **Assistant Teaching Professor**  
Worcester Polytechnic Institute – Interactive Media and Game Development Program  
Designing and teaching courses: Game Audio (1 & 2), Advanced Topics in Interactive Audio
- 2021 **Teaching Associate – Intermediate Composition** (Instructor of Record)  
University of California, Santa Barbara  
Gave one-on-one lessons to mentor students majoring in composition  
Tailored study plans for each student based on artistic and technical development outcomes
- 2021 **Teaching Associate – Class Composition** (Instructor of Record)  
University of California, Santa Barbara  
Created a custom curriculum and course materials for students minoring in composition  
Designed flipped classroom format for hybrid synchronous-asynchronous virtual learning
- 2018- **Teaching Assistant – Computer Music** (Instructor of Record: Curtis Roads)  
2020 University of California, Santa Barbara  
Electronic Music: History & Aesthetics, Sequencing & Synthesis, and Sound Transformation  
Gave group and individual lessons on the concepts, techniques, and history of electronic music and digital recording. Facilitated group lab sessions in electronic composition.
- 2010- **Tutor – Music Department and Psychology Department**  
2012 St. Thomas University  
Tutored psychology, music theory, and composition in group and one-on-one contexts

### *Invited Lectures and Workshops*

- 2021 **Sonic Art (Colby College)**  
Lecture: *Algorithmic Composition*
- 2021 **Composition LAB (Estonian Academy of Music and Theatre)**  
Lecture: *From physics to musical gesture*
- 2020 **Composition Forum (University of California Santa Barbara)**  
Lecture: *Controlling EmissionControl2*
- 2020 **Alliance of Women in Media, Arts, & Sciences Conference**  
Workshop: *Introduction to Computer Music Programming in Pure-Data*  
Co-Presenter: Elizabeth Hambleton

### *Invited Lectures and Workshops (cont.)*

- 2020 **Womxn/Hacks 2.0**  
Workshop: *Intro to Computer Music Programming*
- 2019 **Composition Forum (University of California Santa Barbara)**  
Lecture: *Systems in Composition*
- 2018 **Art22: Introduction to Programming for the Arts (University of California Santa Barbara)**  
Lecture: *Coding as Compositional Process*

### **Other Professional Experience**

- 2022- **Lead Software Architect**  
Digiscore Project (Netronome)  
Planning and implementing network music software funded by the European Research Council  
Overseeing the scope, functionality, and direction of the software in consultation with DigiScore research partner (Dr. Kenneth Fields)  
Developing core features of the software (full-stack)  
Recruiting talent to consult and aid in development of the software
- 2022- **Subject Matter Expert**
- 2023 Rocky Mountain College of Art and Design, Denver  
Developing remote learning courses from the ground up for a newly formed Music Production program at RMCAD including: Music Copyright and Ethics, Sound Design I: Synthesis, and Sound Design II: Creative DSP.  
Design of syllabus, assignments, readings, fully written lectures, slide decks, multimedia interactive h5p content, and instructional videos.
- 2021- **Programs & Development Director – Nomadic Soundsters**  
Online/Remote  
Co-founded a non-profit arts organization aimed at promoting equitable artistic collaboration and virtual community building  
Directing a year-long residency program  
Organizing workshops, guest lectures, outreach, and other community-building initiatives
- 2017- **CREATE Technical Coordinator**
- 2020 University of California, Santa Barbara  
Lead engineer and technical director for all CREATE concerts  
Concerts presented in 8-channel surround with complex routing, live diffusion, and live electronics  
Managed 3 multi-channel electronic music studios  
Planned and implemented a complete overhaul of Studio Varèse, an octophonic recording studio  
Responsible for access control, maintenance, and upgrades of software, hardware, and facilities
- 2018- **Technical Director/A1 Engineer – Alliance of Women in Media Arts and Science Conference**
- 2020 University of California, Santa Barbara  
Lead audio engineer and technical director for all conference concerts and talks
- 2019 **Co-Artistic Director – UCSB Summer Music Festival**  
University of California, Santa Barbara  
2-day festival featuring 11 distinct events (10 concerts, 1 exhibition) showcasing diverse musical traditions and interdisciplinary collaborations  
Consulting, concert programming, financial direction, and booking venues
- 2018 **Executive Director – UCSB Summer Music Festival**  
University of California, Santa Barbara  
Proposed, secured funding for, and directed 2-day festival featuring 10 distinct events (9 concerts, 1 exhibition) in traditional and non-traditional spaces  
Responsible for artistic direction (program planning, hiring artists), financial direction (grant writing, budgeting, negotiating), and technical direction (booking venues, production, execution)

## Other Professional Experience (cont.)

2014- **VP Sound Department – Forest Heart Project**

2017 Green Dot Games Inc.

Directed the sound department for a startup video game company, meeting with other department leads to determine workflows, develop cue sheets, and implement FMOD

Sat on board of directors for Green Dot Games Inc.

Guided the efforts of 20 music/SFX/voice acting contributors and contributed assets myself

2017 **Composition Forum Coordinator**

University of California, Santa Barbara

2014- **Composer and Sound Designer for Theater**

2016 Theatre St. Thomas/The Coop/The Next Folding Theatre Company

Produced full score and sound design for 4 stage productions

2014- **Producer & Audio Engineer**

2016 Engineer and producer for several albums (progressive metal)

## Publications

DuPlessis, Rodney. 2023 (forthcoming). “From stochastic music to quantum music” *In Press: Chapter in NoiseFloor Perspectives: collaboration, engagement, and tradition in contemporary and electronic music*

Roads, Curtis, Jack Kilgore, and Rodney DuPlessis. 2021. “Architecture for Real-Time Granular Synthesis with Per-Grain Processing: EmissionControl2.” *In Press: The Computer Music Journal* 45 (3). 20–38. doi: [https://doi.org/10.1162/comj\\_a\\_00613](https://doi.org/10.1162/comj_a_00613)

DuPlessis, Rodney. 2022. “Composing Quantum Music: Psi.” In *Proceedings of the 2022 International Computer Music Conference*, 194–99. Ann Arbor, MI: Michigan Publishing Services. <https://hdl.handle.net/2027/fulcrum.nk322g689>.

Roads, Curtis, Jack Kilgore, and Rodney DuPlessis. 2022. “EmissionControl2: Designing a Real-Time Sound File Granulator.” In *Proceedings of the 2022 International Computer Music Conference*, 49–54. Ann Arbor, MI: Michigan Publishing Services. <https://hdl.handle.net/2027/fulcrum.nk322g689>.

DuPlessis, Rodney. 2022. “A Virtual Instrument for Physics-Based Musical Gesture: CHON.” In *Proceedings of the International Conference on New Interfaces for Musical Expression*. The University of Auckland, New Zealand: The University of Auckland. <https://doi.org/10.21428/92fbeb44.18aeca0e>.

DuPlessis, Rodney. 2022. “A Quantum Model for Sound Synthesis: QHOSYN.” In *Proceedings of the 19th Sound and Music Computing Conference*, 310–16. Saint-Étienne, France: SMC Network. <https://doi.org/10.5281/zenodo.6798092>.

DuPlessis, Rodney. 2021. “Hearing the Infinitesimal: From Classical to Quantum Music.” PhD Dissertation, Santa Barbara, CA: University of California Santa Barbara. <https://www.proquest.com/docview/2636371761>.

DuPlessis, Rodney. 2021. “CHON: From Physical Simulation to Musical Gesture.” Masters Thesis, Santa Barbara, CA: University of California Santa Barbara. [https://mat.ucsb.edu/Masters/MATMastersDoc\\_DuPlessis.pdf](https://mat.ucsb.edu/Masters/MATMastersDoc_DuPlessis.pdf).

## Conference and Festival Presentations

2024 **Tutti Festival**

Music: *Coacervate*

2023 **New York City Electroacoustic Musical Festival**

Music: *De Rerum Natura*

## Conference and Festival Presentations (cont.)

- 2023 **Quantum Sounds Symposium (Barcelona)**  
Invited talk: *Composing with classical and quantum harmonic oscillators*
- 2023 **New York City Electroacoustic Music Festival**  
Music: *De Rerum Natura*
- 2023 **Society for Electroacoustic Music in the United States National Conference**  
Music: *Psi*
- 2023 **MOXSonic**  
Music: *Psi*
- 2022 **MA/IN Festival**  
Music: *Psi*
- 2022 **International Computer Music Conference**  
Paper: *EmissionControl2: Designing a real-time sound file granulator* (Co-authors: Curtis Roads, Jack Kilgore)  
Piece+Paper: *Composing Quantum Music: Psi*  
Music: *Coacervate (Performed by Andrew Tholl)*
- 2022 **New Interfaces for Musical Expression**  
Paper: *A virtual instrument for physics-based musical gesture: CHON*
- 2022 **New York City Electroacoustic Music Festival**  
Music: *Psi*  
Paper: *Physics-based musical control: CHON*
- 2022 **Sound and Music Computing**  
Paper: *Quantum simulation for sound synthesis: QHOSYN*  
Music: *Psi*
- 2022 **NoiseFloor**  
Piece+Paper: *Psi: From stochastic to quantum music*  
Music: *Coacervate*  
Music: *De Rerum Natura*
- 2022 **Earth Day Art Model**  
Music: *Psi*
- 2022 **Electronic Music Midwest**  
Music: *De Rerum Natura*
- 2022 **Society for Electroacoustic Music in the United States National Conference**  
Paper: *Architecture for real-time granular synthesis: EmissionControl2* (Co-Presenters: Curtis Roads, Jack Kilgore)  
Music: *Coacervate (Performed by conference performer Mary Kothman)*  
Music: *Psi (accepted but not programmed due to last minute rule change regarding multiple pieces)*
- 2022 **TUTTI Festival**  
Music: *De Rerum Natura*
- 2022 **Contemporary Computer Music Concerts**  
Music: *Coacervate*
- 2022 **Musiques Démesurées**  
Music: *De Rerum Natura*
- 2021 **Visiones Sonoras**  
Music: *Coacervate*  
Paper: *CHON: A Physics-Based LFO Array*
- 2021 **Society of Composers Inc. National Student Conference**  
Music: *Coacervate*

## Conference and Festival Presentations (cont.)

- 2021 **Society for Electroacoustic Music in the United States National Conference**  
Music: *Coacervate*
- 2020 **Earth Day Art Model**  
Music: *HeatWaves* (Co-Presenters: SUDO Ensemble)
- 2020 **Society for Electroacoustic Music in the United States National Conference**  
Music: *Dimensionless*
- 2020 **Alliance of Women in Media, Arts, and Sciences Conference**  
Workshop: *Intro to Computer Music Programming in Pure Data* (Co-presenter: Elizabeth Hambleton)
- 2020 **Womxn/Hacks**  
Workshop: *Intro to Computer Music Programming*
- 2019 **NowNet Arts Conference**  
Music: *Trans-Pacific Concert with UCSB and the Elder Conservatorium of Music in Adelaide*  
(Co-Presenters: Ken Fields, Elder Conservatorium network ensemble, UCSB network ensemble)
- 2019 **Influx Summer Festival**  
Music: *Dimensionless*
- 2019 **Sound + Science Symposium 2.0, UCLA**  
Performance and Panel: *Artsmesh Network Music Performance and Discussion* (Co-Presenters Ken Fields, Joel Ong, Gil Kuno)
- 2018 **International Computer Music Conference**  
Music: *Bachflip*

## Service

- 2024 **Web Audio Conference**  
Adjudicator
- 2021 **Society for Electroacoustic Music in the United States (SEAMUS) Conference**  
Adjudicator
- 2021 **Francis Dhomont Lecture “Abstraction et figuration dans ma musique”**  
Translator
- 2020 **Society for Electroacoustic Music in the United States (SEAMUS) Conference**  
Adjudicator

## List of Works with Performances and Awards

- 2021 **Psi**  
*Electroacoustic*  
*Destellos International Electroacoustic Competition 2022 Public Jury Honorable Mention*  
*MA/IN Honorary Mention*  
Apr 2023: Rodney DuPlessis, SEAMUS 2023, New York, NY, USA  
Mar 2023: Rodney DuPlessis, MOXSonic, Warrensburg, MO, USA  
Nov 2022: Rodney DuPlessis, MA/IN Festival, Lecce, Italy  
Nov 2022: Rodney DuPlessis, Permutations and Combinations, Santa Barbara, CA, USA  
Jul 2022: Rodney DuPlessis, ICMC 2022, Limerick, Ireland  
Jun 2022: Rodney DuPlessis, NYCEMF 2022, New York, NY, USA  
Jun 2022: Rodney DuPlessis, SMC, Saint-Étienne, France  
May 2022: Rodney DuPlessis, Noisefloor, Stoke-on-Trent, UK  
Apr 2022: Rodney DuPlessis, Earth Day Art Model, Online  
Dec 2021: Rodney DuPlessis, Hearing the Infinitesimal: a PhD Recital, Santa Barbara, CA, USA  
(Online), Premiere

## List of Works (cont.)

### 2021 **Coacervate**

#### *Violin and Electronics*

*1<sup>st</sup> prize Dorothy and Sherrill C. Corwin Award in Solo/Chamber category*

Mar 2024: Andrew Tholl, Tutti Festival, Granville, Ohio, USA

Jul 2022: Andrew Tholl, ICMC 2022, Limerick, Ireland

May 2022: Rodney DuPlessis, Noisefloor, Stoke-on-Trent, UK

Apr 2022: Mary Kothman, SEAMUS 2022, Kalamazoo, MI, USA

Mar 2022: Hiromu Takano (Acousmonium performance), CCMC 2022, Kyotanabe, Japan

Dec 2021: Chelsea Edwards, Hearing the Infinitesimal: a PhD Recital, Santa Barbara, CA, USA  
(Online)

Sep 2021: Chelsea Edwards, Visiones Sonoras, Morelia, Michoacán, Mexico (online)

Aug 2021: Chelsea Edwards, SCI National Student Conference, Online

Jun 2021: Chelsea Edwards, Synesthesias: New Music at UCSB 2, Santa Barbara, CA, USA (online)

Apr 2021: Chelsea Edwards, SEAMUS 2021, Online

Dec 2020: Chelsea Edwards, ECM Concert, Santa Barbara, CA, USA (online), Premiere

### 2020 **Pandæmonium**

#### *Piano Four Hands*

Dec 2021: HOCKET, Hearing the Infinitesimal: a PhD Recital, Santa Barbara, CA, USA (Online)

Aug 2020: HOCKET, UCSB Summer Music Festival 2020, Santa Barbara, CA, USA (Online),  
Premiere

### 2020 **De Rerum Natura**

#### *Electroacoustic*

*ASCAP/SEAMUS Award 2020 Finalist*

*SIMEC Electroacoustic Music Competition 2020 Finalist*

*Destellos International Electroacoustic Competition 2020 Honorable Mention*

*Musica Nova International Electroacoustic Music Competition 2020 Finalist*

Jun 2023: Rodney DuPlessis, NYCETF 2023, New York, NY, USA

May 2022: Rodney DuPlessis, Noisefloor, Stoke-on-Trent, UK

Apr 2022: Rodney DuPlessis, Electronic Music Midwest, Chicago, IL, USA

Mar 2022: Rodney DuPlessis, TUTTI Festival 2022, Granville, OH, USA

Dec 2021: Rodney DuPlessis, Hearing the Infinitesimal: a PhD Recital, Santa Barbara, CA, USA  
(Online)

Oct 2021: Rodney DuPlessis, Musiques Démesurées, Clermont-Ferrand, France

Dec 2020: Rodney DuPlessis, Musica Nova Concert of finalists, Prague, Czech Republic (online)

Mar 2020: Rodney DuPlessis, SEAMUS 2020, Charlottesville, VA, USA (online)

Aug 2019: Rodney DuPlessis (Acousmonium performance), Influx Summer Festival, Brussels,  
Belgium, Premiere

### 2020 **Oscilla**

#### *Interactive Exhibit*

August 2022–January 2023: MOXI, Santa Barbara

Oct 2020–Ongoing: The Museum of Sensory and Movement Experiences, Santa Barbara, CA, USA

### 2019 **Mysterium Cosmographicum**

#### *2-channel Audio and Oscilloscope*

Aug 2019: UCSB Summer Music Festival 2019, Santa Barbara, CA, USA

Jun 2019: MAT End of Year Show, Santa Barbara, CA, USA

Mar 2019: First Thursday @ SBCAST, Santa Barbara, CA, USA, Premiere

### 2018 **Sisyphé Heureux**

#### *for percussion quartet and electronic playback*

*1<sup>st</sup> prize Dorothy and Sherrill C. Corwin Award in Percussion category*

## List of Works (cont.)

- Dec 2021: LAPQ, Hearing the Infinitesimal: a PhD Recital, Santa Barbara, CA, USA (Online)  
Aug 2018: Los Angeles Percussion Quartet, Santa Barbara, CA, USA, Premiere
- 2018 **Follow the Lieder**  
*for viola and live electronics*
- 2018 **Disconnect**  
*for saxophone and HASGS (Hybrid Augmented System of Gestural Symbiosis)*  
Nov 2018: Henrique Portovedo, I Encontro de LiveLoopists, Aveiro, Portugal  
Jun 2018: Henrique Portovedo, ICLI 2018, Porto, Portugal  
Mar 2018: Henrique Portovedo, Santa Barbara, CA, USA, Premiere
- 2018 **Quinto Suono**  
*for string quartet*  
Jan 2018: Formalist Quartet, Santa Barbara, CA, USA, Premiere
- 2017 **2fl v → 2fl**  
*for flute duo*  
Aug 2017: Adriane Hill and Cynthia Vong, Santa Barbara, CA, USA, Premiere
- 2017 **BachFlip**  
*4-channel fixed media*  
Aug 2018: International Computer Music Conference (ICMC) 2018, Daegu, South Korea  
Jun 2017: Santa Barbara, CA, USA, Premiere
- 2017 **Feedback**  
*for double bass and live electronics*  
May 2017: Scott Worthington, Santa Barbara, CA, USA, Premiere
- 2016 **Glossopoeia**  
*2-channel fixed media*  
*2<sup>nd</sup> prize Dorothy and Sherrill C. Corwin Award in Electroacoustic category*  
Apr 2018: CEMEC, CCRMA, Stanford, CA, USA  
Apr 2018: CEMEC, Santa Barbara, CA, USA  
Nov 2017: CREATE presents: Sound Resistance, Santa Barbara, CA, USA, Premiere
- 2016 **Surface Tension**  
*4-channel fixed media*  
Apr 2017: CEMEC, Mills College, Oakland, CA, USA  
Apr 2017: CEMEC, San Diego, CA, USA, Premiere
- 2016 **Bending Light** (collaborators: Adrian Barnes, Alec Dobbelsteyn, Ben Maclean)  
*for progressive metal quintet*  
Jan 2017: Tactus, Fredericton, NB, Canada, Premiere  
Oct 2016: Tactus, Worldwide, digital and physical album release
- 2016 **Back to Zero**  
*original score and sound design (Theatre)*  
Mar 2016 (4 shows): Next Folding Theatre Company, Fredericton, NB, Canada, Premiere
- 2016 **The Bacchae**  
*original score and sound design (Theatre)*  
Feb 2016 (4 shows): Theatre St. Thomas and The Coop, Fredericton, NB, Canada, Premiere
- 2015 **Memory of a Rêverie**  
*for orchestra*  
Dec 2015: Yokohama Youth Orchestra, Yokohama, Reading
- 2015 **Trudeau and the FLQ**  
*original score and sound design (Theatre)*  
Nov 2015 (5 shows): Theatre St. Thomas, Fredericton, Premiere

## List of Works (cont.)

- 2014 **The Taming of the Shrew**  
*original score and sound design (Theatre)*  
Nov 2014 (5 shows): Theatre St. Thomas, Fredericton, Premiere
- 2014 **Rêverie**  
*for piano, flute, and cello*  
Jun 2014: Windsor University Trio, Fredericton, NB, Canada, Premiere
- 2014 **T** (collaborators: Adrian Barnes, Alec Dobbelsteyn, Ben Maclean)  
*for progressive metal quintet*  
Jun 2014: Tactus, Fredericton, NB, Canada, Premiere
- 2013 **Chimes**  
*fixed media installation*  
Nov 2013: Fredericton, NB, Canada, Premiere
- 2012 **Elements**  
*for piano*
- 2011 **Kosala & Maghada**  
*clarinet concerto with violin, viola, and cello*
- 2010 **Upon Lonely Seas**  
*for string quartet*  
Dec 2010: Eurodam String Quartet, The Caribbean Sea, Reading

## Original Software and Programs

- 2021 **PRISM (C++, VST Plugin)**  
PRISM is a forthcoming suite of spectral processing VST plugins. It aims to provide unusual and novel spectral processing possibilities for sound design and composition. It will include a recreation of the spectral dilation algorithm of PISCES in VST form, and several other effects.
- 2021 **QHOSYN (C++, Standalone)**  
QHOSYN is the Quantum Harmonic Oscillator Synthesizer. The software employs an accurate quantum simulation of an observable in a superposition of eigenstates up to the  $n=15$  energy level. It can be used to generate evolving sound and control signals directly using a quantum wave function based on the time-dependent Schrödinger equation. Through sonic exploration, the user can create "quantum sounds" and gain an aesthetic understanding of quantum objects.
- 2021 **CHON (C++, Standalone)**  
Coupled Harmonic Oscillator Network (CHON) is a real-time, interactive application for generating sonic gestures and textures using a simulation of a physical dynamical system as a musical interface. The physical system is a network of particles connected by a spring-like force. The user sets the system into motion by displacing a particle, which causes a chain reaction governed by Newtonian mechanics. An evolution of the LFO, the system generates complex yet tangible control data that can be used to drive parameters for sound synthesis and other purposes.
- 2020 **EmissionControl2 (C++, Standalone) Collaborators: Jack Kilgore, Curtis Roads**  
EmissionControl2 (EC2) is a standalone interactive real-time application for granular synthesis. It is available for MacOS, Linux, and Windows. This project was a two-year endeavor to revive Curtis Roads' and David Thall's EmissionControl (2005). It turned into a complete overhaul with innumerable new features and improvements. EC2 has been downloaded by over 9000 musicians worldwide.
- 2020 **Alloscope (C++, Standalone)**  
Alloscope is an X-Y or "octopus" configuration oscilloscope application for visualizing stereo audio files. It can be used to explore Lissajous curves and vector art that usually requires a vector display like an analog oscilloscope or Vectrex. This software aims to mimic these analog machines as much as

## Original Software and Programs (cont.)

possible, but on a pixel-based display like a computer screen. Available for Windows, MacOS, and Linux.

### 2019 **Sieves [revised version, 2019] (C, Command Line) Collaborator: Curtis Roads**

Originally written in BASIC by Iannis Xenakis and later translated to C by Gérard Marino, the entire code was written out in chapter XII of *Formalized Music* (Xenakis, 1990). However, the code relied on deprecated libraries and contained other errors, so we revised and adapted the code to work with C standard libraries and submitted the revised program to the Centre Iannis Xenakis for preservation.

### 2018 **Pulsar- (Pure Data)**

An implementation of Pulsar Synthesis as described in “Composing with Pulsars” (Roads, 2000) in PureData. Features include loading an arbitrary waveform as a pulsaret, versatile enveloping, real time control over fundamental and formant frequencies, sync or phase-locking, and a masking input that accepts a binary list as a masking pattern (numbers between 1 and 0 can also be given for partial masking).

### 2018 **Xieves (Pure Data)**

An implementation of Xenakis’ Sieve technique of series generation in Pure Data. The versatility of the Pure Data environment allows the output of the object (a number series) to be used in a myriad of constructions from scales and harmonies to rhythmic patterns and envelopes; anything that can accept a sequence of integers. In addition, this program expands on the original sieve software designed by Xenakis (1990) by allowing for the then-unfeasible ability to realize Xenakis’ conception of *metabolae* (transformations of the sieve) in real time.

### 2017 **PISCES (C++, Standalone)**

An original program for realizing my concept of Spectral Dilation, a process whereby the power of a spectrum is pulled toward or repelled from a chosen frequency. This software has two modes: one allows the user to construct a synthesized spectrum through additive synthesis, and the other allows real-time manipulation of an audio stream.

## Professional Affiliations

SOCAN, ICMA, SEAMUS, AES, SCI, CEC, SUDO Ensemble, Nomadic Soundsters

## Additional Proficiencies

### Languages

Human: English, French

Computer: C++ (and JUCE), Python, Rust, HTML, Pure Data, Max/MSP, Bash, Processing(Java), Csound

### Software

DAWs: Logic Pro, Pro Tools, Ableton Live, Ardour, Audacity, Reaper

Notation: Lilypond, MuseScore, Sibelius, Finale

Specialized: Melodyne, SPEAR, Metasynth, Audiosculpt, GIMP, KDenlive

Development: Linux, cross-platform, agile, Git, VSCode, Cmake, machine learning (neural networks), networking, JSON, Markup, command line

### Production

Studio: Recording, mixing, editing, post-production, modular synthesis, sound design, studio maintenance and management

Live: Multi-channel concert design and execution, live electronics, live diffusion

### Other

Acoustics, data sonification, field recording, digital signal processing, VST plugin development, music engraving, web design, video editing, human-computer interaction (GUI design), network music, music and sound design for theatre, hybrid (online-offline) event organization