

Jacob Sundstrom {woolgathering}

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Education

- *PhD, Computer Music*, University of California, San Diego. Expected completion 2021.
- *Master of Music*, University of Washington, Seattle; December 2015.
- *Bachelor of Arts in Music, minor in Philosophy*, University of California, San Diego; Honors with Distinction in June 2012.

Principal Teachers

- Joël-François Durand, composition, *University of Washington, Seattle (2014-2015)*
- Richard Karpen, composition, *University of Washington, Seattle (2013-2014)*
- Lei Liang, composition, *University of California, San Diego (2011-2012)*
- Roger Reynolds, composition, *University of California, San Diego (2012)*
- John Fonville, theory and just intonation, *University of California, San Diego (2011-2012)*

Selected Sound Compositions, Performances, and Commissions

- Forthcoming
 - *descent #2* for piano and electronics; in progress. For Inverted Space.
 - untitled 6.5-hour sonification of EEG waves during sleep; in progress. To be performed at SlowSD in February 2017.
- **Commission** - *the piece formerly known as the piece formerly known as boring formless nonsense*, solo violin and electronics for Luke Fitzpatrick. Performed at the Good Shepherd Center in Seattle, Washington on June 10, 2016.
- *alone in the machine*, graphic score commission for Inverted Space with support from the Paul R. Judy Center for Applied Research at the Eastman School of Music. Performed February 12 and March 4, 2016 at Common AREA Maintenance in Belltown, Seattle, Washington.
- *aplisro.*, for fl/b.cl/b.sax/vln/vla/vcl/pno/keyboard/perc. Unperformed.
- *the piece formerly known as boring formless nonsense*, solo baritone saxophone and electronics. Performed by Kevin Baldwin at the Good Shepherd Center in Seattle, Washington on May 23, 2015.
 - Also performed by Kevin Baldwin at the Good Shepherd Center on November 11, 2015.
- *descent #7*, broadcast on the Radiophrenia temporary FM art radio station by the Centre for Contemporary Arts in Glasgow, Scotland in April 17, 2015.
- *come on now*, vln/vcl/fl, performed by the Seattle Chamber Players at the University of Washington, Seattle, on December 17, 2014.
- *untitled*, drone/noise telematic improvisation in collaboration with Diarmid Flately, performed telematically in San Diego and NYU. December 19, 2014.
- *no comment from the Grey Room*, string quartet, performed by JACK Quartet at the National Gallery of Art, Washington, D.C. in June 2012.
 - Also performed by Luke Fitzpatrick, Sol Im, Alessandra Barrett, and Sonja Myklebust as Inverted Space at the Jones Playhouse in Seattle, Washington on January 29, 2015.
- *the psychic displacement of a Brownsuit in a Colorworld*, solo contrabass with electronics, performed by Tyler Eaton at the University of California, San Diego in March 2012.
- ∞-∞=*any number you like*, Bb clarinet-bass clarinet/flute/horn/two percussion, performed by Leah Baum, John Fonville, David Ryan, Ayaka Ozaki and An Nguyen at the University of California, San Diego in June 2011.

- *untitled*, drone-noise electronic improvisation in collaboration with Diarmid Flatley, performed as Woolgathering at the ADDO Festival at the University of California, San Diego in April 2011.
- *Percussion Solo: One*, solo percussion, performed by Ayaka Ozaki at the University of California, San Diego in December 2010.
- *517" for Quartet*, vln/vla/vcl/cb, performed by Batya Macadam-Sommer, David Medine, Ashley Walters, and Scott Worthington at the University of California, San Diego in June 2010.

Selected Visual Works and Exhibitions

- *Contemporary Art Review – Not Random Art* magazine. Profiled artist and interview for a special international issue. First edition, June 2016.
- *alone in the machine (2015/2016)*, animated graphic score exhibited at Common AREA Maintenance in Belltown, Seattle, Washington. February 2016.
- *thoughts on Rorschach (2015)*, EEG-driven data bent animations on Rorschach inkblots.
 - Shown at Behind the Static glitch art show at Erickson Clock in Atlanta, Georgia. April 2016.
 - *thoughts on Rorschach #1* – exhibited by the Center on Contemporary Art in Seattle, Washington for the 35:Live CoCA Member's Show in CoCA Un[contained]. March 2 – April 23, 2016.
 - Featured artist at Georgetown Art Attack Special Events at CoCA Un[contained] Equinox Studios, Seattle, Washington. March 12, 2016.
- *eclipse (2015)*. Data bent image. Large format.

Selected Performances as a Performer/Technician

- Electronics, Michael Pisaro – *asleep, forest, melody, path.canons (2013)*. Electronics interface with Inverted Space.
- Electric Guitar, *Dr. Gyrus and the Electric Sulci*. Encephalophone performance at the Megapolis Audio Festival in Oakland, CA, June 6, 2015.
- Sound, Bruno Maderna – *Don Perlimplin (1961)*. With UW Modern Ensemble, May 29, 2015. US Premiere.
- Sound projection, Karlheinz Stockhausen – *Stimmung (1968)*. With Inverted Space on May 14, 2015.
- Voice and Kithara II, Harry Partch Ensemble at the University of Washington. May 11, 2015. Meany Theater.
 - Also performed at Meany Studio Theater on May 26, 2015.
- Sound projection, Karlheinz Stockhausen – *Kreuzpiel (1951)*. With Inverted Space, January 29, 2015 in Jones Playhouse, Seattle, Washington.
- Electric guitar, *Improvisation Orchestra (2015)* – directed by Greg Sinibaldi, Luke Bergman, and Richard Karpen. February 24, 2015 in Meany Theater, University of Washington, Seattle.
- Electric guitar. James Tenney – *Critical Band (1988)*. With Inverted Space on November 6, 2014 in Jones Playhouse, Seattle, Washington.

Teaching Experience

- **University of Washington, Seattle, Washington (2014-2015)**
 - Instructor
 - Music: 116 – Fundamentals of Music Theory, winter 2015. Organized and taught 220 students in elementary music theory.
 - Music: 202/205 – 1st Year Ear Training, spring 2014. Organized assignments and quizzes for small groups of students for ear training. Included sight singing and dictation.
 - Teaching Assistant
 - Music: 201/204 - 1st Year Ear-training, winter 2014. Led small groups of students through ear training exercises including sight singing and dictation.

- DXARTS: 460 - Introduction to Digital Sound Synthesis, fall 2014. Organized listening sessions for students and aided in teaching fundamentals of electronic music.
- ***The Charter School of San Diego, San Diego, California (2007-2009)***
 - Classroom Assistant - Organized and taught high school math classes of up to 25 students under the supervision of a credentialed teacher from pre-algebra to intermediate algebra. Provided one-on-one tutoring for students of all levels in subjects from writing and music to math and science.

Guest Lectures

- **A brief history of electronic music** [guest lecture on the history of electronic music]
 - MUSIC 303, University of Washington, Seattle. December 1, 2014.

Relevant Work Experience

- ***University of California, San Diego (2016-present)***
 - Research Assistant – assistant for Professor Roger Reynolds. Aid in technical elements of Reynolds' electroacoustic compositions, algorithm optimization, and algorithm creation. Also serve as the computer performer in Reynolds' electroacoustic works.
- ***University of Washington, Seattle, Washington (2015)***
 - Research Assistant - Research in the Art & Brain Lab at the Center for Digital Art and Experimental Media. Development of interfaces between various audio and visual languages (SuperCollider, Processing, Max/Pd) and MatLab.
- ***Seattle Modern Orchestra, Seattle, Washington. (2014-2015)***
 - Audio Technician - Run audio for various SMO productions.
- ***SeeScan, Inc., San Diego, California (2012-2013)***
 - Sound Design Engineer - Led research and development of audio displays for use in underground utility locating devices utilizing principles of sonification, audio synthesis, and psychoacoustics. Experimentation and testing done in Pure Data and then ported to C/C++ for use in embedded processors.
- ***Library of Congress, Washington D.C. (2012)***
 - Archive Intern - Organized and helped to catalog the personal library of harpsichordist Wanda Landowska that was acquired by the library. Compared thousands of books to the Library's current collection and determined whether or not said book/score/manuscript should be kept in the collection.

Honors, Awards, and Grants

- *Full funding and stipend*, University of California, San Diego (2016-present)
- *Alcor Endowed Scholarship*, University of Washington, Seattle (2015)
- *Gerald and Betty Kechley Endowed Scholarship*, University of Washington, Seattle (2015)
- *Artist Grant*, Megapolis Audio Festival (2015)
- *Travel Grant*, University of Washington Graduate School, Seattle (2015)
- *Full funding and stipend*, University of Washington, Seattle (2013-2015)
- *Demar and Greta Irvine Endowed Scholarship*, University of Washington, Seattle (2013)
- *Honors with Distinction*, University of California, San Diego (2012)
- *Stewart Prize*, University of California, San Diego, Music Department (2012)
- *President's Washington Scholarship*, University of California (2012)
- *Provosts Honors*, University of California, San Diego (Fall '09, Winter '10, Fall '11, Winter '12)
- *Vice President's Honor Roll*, Southwestern College (Fall '07, Spring '08, Fall '08, Spring '09)
- *Mensa Member*, Mensa International (2008)
- *Eagle Scout*, Boy Scouts of America, Troop 874, Bonita, California (2006)

Publications, peer-reviewed

- Deuel Thomas A, Pampin J, Sundstrom J, Darvas F. The Encephalophone: A novel brain-computer music interface and cognitive rehabilitation device using conscious control of electroencephalogram (EEG); Presentation number 540.16: Society for Neuroscience Annual Meeting, Chicago, IL Oct 20, 2015.
- Deuel, Thomas A. Pampin, Juan. Sundstrom, Jacob L. Darvas, Felix. “The Encephalophone: A musical instrument and cognitive rehabilitation device using conscious control of electroencephalograph (EEG)”. *Frontiers in Neuroscience*. Pending publication.

Sound Design

- **Sound Design:** Ridgid SeeSnake® CS6 and CS6Pak Digital Recording Monitors; Ridgid SeeSnake® CS65 Digital Recording Monitor.
 - Chimes, notifications, startup and shutdown sounds.
- **Audio Interface:** Led initial research and design on the audio interface of the new generation of Ridgid SeeScan SR series locators. Yet to see production.

Computing

- **Languages:** SuperCollider, MatLab, Python, Pure Data and GEM, C/C++, Max/MSP, OpenMusic, Processing
- **Version Control:** Git
- **Audio Software:** REAPER, Logic, Audacity

Additional Information

- **Instruments:** guitar, Kithara II, laptop
- **Professional Affiliations**
 - SEAMUS, Society for Electroacoustic Music in the United States
 - CoCA Seattle, Center on Contemporary Art in Seattle