

Wesleyan University Electronic Music Studios Report

Ron Kuivila

Wesleyan University Music Department
rkuivla@wesleyan.edu

Paula Matthusen

Wesleyan University Music Department
pmatthusen@wesleyan.edu

ABSTRACT

Computer music at Wesleyan is an integral part of its program in world music which is based on the premise that all of the world's musics merit close study and that the ability to meaningfully engage with unfamiliar musical materials and forms is a fundamental musical skill. This viewpoint is reflected by our hybrid approach to computer music, which maintains no sharp boundaries between analog and digital technologies, between forms of public presentation as concerts, installation, or public incidents, and between creative and scholarly approaches to musical understanding, creation and expression. The following studio report describes recent activities stemming from these encounters, as well as the facilities and coursework that support the endeavors amongst student and faculty within the Music Department.

1. INTRODUCTION

Performance and creative work with live-electronics began at Wesleyan largely in the wake of John Cage's residencies in 1960 and 1969 and with the hiring of Alvin Lucier in 1970. The first computer music to be made on campus was created by Alex Strong (of the Karplus-Strong plucked string algorithm) in 1972 by putting a transistor radio next to the IBM computer whose hardware looping could be scaled to produce periodic interference. A PDP-11 computer with an associated analog synthesizer and conversion hardware was obtained in 1974 and maintained by Ron Goldman and David P. Anderson. Between 1978 and 1982 microprocessors (in single board environments) made their appearance on campus in the work of Nicolas Collins and Paul DeMarinis. In 1984 David Anderson and Ron Kuivila began developing a Forth based music programming environment called FORMULA which remained an active research project until 1992, and continued to be used in pieces such as George Lewis' *Voyager* until late in the last century. A particular focus of subsequent work in music software has been James McCartney's SuperCollider. As part of a world music program, electronic music composition and performance maintains close contact with Wesleyan's ensembles and research initiatives in ethnomusicology [1]. Undergraduate and graduate students with strong interests in computer music also participate in coursework and activities with a broad focus on approaches to composition, performance and

sound installation that draw on music theoretic, acoustical, psychoacoustical, and social understandings of music and auditory culture.

2. FACILITIES

The Music Department at Wesleyan University in combination with the Center for the Arts (CFA) offers a number of performance and studio spaces for developing individual projects.

2.1 Electronic Music Studio

A large portion of computer music composition and creative work occurs within the Wesleyan University Electronic Music Studio, or WUEMS. This space offers a multichannel mixing environment, normally octophonic, though other configurations are frequently employed. The most commonly used programs within WUEMS are SuperCollider, Max, and Logic. An additional room attached to WUEMS provides a workspace for testing and developing instruments and interfaces. This side room also houses an ARP 2600 Synthesizer.

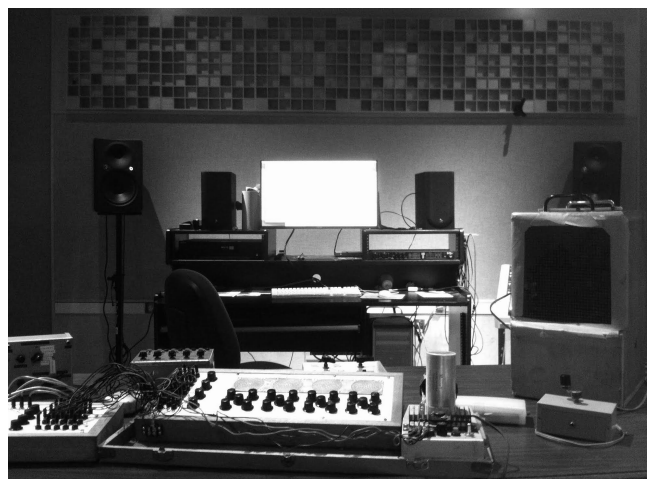


Figure 1. Wesleyan University Electronic Music Studio, with analog electronic instruments from the World Instrument Collection.

The Electronic Music Studio provides opportunities to explore electronic instruments housed within the World Instrument Collection (described further below). The above figure depicts one of the main workstations within the studio as well as electronics taken from the collection of David Tudor. These include the "spectrum transfer", a filtered ring modulator designed by Gordon Mumma, a Don Buchla de-

signed 5 channel spatialization system, a small spring reverberator mounted inside a soap dish by David Tudor for his *Ban-doneon!*, and a four channel “stirrer” designed by Lowell Cross. The box to the far right that resembles a Macintosh plus is an enclosure for a spark gap built for Pauline Oliveros’ piece *In Memorium Nikola Tesla* which was commissioned to accompany Merce Cunningham’s dance *Canfield*.

2.2 Recording Studio

The recording studio offers a space for students to document performances and create original music. The studio is linked to two adjacent rehearsal spaces, and is frequently used for multitrack recording with MOTU, Allen and Heath, and PreSonus hardware. Most recording is completed using Logic, which is also available in all computer labs on campus. This studio is highly used by both graduate students and upper level undergraduates.

2.3 Art Workshop 112

This workshop space is used for classes, demonstrations, as well as rehearsals for live-electronics. Fourteen Isobel Hemispherical Speakers are also linked to the classroom, allowing for easy rehearsal for laptop ensembles and live-electronics. Additional stationary computers flank the room, providing access to Logic, SuperCollider, Max, and Ableton Live.

2.4 Performance Spaces

Performances of computer and live-electronic music occur throughout Wesleyan’s diverse spaces, including less conventional spaces such as the library and network of tunnels that link classrooms and concert halls. The most highly used performance spaces include Memorial Chapel, Beckham Hall, World Music Hall, CFA Hall, and Crowell Concert Hall.

Memorial Chapel is one of the oldest performance spaces on campus, and has a MIDI controlled organ. The annual Musical Singularity concerts begun by Carl Testa and Brian Parks feature computer controlled works written specifically for these features of the organ. Beckham Hall and World Music Hall both allow for flexible speaker and audience arrangements, and have often been the site of performances by the Toneburst Laptop Ensemble, as well as installations and multimedia performances, such as John Cage’s HPSCHD (Beckham Hall). The striking acoustics of Beckham Hall made it an ideal octophonic performance space for the SEAMUS 2014 National Conference. The CFA Hall and the World Music Hall provide intimate performance environments equally suitable for formal and informal concerts, and have been the site of a recurring Tuesday night concert series in experimental music. The Crowell Concert Hall is

the most formal of these spaces, and is often used for instrumental performance with and without electronics. For all concert spaces, the WUEMS studio supplies eight QSC speakers and a subwoofer for multichannel configurations and to augment the permanently installed sound systems in those spaces.

2.5 World Instrument Collection

In 1998, the World Instrument Collection (WIC) accepted the donation of the David Tudor’s electronic instruments. This collection includes a vast array of homemade electronics, instruments built by Don Buchla, Hugh LeCaine, Tony Gnazzo and others, and an equally vast collection of effects pedals that were all used in Tudor’s compositions. Recent work by Michael Johnsen (composer and designer of modules for Pittsburgh modular) and You Nakai have made enormous strides in identifying the connection of specific modules to specific pieces. A symposium is being planned for February 2016 that will present that research together with work by others on the complex and poorly understood career of Tudor.

In December 2014 WIC received a donation of instruments from composer David Behrman, who has a long and rich history with David Tudor from his time as a musician in the Merce Cunningham Dance Company and with Alvin Lucier from their days as members of the Sonic Arts Union. In addition, Peter Blasser of Ciat-Lonbarde and Shbobo is donating a set of his early instruments to the WIC, many of which have been used in the workshops and performances that have been a focus of his graduate work at Wesleyan. The resurgence of idiosyncratic analog electronic circuitry has made Wesleyan a dynamic environment for exploring these instruments and their potential interrelation with contemporary computer music performance practices.

3. PERFORMANCE AND CREATIVE WORK

Performance and creative work are intertwined at Wesleyan. Graduate and undergraduate students play in the wide range of ensembles offered on campus, and perform their own work as well as that of their peers. The following discusses aspects of performance related specifically to live-electronics or computer music on campus, and the coursework that supports these creative efforts.

3.1 Coursework

Wesleyan currently offers a B.A. and M.A. in music. The core undergraduate courses are taught by Ron Kuivila and Paula Matthusen.

Introduction to Experimental Music (MUSC 109) has been offered at Wesleyan for approximately four decades,

having been developed by Professor Emeritus Alvin Lucier [2], and now taught alternately by Professors Matthusen and Kuivila. Over the last four years, *Composing, Performing, and Listening to Experimental Music* (MUSC 220) has been taught by Ronald Kuivila as a “co-requisite” with *Introduction to Programming* (COMP 112), taught by Professor Jim Lipton. These classes share the same object-oriented programming environment (SuperCollider) providing an intensive introduction to the full range of approaches to computer music. *Music, Recording, and Sound Design* (MUSC 223) is a course in sound recording that integrates considerations of soundscape, live electronics and sound art with standard multi-channel recording and mixing techniques. Recently founded by Paula Matthusen, the Toneburst Laptop and Electronic Arts Ensemble (MUSC 464) invites both graduate and undergraduate students to perform the work of established and emerging composers (Pauline Oliveros, Elliott Sharp, Juraj Kojs, Bill Ryan), to premiere new works written specifically for the ensemble (Ron Kuivila, Jason Freeman), and encourages students to write their own compositions and software programs for the group.

Graduate students with an interest in composition and electronic musics have multiple opportunities for performance. Students work with ensembles, perform their own work and those of their peers, as well as works of composers and sound artists active outside of the university whose music provides a useful counterpoint to their own research. No strict boundary between graphically notated, verbally notated, electronically notated and improvised music is enforced and students often adopt different approaches for different pieces.

Numerous possibilities exist for the performance of electronic musics on campus. Within the Music Department, these are most often coordinated through formal concerts held throughout the semester, as well as a Tuesday night performance series held in CFA Hall, which allows students to test new works and perform previously existing pieces of electronic and experimental music. There is a long history of student produced concerts and installations presenting the work of members of the music community and guests. These events have presented figures such as Tony Conrad, Marina Rosenfeld, Maryanne Amacher, Sam Pluta, Juraj Kojs, and R We Who R We (Philip White & Ted Hearne), Reiner Van Houdt, and Jaap Blonk. The graduate music seminars (MUSC 508 & 509) also work with professional and/or local ensembles to perform works that involve live-electronics. Throughout the academic years, students often realize sound installations and develop customized electronic instruments and interfaces.

3.2 Recent Events

The Music Department hosts small festivals and symposia on a regular basis. While composers have been awarded degrees since the inception of the graduate program, a specific program in composition only began in 2000. The approach taken by the program was first articulated in the 2001 symposium *Music in the “Free” World 1952 – 1970*. This event explored the complex relationship between experimental music and “free” improvised music, featuring contributions from John Bischoff, George Lewis, Judy Lochhead, Jonathan Katz, John Corbin, Anthony Braxton, Mark Slobin, Alvin Lucier, Ronald Kuivila, and Mike Hefley. The 2009 SuperCollider Symposium was held at Wesleyan with two days of papers, installations, concerts and working sessions. Participants included Alberto DeCampo, James McCartney, Sam Pluta, Julian Rohrhuber, Dan Stowell, Jan Trutzschler, and Scott Wilson. In 2012, the Music Department in conjunction with the Center for the Arts presented numerous electronic works of Alvin Lucier in celebration of his four decades of composing and teaching at Wesleyan [3]. The conference invited musical and scholarly contributions from the members of the Sonic Arts Union as well as Pauline Oliveros, Anthony Braxton, and Christian Wolff, among others. The following year began a series of events aimed at engaging with the greater community of Middletown through the commission and performance of Jason Freeman’s *MTRX* by the Toneburst Laptop Ensemble, the realization of David Tudor’s *Rainforest IV* in a storefront downtown, the presentation of *Lighthouse, beside the point* a sound installation by Ron Kuivila on the rooftop of the Community Health Center, and through contributions from local artists and musicians.

Recently the department produced the 2014 SEAMUS National Conference, which hosted 15 concerts, listening rooms, papers, and workshops. A unique feature of this conference was *the Open Window* a framework for installations and compositional projects of a cooperative and collaborative nature. This enormous undertaking enjoyed the benefits of a cooperation with the MEME program at Brown University, which produced the concerts in one of the three venues in use. This year, a festival of analog electronics entitled *Idiopreneurial Entrophonics* featured a performance of David Behrman’s *Runthrough* using the original electronics – the first time the piece was performed this way in over 40 years. The festival also began with *the Synthesizer Car Show* which enabled audience members to see, touch and hear the instruments and configurations *before* they were played in the festival. Additional performances were given by Analogos (Michael Schumacher, Kato Hideki and Luke Dubois), Michael Johnsen, Matt Wellins, Mark Verbos, and Jonathan Zorn. Workshops were presented by the performers together with Thom Holmes, Asha Tamirisa, and John Driscoll and Phil Edelstein of Composers Inside Electronics.

Frequent colloquia and guest speakers also bring together a wide range of scholars relevant to electronic musics and sound studies. This has included Georgina Born's pre-conference lecture for the 2014 SEAMUS National Conference, Brian Kane's analysis of acousmatic music, Amy Cimini's recent work on Maryanne Amacher, Douglas Kahn's presentation related to his recent book *Earth Sound Earth Signal* [4], David Grubbs reading from *Recording Ruins the Landscape* [5] and composer talks by Michael Pisaro, Arnold Dreyblatt, Elizabeth Hoffman, Alvin Lucier, Jacob Cooper, Jenny Olivia Johnson, and Todd Reynolds. The department also hosts a number of workshops, often working in conjunction with the Experimental Music Group. Past workshops included a pedal building workshop run by Dither Electric Guitar Quartet, a synthesizer workshop, and study groups related to SuperCollider, Max, among other music related programming languages.

4. PERSONNEL

Full time faculty teaching computer and electronic music related topics include Ron Kuivila and Paula Matthusen. Recent courses have also been taught by David Behrman, Jonathan Zorn and Daniel St. Clair. Many other faculty, including Ron Ebrecht (organ), Sumarsam (gamelan), Neely Bruce (composition, wind ensemble, piano), and Roger Grant (theory, musicology, and general learning) play an enormous role in furthering the musical and intellectual vitality of the program.

5. ACKNOWLEDGEMENTS

Experimental music electronic and otherwise thrives at Wesleyan due to the support of the Music Department, the Center for the Arts and the University. Additional thanks is owed to George Jackson fund, which provided invaluable fiscal support for both the 2014 SEAMUS National Conference and Idiopreneurial Entrephonics.

6. REFERENCES

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