Brooklyn College Center for Computer Music

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ABSTRACT

The Center for Computer Music at Brooklyn College has a history dating to the 1970s. Now the Center is preparing to move into new facilities and launch two new MFA programs—one in Media Scoring and one in Sonic Arts. Through all this, we continue to reflect on how we may best serve our students, in terms of curriculum, technology, and mentoring.

1. INTRODUCTION

Brooklyn College is one of the senior campuses of the City University of New York (CUNY), the public university system of New York City. The electronic music studios at Brooklyn College came into existence in the mid-1970s, with a focus on analog modular synthesizers. The studios were re-designated the “Center for Computer Music” shortly after composer Charles Dodge joined the faculty in 1978 (see Figure 1).

Charles Dodge had completed his doctorate at Columbia University and had been active at the Columbia-Princeton Electronic Music Center. Under his leadership the Brooklyn College Center for Computer Music (BC-CCM) acquired its own computers and grew to be one of the leading computer music facilities in the United States by the mid-1980s. Of particular note are the many composers who worked in residence there during this period, including John Cage, and those who taught and attended BC-CCM summer workshops, such Jean-Claude Risset. (Interested readers may see the complete list at our website, http://www.bc-ccm.org.) Another noteworthy outcome of this period was the textbook that Dodge co-authored with researcher Thomas Jerse, Computer Music: Synthesis, Composition, and Performance.

After Dodge’s departure from Brooklyn College in the early 1990s, subsequent Directors of the Center have included Noah Creshevsky, George Brunner, Douglas Cohen, Amnon Wolmon, and current Director Douglas Geers.

2. PERSONNEL

The BC-CCM has several associated full-time faculty: Douglas Geers, composer and Director; Douglas Cohen, composer and Associate Director; George Brunner, composer and Technical Director; David Grubbs, composer; and Marianne Gytfeldt, clarinetist. Faculty from other departments including TV/Radio and Computer and Information Science, as well as the Performance and Interactive Media Arts (PIMA) program have also been affiliated with the BC-CCM. In recent years we have also been honored to have Morton Subotnick teach as an adjunct Professor for us each semester, including composition lessons and occasional seminars. Currently, the Center has additional teaching support from Ph.D. candidates Nicholas R. Nelson, Red Wierenga, and Jacob Sachs-Mishalanie, as well as technical support from teaching assistant Matthew Gantt. We anticipate hiring two new full-time faculty in coming years as our MFA programs grow to full enrollment: the first will be a specialist in Media Scoring (cinema, TV, video games, etc.) and the other a composer and/or researcher in Sonic Arts. We are also hopeful that we may hire an additional full-time technical support staff member as our programs expand.

3. NEW GRADUATE DEGREES

3.1 Rationale

Brooklyn College already offers bachelor’s and master’s degrees in music composition, and students can continue to work with us as Ph.D. composition students at the CUNY Graduate Center. Although all of these students may take BC-CCM courses, up to now we have not had any degrees specifically related to technology. With the addition of Geers to the faculty in 2009, discussions began about some
kind of new graduate degree that would explicitly serve composers interested in new technologies. Word then emerged of a newly proposed Graduate School of Cinema at Brooklyn College, and we decided to create two new degrees, both designed to relate to the new Film school. Our intent was that the two degrees balance practical skills and industry-related employment with flexibility and artistic freedom. We chose the MFA rather than Master of Music for both the new degrees both to insure a rich and fully-professionalizing experience for the students and with hopes that the MFA would qualify them to teach at the university level, since it is a terminal degree and serves as such in other fields, such as Art and Theater. The two new MFA degrees described below will enroll their first incoming classes in Fall 2016, and upon full enrollment each program would likely accept 10-12 new students per year.

3.2 Media Scoring

The new Barry R. Feirstein Graduate School of Cinema at Brooklyn College has just launched with its first incoming class in September 2015.1 The Film MFA programs include specialties in Directing, Screenwriting, Cinematography, Producing, Post-Production, Digital Arts, and Cinema Studies. The Feirstein School’s home is a newly-renovated 68,000 square foot facility located at the Steiner Studios, a 15-acre fully professional, Hollywood-style media production studio lot in Brooklyn, on the site of the former U.S. Navy Yards (see Figure 2). The new facility will include a recording studio with a live space large enough to hold a chamber orchestra, its control room, a Foley room, office space for Music faculty, computer lab classrooms, lecture halls, a 75-seat theater, and large spaces for filming and cinema production. Students in our Media Scoring MFA will complete the majority of their coursework at this new facility, where they will have opportunities to interact with the MFA Film students in courses and collaborative projects.

Given the location, commercial focus, and potential of the Feirstein School, we crafted the curriculum of our MFA in Media Scoring to be a thorough preparation for the realities of today’s scoring situations. The curriculum is quite specific, with only nine credits of electives in a sixty-credit curriculum. Courses focus on the practical skills needed by today’s scoring composers and include Orchestration for Cinema I and II, Conducting for Recording Sessions, and Music Business for Composers, but also Sequencing/Sampling and Sound Design I and II. This degree is meant to serve composers possessing a bachelor’s degree in music (or equivalent credits and experience) who want to hone their skills, both artistically and technically, specifically to the field of scoring to visual media. Elective credits may be taken from courses in our Sonic Arts MFA (below) or other courses at the Conservatory of Music.

3.3 Sonic Arts

As a counterpart to the Scoring degree, our MFA in Sonic Arts has a more open view of what outcomes students may wish to pursue. This degree is designed for those who create music or sound art using new technologies, from electroacoustic concert music to electronic improvisation, sound installations, sound design, and multimedia. The curriculum is a menu of categories with a prescribed number of required credits from a list of courses in each category, allowing each student much flexibility to customize his/her path through the program. Courses include several of the Scoring for Media courses as well as Computer Music I and II, Building Electronic Music Instruments, Computer-Assisted Music Composition, Interactive Music I and II, Psychoacoustics, Recording Music/Audio Engineering I and II, History of Electronic and Computer Music, History of Sound Art, History of Popular Music and Technology, Analysis of Electroacoustic Music, and special topics seminars.

The Sonic Arts degree will welcome students with a bachelor’s degree in music but will also consider applicants who do not possess one, knowing that many musicians today have experience with digital instruments but have not found a path through a traditional music degree program.

Although the Sonic Arts degree may seem less “commercial” than the Media Scoring MFA, we are interested that our students be able to survive in a capitalist environment after graduation. Thus we will mentor each student and help him/her select a mix of courses that optimize preparation for whatever career path s/he has chosen. Sonic Arts students will also have twelve credits of free electives, and these may be taken at the Conservatory of Music, in the Performance and Interactive Media Arts (PIMA) MFA program, in Computer and Information Science, Art, etc. Sonic Arts students will complete the majority of their coursework on the main

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1http://www.brooklyn.cuny.edu/feirstein/.
campus of Brooklyn College, including our new Performing Arts Center (see below).

4. BC-CCM FACILITIES

In addition to the spaces at the new Steiner Studios location described above, The BC-CCM occupies several spaces on the main campus of Brooklyn College. Currently we occupy temporary quarters as we await the completion of a new facility, the Leonard and Claire Tow Performing Arts Center (PAC), which we will move to in spring of 2016 (see Figure 3). The PAC will stand on the site of the original location of the BC-CCM, Gershwin Hall, which had numerous structural problems, poorly designed performance spaces, and few practice rooms.

The new PAC will feature dozens of practice rooms, a beautiful 225-seat concert hall, and two additional large music rehearsal/performance spaces. All of the PAC performance spaces will have high-quality audio amplification, including 8.2 sound in the main concert hall. BC-CCM spaces in the PAC will consist of a new computer music classroom/performance space (a.k.a. the ‘media workshop’ room), a new recording studio, and some small single-user production rooms.

The ‘workshop’ room will be adjunct to the building’s spacious main lobby, and we hope to take advantage of this new space to present many public events. This room will have 8.1 sound and will be furnished relatively sparsely with workstations on wheeled tables, so that it can function as a composing/mixing/scoring location but quickly be re-configured for rehearsals and performances, such as those by the Brooklyn Electroacoustic Ensemble (BEE), or for presentation of interactive installations.

As we await the PAC, the BC-CCM’s existing facilities include a fifteen-workstation Macintosh lab/classroom, our current recording studio, an advanced projects room that holds a Yamaha Disklavier piano, two Moog Etherwave Plus theremins, a Pittsburgh Modular analog synthesizer, and a Make Noise CV Bus Shared System analog modular synthesizer. The analog synthesizers and theremins are recent acquisitions, as part of our commitment to provide a multifaceted and historically-informed creative and educational experience for our students.

We also use numerous other existing spaces of the Conservatory of Music and the college, including seminar rooms, the Studio 312 recital hall, the 2400-seat Whitman Theater, the Tanger auditorium, and rehearsal rooms.

5. CREATIVITY AND RESEARCH

Faculty at the BC-CCM pursue several paths of research and creative expression. First and foremost is creation of music itself, including works for acoustic instruments with computer-generated sounds, fixed media electroacoustic works, and multimedia works involving collaborations with theater, dance, poetry, and video. Faculty members Douglas Cohen, Douglas Geers, and David Grubbs also create installation works in addition to concert music. All faculty members also perform using technology, including improvisation, with laptops, custom controllers, electric guitars, voice, and cello.

Faculty research topics include computer-assisted composition, interactive signal processing systems, text sound composition, John Cage and the New York School, sound art, experimental improvisation, building controllers and physical instruments, and pop music and technology. For example, in 2014 David Grubbs published his book Records Ruin the Landscape: John Cage, the Sixties, and Sound Recording (see Figure 4); in 2014-15 Douglas Geers has premiered several electroacoustic pieces, built an installation work from a vintage radio, and worked on developing custom wind controllers; and George Brunner continues work on a book on text sound composition. Among students, Ph.D. candidate Nicholas Nelson has written software libraries for PWGL, including one to enable neo-Riemannian analysis of scores and another to translate PWGL information into a readable format for IRCAM’s Antescofo-asynchronous score language; Nick has also co-authored, with former master’s student Edrick Subervi, Max/MSP methods for real time timbral tracking, identification, and manipulation; and Ph.D. candidate Red Wierenga has created several interactive performance systems using Max/MSP, Reaktor, and hardware. Red is currently designing and building his own custom modular analog synthesizer, including circuits of his own design and custom-printed circuit boards, as part of his Ph.D. dissertation project.
Numerous other works from students have emerged in recent years, including many pieces of music but also an interactive beat-mixing helmet, multichannel audio installations, audio/video installations, video games, an ensemble of handheld synthesizers, a musical pillow, hacked children’s toys, a ribbon sensor guitar, performance art pieces, and more.

Recent composers featured at IEAMF include Morton Subotnick, Pauline Oliveros, Jon Appleton, Paul Lansky, Walter Branchi, Tania León, Larry Polansky, Noah Creshevsky, Dennis H. Miller, Mike McFerron, Jeffrey Stolet, Jon Christopher Nelson, Paul Rudy, Per Bloland, Joran Rudi, Matthew Burntner, and Ted Coffey.

The BC-CCM has also sponsored shorter and one-time events such as the 2012 Symposium on Electroacoustic Music Performance, as well as guest lectures during the past five years by composers and researchers including Miller Puckette, Jean-Baptiste Barrière, Nicolas Collins, R. Luke DuBois, Tae Hong Park, Mika Kuuskankare, Elizabeth Hoffman, Eric Chasalow, Brad Barton, Terry Pender, Mara Helmuth, Todd Reynolds, Eric Lyon, Michael Klingbeil, Michael Gogins, Judy Klein, Pamela Z, Damon Holzborn, Christopher Bailey, Liubo Borissov, Isidore Ramkisson, Pierre-Yves Macé, David Bithell, Miyuki Ito, Stephan Moore, Schuyler Tsuda, Michael Duffy, and others.

In addition to all the above, we anticipate additional regular events will happen in association with our two new MFA programs.

**6. EVENTS**

Currently the Brooklyn College Conservatory has about thirty Composition majors, generally evenly divided between undergraduate and master’s students. Many of these students take courses offered by the BC-CCM faculty and use technology in their works. The composers have seven regularly-scheduled concerts to showcase their own work each academic year. In addition, each semester at one or more other BC-CCM courses culminate in their own concerts, and the Brooklyn Electroacoustic Ensemble, BEE, also plays at least one concert per semester (see Figure 5).

One hub of electroacoustic music activity at the Center is the bi-annual International Electro-Acoustic Music Festival (IEAMF), produced and curated by George Brunner as three concerts and one or more guest lectures every semester.

7. CONCLUSION

As a part of the City University of New York (CUNY), the public university of New York City, Brooklyn College aims to provide highest-level educational experiences to its students while maintaining relatively low tuition costs. The BC-CCM embraces this mission, as well as a commitment to diversity both in terms of social backgrounds of our students but also their artistic goals and voices. We want to arm musicians with the history, theory, and practical skills that will enable them to better pursue their personal visions and goals.

**Acknowledgments**

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**8. REFERENCES**
