Abstract
The Center of Computer Music at the College-Conservatory of Music, University of Cincinnati has been quite active in composition, performance and research. The physical space contains a well-designed environment for creative work in a rebuilt historical building. Works involving interactivity, multimedia and strong acoustic performance components have been performed recently both locally and internationally. Research includes applications for performance and composition including granular synthesis, musical analysis, sonification, and sensor, compositional and interactive systems. Courses are offered covering compositional and technical issues including synthesis techniques, intermedia, and collaboration. The Sonic Explorations Concert Series presents works of visiting composers, faculty and students regularly.

1. Introduction and Environment
The vibrant musical and technological environment has a studio design described by Helmuth (2001, 2004). Recent upgrades have extended the functionality, in particular toward more multimedia capabilities. Increased activity by students and faculty in composition and performance has marked recent years, with many performances at CCM and elsewhere. Compositional-oriented research has aided innovative performance strategies.

2. Courses
Courses include the regularly offered Introduction to Electronic Music, Computer Music Composition, and one quarter courses in Live Electronic Music for collaborations between composers and performers, with a new laptop improvisation section, Computer Music Programming, Timbre Studies, a theory course, and Intermedia, which is taught with Charles Woodman of the College of Design, Art and Architecture.

3. Composition and Performance
Recent music created in the studio consists of works written by faculty and students, often performed by CCM faculty or students. Mara Helmuth has a forthcoming compact disk Sound Collaborations on Centaur’s Consortium to Distribute Computer Music Series v.36, which was funded by the UC University Research Council and Friends of CCM. Her faculty recital included collaboration with flutist Bradley Garner and saxophonist James Bunte.

NeXT Ens, the CCM electroacoustic ensemble, continued to perform until March 2007 after recent residencies at the University of Illinois at Urbana-Champaign, The University of Virginia, the University of Minnesota, and being a featured ensemble at ICMC 2006 in New Orleans. They are now pursuing individual careers.

Figure 1. NeXT Ens, counterclockwise from lower right: Shiu-uen Ding, piano; Carlos Velez, flute; Timothy O’Neill, violin; Heather Brown, percussion; Margaret Schedel, technology; and Kaylie Duncan, cello.
Jennifer Bernard Merkowitz collaborated with CCM and DAAP faculty for *The Cardiac Dance—The Spirals of Life*, a work involving choreography, computer music, and video that is based on innovations in heart surgery pioneered by Dr. Gerald Buckberg. Her installation with film artist Brooke Dagnan, *PIX: Portable, Interactive, eXperimental*, will appear at ICMC 2007 in Copenhagen. She also wrote works for laptop, euphonium and piano with sensor-driven electronics recently.

Kazuaki Shiota wrote a number of works for laptop and instruments including cello, percussion, tuba and other laptops. Brian McKinney’s works for laptop and percussion explored boundaries of noise and music.

Christopher Stark’s *Architectures for NeXT* was a highlight of several concerts at CCM in 2006-07. He has since composed works for trombone, oboe, bass drum, narrator and orchestra, all of which incorporate real-time signal processing in Max/MSP, and some using tape parts generated in RTcmix and Spear. Christopher will be performing a new work entitled *Drowning & Shoegazing* for solo trombone with electronics and orchestra with the CCM Concert Orchestra in January of 2008. The quasi-concerto attempts to expand the boundaries of the modern orchestral repertoire to include works that utilize aspects of technology. It incorporates real-time signal processing, triggered tape samples and 5.1 spatialization.

The Sonic Explorations concerts provide a forum for faculty and student works and lectures at least twice a year, with recent visiting composers Judith Shatin, Josef Fung, Zack Browning, Ron Parks, Eric Lyon, Elainie Lillios, Dan Trueman, Russell Pinkston with flutist Elizabeth McNutt and the Electric Music Collective. Brad Garton is scheduled for 2008.

Studio works have been performed at conferences and festivals including ICMC, SEAMUS, SCI, Third Practice, Spark, FEMF, NWEAMO, Ideas, Imagine, EMM, and others.

### 4. Research

Mara Helmuth participated in a sonification project mapping geological data to granular and stochastic synthesis parameters [4] and updated the StochGran granular synthesis application. She also received a Tangeman fund grant to record bells, gongs and drums in China, Tibet, Japan and Korea in summer of 2007 for compositional purposes.

Kazuaki Shiota developed *TranSpell*, a real-time interactive MaxMSP synthesis application for performance based on extraction of overtones from two fundamentals in variously tuned systems [5]. It includes many control windows and a scripting system.
Dan Hollingsworth, a computer science major at the University of Cincinnati, developed the cross-platform C++ application GrainStorm, allowing real-time granular synthesis via a graphical user interface with dynamic controls for customizable effect-chains.

**REFERENCES**


