Abstract
The University of Cincinnati, College-Conservatory of Music Center of Computer Music studio has strong components of composition, research, courses and performances. The studio itself is a well-equipped environment for creative work. Interactive and digital audio and video compositions have been performed recently in Singapore, Beijing, Minneapolis, Arizona, San Diego and elsewhere. Research includes applications for performance and composition. 4 years of computer music related courses are offered covering multimedia, compositional and technical issues. The Sonic Explorations Concert Series presents works of visiting composers, faculty and students regularly.

1 Introduction
The outstanding design of the electronic and computer music studios finished in 1996 was described by Helmuth (2001), and recent upgrades have widened the equipment functionality. Several courses have been added, and small festivals have added to the activities in composition using technologies. The most dramatic developments have been in the connections established with Beijing, outside performances, research and organizational activities by faculty and students. A multimedia virtual studio tour with excerpts of works will be presented in the presentation.

2 Studio Equipment and Software
Upgrades to the audio system have been a 5.1 Genelec speaker system for the advanced studio, with 8-channel capabilities. The studios contain G4 and G5 MacIntosh and Linux computers. Expansion in multimedia software used includes the addition of copies of Macromedia Flash MX, Emagic Logic Platinum, Cycling 74 MaxMSP/Jitter. The development of computer music software applications by faculty and students extends these capabilities.

3 Music
Music created in the studio consists of works by faculty Mara Helmuth (Staircase of Light installation at the Sino-Nordic Arts Space in Beijing, 2003, compact disk Implement of Actuation EMF 023 collaborative works for percussion and computer with Allen Otte, a collaboration “Smoke” for saxophone, graphite painting installation and computer with Rick VanMatre and Anna Socha VanMatre, “Origins of a Fantastic Dream” for orchestra and computer, and Mountain Wind for pipa, fl., cl., bn., vn, vc and video written for virtuoso Ming Ke) and Christopher Bailey’s “Drones of CCM” for the NeXT Ens. This enthusiastic electroacoustic group was formed by pianist/director Shiau-uen Ding with the unique mission to perform and support the creation of electro-acoustic music includes Carlos Velez, flute, Taryn Cunha, percussion, Michael John Mollo, guitar, Timothy O’Neill, violin, Margaret Schedel and Hayk Babayan, violoncello. The Sonic Explorations concerts provide a forum for faculty and student works at least twice a year. Faculty and students are often active in performances and conferences elsewhere around the country and world. Last year works by Jennifer Bernard and Hye-Yon Moon (“W.C.”, which won an Audience Award at the Downstream
Film Festival in Atlanta), Carl McTague, Margaret Schedel and Gabriel Ottoson-Deal, Ivica Bukvic, Robb Tennant, Jen Wang and Christopher Bailey were premiered on Sonic Explorations. At the International Computer Music Conference in Singapore (2003) works by Margaret Schedel, Ico Bukvic, Michael Barnhart, and former students Paul Hogan and Bonnie Miksch were heard. Mara Helmuth was the music jury coordinator and the organizer was a CCM alumnus, Ho Chee Kong, who now teaches at the National University of Singapore. Works by Schedel and Bukvic were heard at the Society of Electroacoustic Music in the US Conference in San Diego in 2004. The Contemporary Arts Center of Cincinnati presented concerts by Helmuth (Sound Collaborations with pipa virtuoso Ming Ke, NeXT Ens, percussionist/composer Allen Otte, artist Anna VanMatre, saxophonist Rick VanMatre, April, 2004) and Schedel’s opera (A King Listens) June, 2004. Bukvic’s Lullaby was heard at the Linux Audio Conference. Helmuth’s works were also heard at June in Buffalo, 2004.


5 Research

Margaret Schedel has received the Presser Award for summer 2004 to collaborate with a dancer in the Sino-Nordic Performance Arts Space in Beijing. Jennifer Bernard is the recipient of two recent awards for research – a summer graduate research fellowship to explore real-time performance technology with pianist Shiau-uen Ding, and the 3-year Distinguished Fellowship for doctoral candidates beginning in 2004-2005.

Mara Helmuth has continued the Soundmesh Internet 2 project for high bandwidth network improvisation, and plans an exchange between Matthew Sutor’s course at Yale University and the computer music composition course. Ivica Bukvic has ported and expanded this application to the Linux platform. Helmuth also has ported the network improvisation software to Rtcmix 36, and her granular Rtcmix instruments to the latest OSX release of Rtcmix, including a new version of the stochastic sampling instrument in realtime, and is using the Max/MSP object rtcmix~ in live electronic music composition with her granular software. Bukvic presented demos of his Rtcmix application and other software at ICMC 2002 and SEAMUS. He presented 2 papers and appeared on a panel discussion at the Linux Audio Conference in Germany.

Bukvic and Schedel wrote articles for Organised Sound recently, Helmuth served as guest editor for issue 7:3, and Schedel has served as guest editor for the two latest issues. Carl McTague was keynote speaker at a Mathematica conference and programs compositional algorithms.

References


