

# NEW MEDIA MUSIC AT HANYANG UNIVERSITY: STUDIO REPORT

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## ABSTRACT

The computer music studios of the composition department at Hanyang University in Seoul, Korea are home to the New Media Music program, a graduate-level computer music degree program specializing in the areas of computer music composition, recording arts and computer music technology. This new degree program and its studios are becoming increasingly involved with domestic computer music events in Korea, in addition to making computer music connections on a more international level.

## 1. INTRODUCTION

The computer music studios at Hanyang University were founded in 1996 by composer Donung Lee. The original studio consisted of just a small workstation comprised of a computer, mixer and stereo monitors, and was made available to interested composition students at the university. By 2001, graduate students in composition could choose an emphasis in computer music for their degree.

In 2004 the New Media Music program was established as a graduate degree program in its own right, in response to the need from students wishing to focus specifically in the domain of electronic and computer music, either as composers, recording artists or music technology researchers. At this time, its studios were expanded, not only with computers, software and audio equipment, but also with a more prominent physical location within the buildings that comprise the university's School of Music. In the few years that the program has existed, the studios have become a fertile environment for courses, workshops, concerts, seminars, musical research and the creation of new music in the context of today's media technology.

The New Media Music program and its studios collaborate closely with the faculty composers of the School of Music's Composition Department, as well as with faculty from the instrumental performance, and traditional Korean music performance programs. Together they strive to promote new and creative music in all its forms, whether purely acoustic music for western or traditional Korean instruments, or music integrating electronic and computer-based technology.

## 1. FACILITIES

The New Media Music program currently has three principal studios: the Recording Studio, the Electro-Acoustic Studio and the Computer Music Studio, in addition to a few smaller offices, small-studio

workspaces and storage areas. The studios are located in the buildings of the School of Music, so they are easily integrated into the life of the music department.

### 2.1 Recording Studio

The Recording Studio is a small studio equipped with a Mackie mixing table, ProTools direct-to-disk recording system and a stereo Genelec monitoring setup. It is connected to one of the concert halls in the music department, both physically and via 32 independent audio channels. It is used not only for recording but also for small, specialized courses in recording techniques for the masters degree in Recording Arts.

### 2.1 Electro-Acoustic Studio

The Electro-Acoustic Studio (see Figure 1) is on the main floor of the music building. It is equipped with two mixing consoles, a Mackie and a Yamaha O2R, and has a 4-channel Genelec monitoring system. It has both Macintosh G5 and PC computers, and is equipped with a ProTools Control 24, Tascam ADAT DA-88 and Alesis CD Audio recording system. Among the many hardware effects units available in the studio are a TC6000 reverb, Eventide Eclipse and a Lexicon 960L effects unit. The studio is used for both courses and studio work by all three disciplines in the New Media Music program.



Figure 1. The Electro-Acoustic Studio

### 2.2 Computer Music Studio

The Computer Music Studio (see Figure 2), also on the main floor of the music building, is the largest of the studios. It is a multi-workstation studio and is used for classes, lectures, seminars, students' personal composition work, and additionally offers rehearsal space for compositions using technology. The studio

has a pair of Mackie mixers, and a 6-channel Bose speaker configuration. There is also a stereo pair of Alesis monitors, which can be used in conjunction with the 6-channel setup for the diffusion of 8-channel works. The main two computers in the studio are equipped with a Digidesign Digi002 and a MOTU 896HD. The studio has a large screen for the projection of video, DVD or the screen of either computer. The 16 student workstations in the room are a mix of 6 Macintosh and 10 Windows-based computers. Each workstation is equipped with a mini mixer and MIDI keyboard, so the workstations can be easily used by students for any kind of musical project – from anything as simple as music notation for an acoustic composition to experimenting with alternate MIDI controllers and real-time audio-processing.



**Figure 2.** Graduate students Minkyu Kim and Soonyoung Park working diligently in the Computer Music Studio

### 2.3 Software

The studios are equipped with a variety of software, including Digidesign's ProTools, IRCAM's Forum Software, Cycling '74's MaxMSP and Pluggo packages, among others. Not all software is available in all studios or on all workstations, but generally the software is installed in the most appropriate place.

## 2. COMPOSITION AND PERFORMANCE

In the short time since its inception in 2004, the New Media Music program has been involved with a wide array of electronic and computer music performances both inside and outside Hanyang University. These performances have encompassed both traditional concert settings (instrumental and electro-acoustic) as well as music and sound design for theatrical productions.

### 3.1 Inaugural Concert

In November of 2004 the New Media Music studios organized a pair of inaugural concerts as a showcase for the new program. The concerts included a selection of student compositions in addition to works by Sukhi Kang, Joao Pedro Oliveira, Doojin Ahn, Youngmee Lynn, Jonathan Harvey, Jenny-Jiyoun Choi, and Jongwoo Yim.

### 3.2 Collaboration with KEAMS

Hanyang University has a long history of collaboration with the Korean Electro-Acoustic Music Society (KEAMS). In 1998, well before the founding of the New Media Music program, Composer Donung Lee made an initial collaboration between the computer music studios and KEAMS in order to provide equipment (computers, speakers, other hardware), technical assistance and rehearsal space for their concerts. The New Media Music program continues this long-standing collaboration, which is additionally beneficial to the students of the program, who, through this collaboration, learn first-hand about putting together a concert using technology.

### 3.3 Young Composers' Competition Concert

The yearly concert for the KEAMS Young Composers' Competition has been traditionally hosted by Hanyang University. This year (2007) is the 10<sup>th</sup> anniversary of the competition and its concert.

### 3.4 Opera: Dance of Hanul

In 2005 the New Media Music studios provided its technical and musical expertise for the creation of Chongkoo Lee's opera "Hanul Chum" (Dance of Hanul). The opera was composed for singers, traditional Korean musical instruments and acousmatic sounds, and was premiered in Seoul.

### 3.5 Art Dimension Festival

In Spring of 2005 the New Media Music studios were invited to curate a concert of electro-acoustic music as part of the Art Dimension Festival in Seoul. Compositions by Jaeho Chang, Unsuik Chin, Dennis Miller, Jongwoo Yim and Mark Zaki were diffused.

### 3.6 Hanyang University Student Concerts

The composition department at Hanyang University organizes two yearly concerts (each Spring and Autumn) to showcase the music of its students. Pieces for instruments and live electronics composed by New Media Music masters students Hyonjung Kim, Sooyoung Moon and Soonyoung Park were showcased on these concerts in both 2005 and 2006.

### 3.7 Seoul Dance Festival

The modern dance group On & Off choreographed a collection of electro-acoustic pieces by New Media Music students for their 1996 production "Strange Waiting" at the 2006 Seoul Dance Festival. Compositions by Soonyoung Park, Haekyung Chung and Hyonjung Kim were selected for use in the production.

### 3.8 The New Asia String Quartet

In the Autumn of 2006, the Seoul-based New Asia String Quartet performed Unsuik Chin's composition "ParaMETA String" with the assistance of the New Media Music studios. This collaboration was so

successful that the quartet subsequently programmed a concert of works using technology in May 2007, including works by Unsuk Chin, Jongwoo Yim and George Crumb.

### **3.9 Music Theater: Shadow**

In early 2007, the studios provided technical assistance, sound diffusion in addition to electronic sounds and sound effects for Shin Nara's musical theatre composition, "Shadow."

### **3.10 Collaboration with Film and Multimedia**

For the May 2007 concert with the New Asia String quartet (mentioned above), the New Media Music studios collaborated with graduate students from the Sung Kyun Kwan University's department of Film and Multimedia. The students, under the guidance of professor Daejin Hyun provided a live on-stage video installation as an accompaniment to (and sometimes visual commentary on) the music. This integration of music and video was well-received by the audience, and will hopefully be the first in a series of such interdisciplinary collaborations with other universities.

### **3.11 Hanyang New Music Festival**

In early November 2007, the New Media Music studios are scheduled to curate a concert, in a newly redesigned Paiknam Concert Hall, as part of the Hanyang New Music Festival.

## **4 EDUCATION**

As education is one of the primary goals of the New Media Music program, the computer music studios have hosted a series of seminars and workshops including an impressive array of visiting composers, performers and researchers. Naturally, these are organized around the masters program itself.

### **4.1 The Masters Program**

The New Media Music program awards graduate degrees in three areas of specialization: Computer Music Composition, Recording Arts and New Media Technology. Each major has its own course set, and students are required to complete a written thesis in their area of study.

Since the program was introduced in 2004, there have been three graduates, with 19 students remaining in the program. Many of these are in the process of finishing their theses, and are scheduled to graduate in the near future. The Computer Music Composition emphasis currently has 10 students enrolled, and has graduated one student. The Recording Arts program currently has 9 students and has graduated one student. The more technical program, New Media Technology currently has no students following the course program, although it has already graduated one student.

### **4.2 Introduction to Electro-Acoustic Music**

As part of the Bachelor's degree program in composition at Hanyang University, undergraduate students are required to take a two-semester introductory electro-acoustic music course (Electro-Acoustic Music I and II) in their junior year, which includes a historical overview of electronic and computer music in addition to hands-on experience with basic recording and sound processing techniques, audio sequencing software, synchronizing audio to video, as well as an introductory overview of somewhat more esoteric computer music software like IRCAM's Audiosculpt and Cycling '74's Max/MSP. Students in their senior year can choose to continue working with electro-acoustic music by taking the Electro-Acoustic Music III and IV courses, where they are given an introduction to sound synthesis techniques, and study computer music trends, history, editing and software at a more advanced level.

One of the main goals of the undergraduate courses, in addition to broadening the undergraduate students' knowledge of 20<sup>th</sup> and 21<sup>st</sup> century music, is to prepare those composers who are interested in the genre for more advanced graduate-level studies in computer music, either continuing at Hanyang's New Media Music program, or at another university in Korea, or abroad. To this end, the courses are project-based, so students will not only acquire practical experience, but also be able to amass a small portfolio of electro-acoustic works.

### **4.3 Summer Workshops**

A yearly series of summer workshops was started in 2005, and has continued in 2006 and 2007. The first year the workshops were organized as a Max/MSP Summer Workshop, however in 2006 a second workshop dedicated to Sound Recording Technology was added. Although the instructors change slightly from year to year, the Max/MSP workshops have been taught by a rotating pool of instructors including Jenny-Jiyoun Choi, Richard Dudas, Byungmoo Lee, Yongjun Yang, Jongwoo Yim and Seounghyun Yun. The Recording Technology workshop has been taught by Gookhyun Kim.

### **4.4 Composition and Technology Seminars**

Although there is not a fixed number of seminars scheduled each year, three seminars were presented in both 2005 and 2006, in conjunction with visiting artists who were having performances in Seoul.

#### *4.4.1 Contrabass Flute Seminar*

In 2005 Beate G. Schmit and Thomas Seeling (Germany) gave a seminar and informal mini-concert about the use of contrabass flute with electronics. As part of the seminar they performed compositions by Thomas Seeling and Horacio Vaggione.

#### *4.4.2 Real-Time Synthesis Seminar*

Also in 2005, Philippe Manoury and Serge Lemouton (France) presented a composition seminar where they discussed technical aspects of Manoury's pioneering

real-time composition from the day of IRCAM's 4x machine, "Jupiter," for flute and computer synthesis.

#### 4.4.3 Seminar on Interactive Music for Dance

Additionally, composer Todor Todoroff (Belgium) presented a seminar on his use of computer video interaction in music for his compositions collaborating with modern dance.

#### 4.4.4 Electronic Composition Seminar

In the Spring of 2006, Thomas Kessler (Switzerland) gave a seminar on his composition "said the shotgun to the head" for rapper, chorus and orch, which was performed the previous evening.

#### 4.4.5 Seminar on Spectral Signal Processing

The following Autumn, Richard Dudas (USA) presented his use of FFT processing and score following in Max/MSP in the context of his two interactive compositions, "Prelude for Flute and Computer" and "Prelude for Clarinet and Computer".

#### 4.4.6 Meta Duo Seminar

Also in the Autumn of 2006, the Meta Duo – Daniel Kientzy and Reina Portuondo – (France) presented a seminar on new concepts for the ensemble of saxophone and electronics.

### 4.5 Invited Professor

For the 2007 academic year, composer and developer Richard Dudas was invited to teach courses in Real-Time Audio Processing and the History and Trends in Computer Music. It is hoped that in the future the department will be able to continue to invite other guest professors to bring an international point of view to the program.

## 5 RESEARCH

The New Media Technology degree was established as the research sector of the New Media Music program. Although to date there has only been one graduate of this degree program, it is hoped that this will be the start of further music technology research in the future. In addition to the degree program, small-scale research and development projects are also encouraged to help stimulate the creative ambience at the studios.

### 5.1 Hybrid Synthesis

Hansil Lee's master's thesis [1] on the synthesis of traditional Korean musical instruments proposed a wavetable-based technique which she named Hybrid Synthesis. Although the synthesis technique was prototyped in Csound, it could be easily extendable to other synthesis environments.

### 5.2 String Orchestra Chorus Effect

As part of the collaboration with the New Asia String Quartet (mentioned above), invited professor Richard Dudas was given the task of designing a "warm chorus" effect designed to produce a rich string orchestra sound

from the amplified string quartet. Although still a work in progress, this effect has been nonetheless used in concert in the context of a performance of Haydn's "Seven Last Words" for string quartet at the Sejong Center for the Performing Arts in Seoul.

## 6 PERSONNEL

The Hanyang University School of Music's New Media Music program has been taught by the following faculty: Jongwoo Yim, Byungmoo Lee, Yongjun Yang, Seounghyun Yun, Hanshin Kim, Youngmee Lynn, Jenny-Jiyoung Choi, Richard Dudas.

## 7 ACKNOWLEDGEMENTS

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## 8 REFERENCES

- [1] Lee, Hansil, *Research on Sound Simulation and Hybrid Synthesis of Korean Musical Instruments by Wave Table*. Master's Thesis, Hanyang University, Seoul, 2006.