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# **Studio Report - Sydney Conservatorium of Music University of Sydney**

## **Abstract**

*This report will give an overview of current activities in music technology at the Sydney Conservatorium of Music. Electroacoustic composition is a principal focus of the composition degree at the Conservatorium, and music technology is integral to the learning and teaching and research in music education, performance and musicology. 2006 saw the first enrolments in Creative Sound Production, which aims to provide students with the aesthetic as well as technical foundations of sound recording.*

## **Introduction**

The Sydney Conservatorium of Music is a faculty of the University of Sydney located primarily in the city next to the Royal Botanic Gardens. In 2006 there were approximately 600 undergraduate and 120 postgraduate students enrolled with specialisations in performance, music education, musicology, composition and music technology.

The particular mix of students at the Conservatorium offers opportunities for collaboration, for example between composition and performance students. Those studying sound recording have a range of ensembles available for their projects.

2005 saw the integration of the Department of Music at the University into the Conservatorium, which brings music at the University of Sydney into one faculty. What is now the Arts Music Unit runs subjects on main campus for those in Arts, Science and other degrees. These include units of study in music technology and music publishing. Matthew Hindson, from the Arts Music Unit, has been appointed Associate Dean of ICT.

## **Equipment and Resources**

Currently the Conservatorium comprises two computer labs in the music technology area, one postgraduate lab, and an "Access Lab" based in the library. Additionally there is a small lab in the Seymour Centre on the main campus as part of the Arts Music Unit. The music tech-

nology labs are integral to the running of undergraduate units of study in music technology including electronic music and sound recording, and subjects that have integrated some technology as part of the course unit (for example SPSS for statistics).

Recently a number of studios have received major upgrades to better support the needs of composition, recording and production. Current facilities include: a 24-track recording studio with tie lines to four architecturally and acoustically designed concert halls, a 16-track multi-tracking studio with 3 attached, isolated, recording rooms, two composition studios, one set up for mixing in 5.1, a dubbing booth, and a video-editing room.

An 8-track portable recording system has been set up to enable recordings to be carried out in any space at the Conservatorium. Students have access to professional level microphones including Neumann, DPA, AKG and Rode models. Very high quality microphone pre-amps have been installed to provide students the opportunity to experience high fidelity at each level of the recording signal chain.

The studios are centred on G5 computers running Pro Tools, with plugins including GRM Tools and Waves Gold. Other key software includes multiple licenses of Max/MSP, Jitter, Final Cut Pro, Motion, NI Komplete, Finale and Sibelius. Each student is provided with a unique login, which gives access to the music technology server with storage of 1 TB (just sufficient). The network is visible in all studios and laboratories, providing students with a convenient means for moving files around between studios and laboratories.

## **Technical Support**

2006 has seen a doubling of technical support at the Conservatorium compared with early 2005. There is now the equivalent of 4.6 technical support staff spread over three full-time and three fractional appointments. Of these, four have extensive experience in electroacoustic music and/or sound recording: Peter Thomas, Peter Loxton, Ben Byrne and Robert Sazdov. In addition to their support role at the Conservatorium, these last two are particularly active in the area of electroacoustic music, lec-

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turing in a number of faculties and successful as composing and performing musicians.

## Composition, Research and Teaching

### Research and Composition

In the last twelve months there have been three postgraduate completions in electroacoustic music. An obvious aim is to increase the number of research postgrads, and strategies are being explored to achieve this.

Staff and postgraduate work has been well represented in conferences and festivals. Ivan Zavada gave a workshop on Quadraloop – real-time audio looping software implemented in Max/MSP, and performed at the MusicAcoustica 2005 Electroacoustic Music Festival in Beijing. His work Aquasonic was chosen as an installation for Empirical Soundings - soundscapes from the commonwealth, part of the cultural activities concurrent with the 2006 Commonwealth Games in Melbourne.

Donna Hewitt is exploring new creative possibilities through the development of real-time digital performance systems and customised interfaces. For the past two years she has been developing, performing and refining the 'extended mic-stand interface controller' (eMic), an instrument for live vocal performance, electronic manipulation and real-time sound spatialisation.

Recently Donna has been collaborating with Julian Knowles. Their current focus is on the development of a performative interface between the eMic and a computer-based performer controlling audio/visual media. The project seeks to develop musically meaningful strategies for the exchange of controller data between performers via TCP and/or UDP messages over a wireless network.

Whilst the underlying technologies exist for such an exchange of data (via patcher environments such as Miller Puckette's PD and Cycling 74's Max/MSP), the mapping and application of such data within musical contexts remains a relatively unexplored area of research. This project seeks to explore the concepts of performance mapping and controller data exchange to develop successful musical models tested through a series of live concert performances. This year they have performed together at a number of festivals including, The Great Escape Festival, the Aurora Festival, Liquid Architecture Festival and they will be performing at the International Computer music Conference (ICMC 2006) in New Orleans in November.

Gordon Monro's installation Evochord was selected for an event called "Project 3", part of the Adelaide Festival of Arts. Dissonant Particles, an audiovisual work based on a formula expressing the dissonance of two sine tones, has received numerous performances in Australia and overseas, and in December 2005 Gordon gave a paper on Dissonant Particles at the Generative Arts Practice conference in Sydney.

Amanda Cole's research has focused on the interference between frequencies derived from the 11-limit tuning system, and the possible application to electroacoustic composition. Her recent works include Cymbolic, an electroacoustic piece made from samples of cymbals suspended on a rope between a pair of microphones, and Vibraphone Theory, for Vibraphone and CD, which ex-

plores beating effects between the instrument and the recorded part.

### Creative Sound Production

Semester 1, 2006, marked the first intake for the new postgraduate courses in Creative Sound Production at the Sydney Conservatorium. There are three course work awards on offer, Graduate Certificate, Graduate Diploma and Graduate Masters. The courses are designed to equip graduates and practitioners with skills in sound recording and music production, and to respond to the growing demand for creative, skilled practitioners and technicians in an increasingly technologised music industry.

The courses aim to produce well-rounded students with conceptual as well as technical skills, and prepare the students to operate effectively in a freelance context, in small business and in a range of production and creative roles within larger organizations.

The course is designed and co-ordinated by Donna Hewitt and the teaching model revolves around the input of permanent staff members with additional input provided from a range of industry professionals. The use of industry specialists provides the students with a diversity of ideas and approaches to recording and production, which is crucial in a professionally orientated graduate program.

To date industry specialists have included Daniel Denholm, Shane Fahey, Adrian Bolland, Owen Chambers, Linda Barwick, Frank Davey and Jim Denley. Collectively these specialists have provided expertise in a range of production fields including classical music production, production for radio, multi-track recording, live concert recording, documentary and archival recording, spatial audio production as well as more experimental approaches to recording and production.

Students are encouraged to consider a range of mixing concepts, reality, hyper-reality mixing for effect, naturalism versus creative embellishment. Emphasis is placed on production as a creative process not just on technical proficiency and thus creates a bridge with the compositional focus of the department.

Teaching includes lectures, masterclasses, practical workshops, off site excursions and an industry placement towards the end of the program. The teaching is supported extensively by the use of online resources including WebCT and the internet.

Substantial student initiated and student managed project work is required and is designed to fit in with existing activities at the Conservatorium. The Conservatorium offers an extensive range of musical activities that students have the opportunity to record and produce, including jazz ensembles of varying sizes, large choral ensembles, early music ensembles and symphony orchestras.

### Undergraduate Study

In Semester 1 2006 there were approximately 230 undergraduate students taking technology-focussed units of study at the Conservatorium. Amongst these are a number of cross-faculty and cross-institutional enrolments. Units of study range from the core Music Technology, mandatory for all undergraduates, through to second-

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level units of study in Electronic Music, Sound Recording and Technology for Music Education.

Current areas of interest in the undergraduate Electronic Music program include sound spatialisation, audiovisual, interactive composition, installations, sound synthesis and live-performance electronics.

2006 has seen a review of the current undergraduate degrees at the Conservatorium. This will see a strengthening of the undergraduate program in electroacoustic composition, increasing the weighting of Electronic Music units of study in early semesters, and offering student the opportunity to specialise in the area in their third and fourth years

## **Performances**

A priority of the last year has been to showcase electroacoustic works from students and staff and to raise the profile of electroacoustic performance events. There is now one Live Wires each semester as part of the formal Conservatorium series. In 2006 Robert Sazdov co-ordinated the 60x60 event, a series of 60 one-minute compositions together with 60 short films. In addition, there are regular less formal performances of student works, and instrumental concerts featuring compositions for instrument and electronics.

## **Conclusion**

Looking forward, challenges include the need to keep the music technology-related units of study relevant and up to date, and the implementation of strategies to properly resource what can be an expensive area to maintain.

The merger of the Conservatorium with the Department of Music and a rewriting of the undergraduate music degrees at the Conservatorium offer a chance to update the content and mode of teaching in technology-related units of study at the Conservatorium. As part of this, there are opportunities to engage in the further development of on-line resources to enhance the revised program.

As the Creative Sound Production course is fully established it will lead to graduates with significant experience in recording classical ensembles, performance students with some experience working in this environment, and closer links between the Conservatorium and industry.