

# SONIC PLAYGROUD

## 100 WAYS TO LISTEN

MARCH 25 - QUEENSLAND CONSERVATORIUM

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### INTERACTIVE MUSIC 1710QCM – in QCGU foyer

First year Music Technology students have been introduced to concepts and practices around live technologies for music and sound through a course called Interactive Music 1710QCM. This course explores hardware controllers, associated software systems, the basics of sampling and synthesis, and communications protocols. An outline of projects created for visitors to explore can be found below. Please look, listen, ask questions, push buttons, and be experimental!

#### Patrick Kirkman, Rory Fowler, Regan Samuels

'Duality' explores the creation and destruction of sound. Through a process known as subtractive synthesis we aim to demonstrate how sound can be created and manipulated. We will begin with the purest sound possible, then using only Ableton's 'Live' software and a keyboard, something entirely new will be formed. We explore oscillation, wave mixing, and filtering as well as various effects. Participants will come away from this project with basic knowledge and a new appreciation for some of the crazy and interesting sounds heard in day-to-day life.

#### Jacob Littlejohns, Coen Drexler, Matt England

'Manuf(r)ature' explores the relationship between Australia's modern, technologically advanced situation and the natural, organic aspects of our country. A selection of both 'musical' and 'non-musical' audio samples have been collected from the Australian environment and these can be manipulated using Ableton Live and the Ableton Push 2 controller. The audio samples are modulated to resemble more traditional musical elements and will be presented through the Push 2 controller, allowing participants to creatively explore the Australian landscape through music and sound. Jacob, Matt and Coen will instruct attendees and offer insight into their approach.

#### Jesse Belor, Rina Utashiro, Leighanna Robinson

Our interactive project is designed to display a variety of sound effects as well as the important role of technology in digital music. Each participant will be given the opportunity to sculpt a simple beat and melody. Two different controllers are utilised not only for the convenience of control under your fingertips, but to demonstrate how these devices can assist in performance and the production of digital music. Each knob on a Korg Nanokontrol has been pre-mapped to an effect, allowing the audience to physically adjust levels of reverb, gain, pitch and quite clearly hear the sonic results of their physical actions. Participants can improvise with an Ableton Push and learn useful functions which add to the overall experimental character.

### INTERACTIVE MUSIC 1710QCM (continued) – in QCGU foyer

#### Liam Willis, Dylan Fox, Cain Kirk

Our World Science Fair exhibition involves a musical expression of sudden changes. This has been achieved through the use of Ableton 'Live' (a digital audio workstation), in conjunction with the electronic instrument the Ableton 'Push 2', as well as a 'nano-controller.' Using the Push we have created multiple repeating sequences which can be manipulated using a 'Korg nanoKontrol2' as well as additional features of the Push itself. Some changes may be subtle and may not appear to have an immediate effect while others are more explicit with a wide range of pitches and dynamics.

#### Alex Ray, Seb Dwyer, Morgan Campbell

Ever wanted to compose or perform live without any prior musical experience? With the rapid advancement in modern technology it is simpler and faster to produce complex sounding audio than ever before. The 'JAM STATION' is a collection of digital instruments and controllers that allows one to become the composer. Sebastian Dwyer, Alex Ray and Morgan Campbell have pieced together a collection of their own samples and recordings, ranging from guitar riffs to synthesizers to soothing raindrops and more. Complex Musical Instrument Digital Interface (MIDI) controllers have been programmed so audiences can arrange their own compositions. Join the jam and come play in the sonic playground for an improvised, immersive and interactive musical experience.

#### Daniel Milad, Lachlan Grant, Chris Vitali

We have created a template that is built around audio tracks routed through 'dummy' tracks. These dummy tracks hold clips mapped to automations of effects. As the audio passes through the channels, it can be manipulated and distorted by triggering squares on a Launchpad. The result is a quick, creative, and easily operated manipulation of sound.

#### Zed Butel, Aidan Pflaum, Toby Whitbread-Edwards

'Direction of Sound' demonstrates some possibilities of basic sound manipulation. Beginning with a plain, unaltered sound, such as a guitar chord or song sample, the introduction of various effects progressively modifies the sound beyond its original incarnation. The audience is encouraged to interact within this system by controlling parameters such as reverb, frequency filtering and delay. Through experimentation, they will create evolving soundscapes far removed from the source sound.

#### Luke Pearce, Jesse Morath

Our World Science interactive project has been created to show how natural and human-made sounds can be hugely important in the creation of an interesting piece of music. The crossover between electronically produced and naturally produced sounds (e.g. a clock ticking, or a human breath) gives music a unique and memorable characteristic. This piece will include both previously selected sounds/loops as well as on-the-spot recordings, which will be changed and manipulated to create a close relation between electronic and human-made sounds. The sounds and recordings that will be created and used throughout the piece use Ableton Push and a Nanocontroller, which will be handed to participants to create and experiment.

#### Tom McIntosh, Lachlan Parker, Alex Khoo

The sounds you hear around you in your day-to-day life might be considered unmusical. Perhaps you even consider yourself unmusical. This project shows that any sound can be implemented effectively into a musical context using a single microphone. What might at first be considered a series of unintelligible or non-melodic 'noises' is quickly given rhythmic and melodic shape live before your eyes.

#### Nicholas O'Loughlan, Tom Walker, John Morris

'Enhancing the Human Instrument' aims to explore, enhance, and manipulate the natural capabilities of the human voice. Members of the public will be invited to record sounds into Ableton 'Live' using their voice, these sounds will be electronically altered using the devices within the program. Participants will be then invited to interact and manipulate the sounds themselves using the Ableton Push II. By examining the phonetics of human speech, and the science behind processes such as reverb, delay, and equalisation, this project hopes to create an interactive medium where an unfamiliar audience can be musical.

### **ELECTRONIC INSTRUMENTS (2710QCM) – in QCGU foyer**

This course explores the design, creation and use of electronic instruments for musical expression. Second year Music Technology students have spent four weeks learning graphical programming with free and open-source software Pure data, they look forward to sharing this work with you!

#### **Sam Hogg, Connor Anderson , Sam Cash, James McElligott**

‘Sounds: Real or Fake?’ is an interactive test where participants listen to two different sound files of the same thing, then identify which is the ‘real’ sound, and which is synthesised. This test draws from Andy Farnell’s book on Pure Data synthesis in combination with field recordings. Not only will this test be fun for participants, but it will allow them to recognise the capabilities of sound design in creating remarkably similar sounds to those produced in nature.

#### **Lela-May Vandermolten, Joyce Shang, Gareth Mewes**

‘Interactive Sound Manipulation’ is an interactive activity allowing participants to manipulate and alter audio files recorded in the Brisbane River using a Hydrophone (a device for capturing underwater sound). A series of different sound alterations will be available to experiment with using Pure Data.

#### **Jono Frowd, Elliot Cox , Kurt Boldy**

This project, called ‘PD digital voice massager’, foregrounds the fact that alteration of the voice has been a feature used in music creatively and destructively in both commercial and more experimental for many years. The digital voice massager is a program we have created that allows the user to manipulate their own voice in real time with Pure Data. Users will be able to explore the effects of delay, reverb and will also learn how the voice changes when multiplied or added/subtracted to other frequencies. See if you can make something that you could use musically, or try create a sound that sounds nothing like your original voice. The possibilities may surprise you.

#### **Joshua Smith, Emmanuel Nassif , Torin Bambridge-Lozan**

‘Beating’ -- when two frequencies are within a few Hz of each other, the result is a gradual change in volume as the phases of the two slip against each other. Come explore the creative potential of beating.

#### **Wacey Coates, Xavier Fleming, Sam Muller, Jorja Dimopoulos**

‘Phasing: Play on “Come Out” by Reich’ allow volunteers to record sound into an array, two versions of which are then played back, starting simultaneously, but applying a small delay to one iteration so it slowly phases against the other. Other effects such as reverb will be added also - the public will control the reverb and delay amount to make it more interactive.

#### **Luke Nicholls, Joseph Morrison, Erin Drury**

This project revolves around a simple sample manipulator that utilises parameters to control delay, reverb, and playback speed. Part of this project is running on PIANO on the main foyer stage, while in the middle of the room an extended version of this manipulator included some additional examples of synthesis

#### **Brayden Clark, Dan Barker, Mitchell Café, Thomas Marshall**

An exploration of live voice synthesis

#### **Alex Mason, Nick Unwin, Jacob Littlejohns**

‘Dr. Karl’s Lexicon’ is a digital instrument that enables the user to recreate the voice of Dr. Karl Kruszelnicki who is presenting as part of the World Science Festival. Users will manipulate the esteemed scientist’s words using sampling and sequencing to create novel phrases. Participants will experience the interplay of music, language, rhythm and tone while exploring the relationship between the meaning of words, syntax and intonation.

### **‘Fluctuant Rainforest’ by Mauricio Iregui and Leah Barclay – room 3.56**

Immerse yourself into the Amazon Rainforest with this multi-speaker interactive installation that reacts to your auditory position in the chair and allows you to explore and journey through a dynamic sound experience.

### **‘PIANO (Performance Interaction and Augmented Noise Object)’ by John R. Ferguson and Mauricio Iregui – on the stage in QCGU foyer**

PIANO consists of a short-throw projector, a camera that sees only infrared, and a number of objects fitted with fiducial symbols. The location of physical objects and their angle of rotation is mapped to various audio parameters using Pure data software. The Sonic Playground installation emerged through collaborations between John Ferguson, Mauricio Iregui, and music technology students at QCGU. This revolves around audible beating, where two frequencies are closely aligned and a pulse is perceived, there’s also some sample manipulation of a water recording, and a low frequency oscillator.

### **‘Drum Thing’ by John R. Ferguson – front balcony outside QCGU foyer**

An installation written in Pure data that celebrates the automation of percussion objects using computer controlled solenoids. This project explores various approaches to randomisation alongside an Euclidean rhythm algorithm, where the greatest common divisor of two numbers is used rhythmically to drive the beats and silences (see Godfried Toussaint’s 2005 paper "The Euclidean Algorithm Generates Traditional Musical Rhythms").

### **‘Sculptural Sonic Agents’ by Andrew R. Brown and John R. Ferguson with assistance from Music Technology students of QCGU –balcony off quadrangle from QCGU foyer**

‘Sculptural Sonic Agents’ explores musical performance with sonic sculptural agents. These electronic musical ‘agents’ are bespoke handmade electronic instruments that comprise artificial listening and sound generating capabilities. They listen to the sonic environment around them (including other machine and human performers) and respond in ways programmed by the designers. This installation features an ensemble of Sonic Agents and some acoustic percussion instruments for people to play. All agents, human and machine, have the capability for sonic feedback between one another, thus enabling the interactive exploration of orchestrated human-machine ensembles. This work extends the boundaries of new musical practices and help us better understand musical agency and interaction in general as we attempt to imbue our devices with these capabilities.

### **‘Sonic Environments Installation’ by various artists -- Queensland Conservatorium Research Centre (room 3.44)**

Meet artists and scientists working with ecoacoustics, explore augmented reality installations stretching throughout South Bank, interact with 3D sound environments in UNESCO Biosphere Reserves and travel through the acoustic ecology of global ecosystems in virtual reality.

### **‘Sonic Environments Installations’ by Daniel Blinkhorn, Leah Barclay, Ricardo Dal Farra and Matthew Hitchcock -- room 3.63 (Music Technology)**

Explore the ecological, social and cultural contexts of our global sonic environments through immersive electroacoustic music inspired by science, nature, changing climates and interdisciplinary research. All compositions are created from environmental field recordings and draw on practices of acoustic ecology. The program features new works by Daniel Blinkhorn, Leah Barclay, Ricardo Dal Farra and Matthew Hitchcock.

### **‘Augmented Reality’ Sound Walks by Leah Barclay**

Download the free app [Echoes.xyz](https://echoes.xyz) (iOS and Android) to your mobile device and select an experience to explore over 100 aquatic soundscapes as you walk throughout South Bank anytime of the day. Your phone will act as a sonic compass and the soundscapes will play automatically when you walk into active locations.

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