CONCERTS

LUNCHTIME CONCERT - Basil Jones Orchestral Hall

Echolocation Suite - Alice Bennett
Three short pieces for flute and micro-bats (world premiere). This work uses data collected by Australian environmental scientist, Dr. Lindy Lumsden, in her research of native Australian micro bats. It uses data from bat-detecting devices: ultrasonic recording devices that recognize bat calls and transpose them down to the human hearing range. The data is analysed in the form of a spectrogram, and each species of bat is discerned by the shape and range of the calls. This piece uses the pitch and rhythm of bat calls as source material for the structure of each movement, and also uses the transposed calls throughout. The recordings are triggered at certain frequencies and dynamics of the flute via Max MSP, setting bats flying across the room (in 4 channels). The flute mimics different types of bat calls, triggering and reacting to the recordings and using its inherent flexibility to create a different voice in each register.

I. Victoria Circa 5.' There are 21 species of native bats in Victoria, all with unique calls above human hearing range. Like birds, these calls occur in different frequency levels so that different species of bat may co-exist without disturbing each other. A bat's call bounces off the objects around it allowing it to ‘see’ at night, creating a beautiful cacophony that no one ever notices.

II. Melbourne Circa 5.' Did you think that bats only live in the bush? 17 of the 21 species of bats in Victoria can be found in metropolitan Melbourne, roosting in the hollows of our 100+-year-old trees. These fascinating creatures go largely unnoticed by all except the odd cat due to their size (most adult micro bats fit into a matchbox), speed, and auditory range (only a few species can be heard by humans, including the White-striped Freetail Bat). These bats are insectivorous and without them we’d be inundated with mosquitoes and bugs.

III. Southern Bent-Wing Bat Circa 6.' Very little is known about this curious endangered species other than its secretive breeding place in a cave somewhere in South-West Victoria. These bats can be found all over Victoria, but unlike any other species of bat, they travel hundreds of miles to breed in one place. No one knows how the young bats know where to go, without flying in flocks like birds there’s no way for them to follow each other, so how do they know where to go? This is one of the questions that Dr. Lindy Lumsden hopes to answer in her research.

Along the Eaves - Benjamin O'Brien
"along the eaves" is part of a series that focuses on my interest in translational procedures and machine listening. It takes its name from the following line in Franz Kafka’s “A Crossbreed [A Sport]” (1931, trans. 1933): “On the moonlight nights its favourite promenade is along the eaves.” To compose the work, I developed custom software written in the programming languages of C and SuperCollider. I used these programs in different ways to process and sequence my source materials, which, in this case, included audio recordings of water, babies, and string instruments. Like other works in the series, I am interested in fabricating sonic regions of coincidence, where my coordinated mix of carefully selected sounds suggests relationships between the sounds and the illusions they foster.

Rainwire - David Burraston
Rainwire encompasses the investigation of rainfall & its application as a medium for artistic, cultural & scientific exchange. The Rainwire project includes development of a prototype Acoustic Rain Gauge using suspended cables (long wire instruments), and subsequently expanded through various collaborations in a range of creative & environmental contexts. Rainwire is an experimental approach at technological appropriation of agricultural based objects for art and science, with particular emphasis on climate change issues and agriculture. This performance will present a live laptop mix of environmental sonification recordings from the newly built Rainwire prototype. Previous work on Rainwire has been conducted on shared instruments, this performance will be an opportunity to present the newly built dedicated Rainwire prototype in public for the first time in Australia. Long-wire instruments are made from spans of fencing wire across the open landscape. Rainwire developed from using contact mic recordings of rainfall "playing" the long wire instruments for my music compositions. This enabled a proof of concept study to the extent that the audio recordings demonstrate a wide variety of temporal & spatial rain event complexity. This suggests that environmental sonification has great potential to measure rainfall accurately, & address recognized shortcomings of existing equipment & approaches in meteorology. Rain induced sounds with long wire instruments have a wide range of unique, audibly recognisable features. All of these sonic features exhibit dynamic volume & tonal characteristics, depending on the rain type & environmental conditions. Aside from the vast array of creative possibilities, the high spatial, temporal, volume & tonal resolution could provide significant advancement to knowledge of rainfall event profiles, intensity & microstructure. The
challenge lies in identifying distinctive sound patterns & relating them to particular types of rainfall events. Rainwire is beyond simple sonification of data, it embeds technology & data collection within cultural contexts. With rainfall as catalyst to draw inspiration from, artists, scientists & cultural groups are key to informing science & incite new creative modalities.

**Elephant Talk** - Vicki Hallett  
The Elephant Listening Project from Cornell University is the basis of Elephant Talk/Elephant Listening Project music performances. They present not only logistical difficulties but musical difficulties. It was 2-3 years of attempting to confirm the possibility of the project with Cornell University. The researchers and contacts of course, were deep in Africa recording the sounds for their research. Threats of poaching are a reality and in one instance, although the researcher reached safety, the elephants weren't so lucky. Cornell University use a variety of technological platforms for their research both recording and processing of these recordings. The music created also uses a variety of technological and compositional methods to both utilise the sounds and to create something that is inspiring, innovative and become a whole listening experience. Through using different format types of sounds, for example: infrasonic sampled so that humans can hear them as well as regular files, the aim is to create relationships between the natural environment of the forest elephants, the other recorded acoustic occurrences while incorporating various instruments to create a conversation between the sonic environment, performer and listener.

**NOISA Étude 2** - Juan Carlos Vasquez and Koray Tahiroğlu  
"NOISA Étude 2" is a second set of performance instructions created to showcase compelling, evolving and complex soundscapes only possible when operating the NOISA instruments, integrating the system’s autonomous responses as part of a musical piece. The multi-layered sound interaction design is based on radical transformations of acoustic instruments performing works from the classical music repertoire. This second "étude" is based entirely on interaction with spectrum-complementary Phase Vocoders. The system is fed with variations of a fixed musical motif, encouraging the system to recognise elements of the motive and create its own set of different versions emulating a human musical compositional process. Also, the Myo Armband is used in a creative way as an independent element for dynamic control, using raw data extracted from the muscles’ tension.

**Hyvät matkustajat** - James Andean  
Hyvat matkustajat (2014) (Finnish for 'Dear Travellers', but also for 'The Good Travellers') began life as a "sonic postcard from Finland", using soundscape field recordings from around the country. This turned out to be only the first stop on its journey, however. The original material was later further developed as material for sonic exploration and spectral transform…

**EVENING CONCERT** - Basil Jones Orchestral Hall  
**Coral Bells Movt.2 2016** - Brigid Burke  
Coral Bells explores the diverse overtone, microtone sounds and origins of the Federation Hand Bells and Bass clarinet into the visual with discrete sounds of the ecosystems of coral from Fitzroy Island Northern Australia. This creation brings a new life to the Federation Hand Bells providing deepening connections with the Australian landscape. It is the conversation of between the audio and dead coral from that accentuates the audio-visual reflecting both the translucent Federation Bell sounds, Bass clarinet, glass and dead coral. The acoustic resonators vibrate with the coral and are recreated into visuals of moving glass objects. These sounds transform into acousmatic sounds. The colors and texture within the visuals are layered white/grey, sepia, hints of pastel colours, burnt reds, yellows and gold images that are layered to create a thick timbral texture to form the video voice. The sounds of subtle high pitched Bells and gritty sand sounds with the Bass clarinet periodically joining the drones with discordant multiphonics and flourishes of notes dominate throughout. Subsequent acoustic and visual motifs capture and emerge sonically/visually creating timbre layers of the interpreted coral and glass reflections.

**On Solo** - Johannes Mulder  
The performance is part of the ongoing research project into Karlheinz Stockhausen’s historic work Solo (Solo, für Melodie-Instrument mit Rückkopplung 1965-6). Together with my colleague Dr. Juan Parra Cancino from ORCIM Ghent we are teasing out the consequences of the (now common) software replacement of the elaborate tape delay system that was used in the time of the work’s inception.
**Shelter** - Sam Gillies

Working almost exclusively at a very soft volume, Shelter inverts the relationships between the source sound material and it’s experience in the real world, placing very large sounds (sourced from field recordings) at the threshold of audibility while audio artifacts are brought to the forefront of our focus to act as recognisable musical material. By utilising a soft dynamic, all audience members are able to hear each channel more equally, regardless of their position in the performance space. This new version for bass clarinet, electric guitar, and electronics expands the original electronic composition into something more lively and environmentally focused. The compositional intentions of the original Shelter remain at play here - this version still seeks to address the assumptions of multichannel listening, while affecting an environment of sound in preference to an experience of sound. However, this electroacoustic version adds a little bit of much needed chaos, allowing performers to interact and manipulate this sonic environment.

**Ground Interference** - The Listen(n) Project - Leah Barclay

Ground Interference draws on short recordings from each location I visited in spring 2014 with a particular focus on Joshua Tree National Park, Jornada Biosphere Reserve, Mojave Desert, and Death Valley National Park. These fragile desert environments are inhabited by thousands of species all part of a delicate ecosystem that is in a state of flux induced by changing climates. The transfixing acoustic ecologies of the southwest deserts demand a stillness that encourages a deeper environmental awareness and engagement. In many instances during our field trip we struggled to find locations without human interference. The distant hum of highway traffic and relentless airplanes under the flight path from LAX were expected, yet we also encountered unexpected sounds interfering with the acoustic ecologies of the land. These range from an obscure reverberating vending machine in Death Valley National Park to rattling power lines in the Jornada Biosphere Reserve that were so loud I could feel the vibrations through my feet.

**Becoming Desert** - The Listen(n) Project - Garth Paine

Becoming Desert draws on the experience of sitting or lying down silent in the desert for several hours at a time to make sound recordings. The field recordings I made in four deserts of the American Southwest are the basis of this work. When listening to the desert sounds through headphones at the time of recording, one is aware of a kind of hyper-real sonic environment. The amplified soundfield in the headphones is surreal in its presence and accuracy and multiplies my direct experience of listening many times.

**Nature Forms II [2016]** for flute, clarinet, viola, cello, percussion, hybrid field recording and electronics - Lindsay Vickery

Nature Forms II is an eco-structuralist work, maintaining what Opie and Brown term the “primary rules” of “environmentally-based musical composition”: that “structures must be derived from natural sound sources” and that “structural data must remain in series”. Nature Forms II explores the possibility of recursive re-interrogation of a field recording through visualization and resonification/resynthesis via machine and performative means. The source field recording is contrasted with artificially generated versions created with additive, subtractive and ring modulation resynthesis. Interaction between the live performers and the electronic components are explored through “spectral freezing” of components of the field recording to create spectrally derived chords from features of the recording bird sounds and a rusty gate which are then transcribed into notation for the instrumentalists and temporal manipulation of the recording to allow complex bird calls to be emulated in a human time-scale.

**Basaur** - Stephan Moore

Basaur is a structured improvisation for software, microphones, and objects, performed through a multichannel sound system. Using simple, readymade household devices as the primary sound source, Basaur unfolds as a guided exploration of the small mechanical drones and noises that occupy the edges of our quotidian sonic awareness. Using both pre-recorded and live-performed sound sources, textures are layered and connected, building to a richly detailed environment of active sounds -- background becomes foreground, and the everyday annoyances of modern convenience take on a full-throated presence that is by turns lyrical and menacing.
INSTALLATIONS
Queensland Conservatorium Foyer

Aural Fabric: Greenwich - Alessia Milo
Aural Fabric: Greenwich consists in an interactive textile pieces hosting the experiences from some soundwalks in Greenwich, London. These soundwalks are part of the research project Aural Character of Places, investigating how people with different experience and familiarity attribute meaning to soundscapes, while raising awareness on how architecture influence the creation and spread of sound. Aural Fabric: Greenwich is made of the sonic life of the area from which is inspired, and colours, materials, signs, shapes collected during the collaborative research experience. The recordings are placed on a symbolic map representing the area of Greenwich, whose layout is informed by the discussion with the walk participants and previous research on and in the area. The interaction with the piece is of an exploratory nature, designed for every location and route according to the feel of the place and its ambiance. The field recordings collected are stitched together in a composition which has no beginning and no end, but the sensory experience with the map itself. Conductive threads, soft and tangible sensors and buttons, textures of different density and grain, coexist in the space of a piece of fabric, releasing sounds of everyday life in ever-changing ways, according to the pace of the multi-sensory manipulation of the different materials and their different details and thresholds. The interaction is supported by Bela, an embedded system for real-time audio, allowing excerpts to be processed and mixed together according to the form of the interaction. Touching and stretching the fabric, binaural recordings from a pair of dummy ears held by the author while leading the walk will be blended with the recordings of the same scene from the listening perspective of a sound artist wearing binaural microphones and windscreen. The piece is the first of a series of interactive tangible maps based on rediscovering aural meanings and is profoundly inspired by the work of the pioneers in acoustic ecology, the soundwalkers, the aural architects, and those who still care about acoustic design and its importance for our everyday life. This work is part of the PhD research of the author on the Aural Character of Places, supported by EPSRC within the Media and Arts Technology Programme and the Centre for Digital Music, Queen Mary University of London, with the collaboration of Chris Wood, sound artist, Andrew Hill, composer and lecturer in Sound Design at the University of Greenwich, Josh Reiss and Nick Bryan-Kinns, supervisors.

Reversed Masking - Mauricio Iregui
The installation is composed of two juxtaposed sound layers: One in real-time and another that has been dislocated from its original time-space qualities. The first layer happening in real-time is defined by all of the sound elements that encompass the soundscape of the Conservatorium’s foyer. The second ‘installed’ layer is a composed soundscape is made up of sound ‘identities’ characteristic to the outdoor surroundings of the building. This juxtaposition challenges the way we perceive, understand and relate to the occupied space and underlines how our perception is abruptly distorted when be exposed to sound elements that are otherwise representative of contrasting sonic environments. The installation also reverses the common discourse that looks at the auditory masking suffered by the natural environments being invaded by the noises of the ‘urban modernity’, and looks at the opposite scenario where a natural outdoor space is presented as the ‘invader-perpetuator’ and the urban indoor space as the victim, thus emphasizing their conflicting interaction. The idea is that the dislocated sound elements are placed in a way that the spectator is unable to identify if the sounds are actually there.

Room 2.16 (Level 2)
A’varitia - Silent Greed - May Wing Joy Chang
There is a silent sound, like sitting in a natural scenario. In the silence, they are addicted to the comfort zone, and to turn around in the bottle endlessly. While they want to get closer to this attractive light even though they could be killed in a second. We may desire to fall into a pit of infinite depth, and by doing so exhaust ourselves in an endless effort to satisfy the desire without ever having gratification.

Room 2.30 (Level 2)
Flight Variant - Teresa Connors
Flight Variant is one of a series of ongoing audiovisual installation projects by Teresa Connors and Andrew Den-ton, which respond to the Anthropogenic climate and geo-logical change. The work emerges from data collection processes that took place in Southern California in 2014 and 2015. These
include high-speed and HD video jet streams recordings (see figure 1, 2) and audio recordings from and around the Los Angeles airports. The resulting installation is a generative work that is driven by an algorithm based on 2015 aviation statistical data. Additional components include flight data streamed from the Internet, sampled vocal clips from YouTube, TV, and the Radio, real-time convolution of acoustic instrument improvisation with field recordings.

**Room 2.26 (Level 2)**

"It is impossible to know about Earth... so we must hear her voice in our own way" - Johann Diedrick

This project is a series of sound/photography diptychs that document my experience listening to hidden sounds. In particular, the sounds I am searching for are usually the least audible sounds in the environment. With the use of my original mobile listening kit, I am able to amplify subtle sounds and make them audible. Through my acoustic explorations, I have found sounds that would have usually gone unnoticed, as well as discovered ways to activate spaces and surfaces to generate new sounds that wouldn’t have existed otherwise. These diptychs share with visitors my experience by providing visual and sonic documentation of my discoveries. The series documents explorations of New York City and Yale University. Some of these diptychs include the reverberations of street life transduced through a hollow pole, the buzzings of a graffiti-covered ATM machine, and the soft patterings of light February snow. Most of the sounds currently included in this series are urban in nature, yet the urban city should still be seen as any other natural environment, available for exploring unheard sounds. The series currently focuses on New York City, but will extend into other environments in the future with further development of this project.

Each diptych is made up of a photograph taken with a disposable camera, and a microcomputer that plays back a short loop of the sound I recorded as shown in the photograph. The medium of disposable photography is important for me in this project because I want to advocate for a similar way of recording sounds that is thought of as disposable. My practice has been around creating affordable tools for artists to explore sounds, and I want to emphasize an artistic process that uses disposable elements in order to encourage a similarly-minded recording practice: one that emphasizes casual, experimental and informal ways of engaging with sound in the environment. By combining these two forms, I am advocating for a sound art that uses tools and techniques that make it easier for artists to try new things, interrogate conventions that are taken for granted, and experiment in ways that would be too expensive — monetarily, technically and conceptually — if not without tools that can be used freely.

Any contrast between the image seen and the sound heard highlights how inadequate images can be in describing an environment, and how important it is to listen towards sounds for new perspectives about our surroundings. My work has been focused around shifting people’s perception to the sounds around them, and this work both documents my experiments and demonstrates how even the most mundane, everyday scenes contain exciting, unexpected and poetic sounds waiting to be discovered — if only we took the time to listen.

**Queensland Conservatorium Research Centre (Room 3.44, Level 3)**

Delta Soundings - Adam Molinski

Delta Soundings was a project originally funded by the Geraldine Knight Scott Traveling Fellowship in the Department of Landscape Architecture and Environmental Planning at the University of California, Berkeley. The project stemmed from a frustration with the lack of understanding landscape architects, urban designers and urban planners have of the acoustic realm. The project’s aim was to use binaural recordings to build an interactive library documenting sound in public space. Overtime this library could serve as a body of evidence to be mined for the research of sound in public space. While the eventual goal is to gather binaural recordings all over the world, the initial project was constrained to river delta regions. This was because river deltas are by their nature at a confluence: a confluence of ecologies, cultures and economies. A cross section of global river deltas allowed for a large diversity of urban forms, transit systems, cultures, and ecologies while retaining a geomorphic commonality.

Over the course of four months binaural recordings were taken in the Pearl River Delta, the Mekong Delta, the Ganges Delta, the Nile Delta, the Rhine-Meuse Delta and the Mississippi Delta. Each one of these 387 recordings were geotagged and photographed. They were uploaded into a interactive online map that allows listeners to zoom into different locations and listen to recordings at the locations they were taken. This allows listeners to begin to examine relationships between place and sound. As listeners make...
their way through Guangzhou, Cairo and Rotterdam relationships between the acoustic realm and city form, transportation policies, ecology and culture begin to surface. If listeners want to dive deeper into a specific recording the geotagged link gives access to a page showing a photo of the place where the recording was taken alongside the recording itself and its geotagged location. Through the photo this second layer reveals material, spatial proportion, and cultural context.

The Holy Well Suite - Dallas Simpson
Natural freshwater springs have been venerated in the distant past, and still are in present times. This work consists of a delicate environmental improvisation on the shore in the vicinity of The Holy Well, near Eastbourne, UK - a point at which fresh water emerges from the chalk cliffs onto the beach next to a wooden groin, which is also featured in the improvisation. This is a delicate and respectful improvisation using footsteps, and only objects and surfaces found at the location including stones, a limpet shell, various seaweeds and water. The work consists of six movements that merge continuously:
1) Prelude: Walk-in
2) Invocation: Chalk Cliff and Stones
3) The Holy Well: Communion
4) Anointing Wood Metal and Stone
5) Chonchoidal Resonances
6) Epilogue: Pebblestroll (Walk-out)
Recorded 15th August 2015, 6:45am in a single take. No windshield, very light breeze, slight ear wind noise included for atmosphere.

Listening Earth - Andrew Skeoch
Become immersed in pristine field recordings from UNESCO Biosphere Reserves across Australia with Andrew Skeoch from Listening Earth in a new collaborative project with Biosphere Soundscapes. “EcoRift Virtual Reality and The Listen(n) Project” - Garth Paine and Sabine Feisst
The EcoRift presents a virtual reality experience of being in the desert. EcoRift links together full 360 spherical visual and acoustic recordings using the Oculus head tracking feature to provide synchronized an auditory and visual Point of View (POV) so the user can look around the environment as if truly present. Along with the other rich media tools developed by the Listen(n) project, EcoRift directs community awareness to issues of sustainability, environmental engagement, critical enquiry and interpretative discourse around questions of how digital technology and rich media environments can be used to deepen value systems around these precious, yet fragile ecosystems. Given the ongoing need to increase ecological consciousness, the EcoRift is designed to provide new virtual immersive environmental engagement cultivating environmental awareness and community agency.
“3D-Sound and VR-Audio Demo” - Sabine Breitsameter
Interfacing specific sound dramaturgies and new perceptual paradigms with 3D-Sound demonstrations.

Vanuatu Women’s Water Music - Sandy Sur and Tom Dick
Sandy Sur is a community leader and researcher from the remote tropical Island of Merelava in Vanuatu. His research focuses around the Water Music of Vanuatu and its connection to the environment. Sandy believes water connects everything on earth and is essential for survival. At a time when the world is facing increasing environmental challenges, it is critical to deeply understand the role of water in our life. Investigating the dynamic sound and rhythm of Vanuatu Water Music allows us to explore the environment in new ways. Sandy’s research aims to develop a deeper understanding of the role sound plays in the environment and our communities. The Water Music of Vanuatu is site-specific and deeply inspired by the surrounding environment. This cultural tradition is now evolving in response to rapidly changing climates that are affecting island communities. Water Music can be a call to action. Sandy Sur is one of the only people in the world holding the knowledge to lead research on Water Music. Over the last decade he has directed a wide spectrum of research projects designed to bring Water Music to the world. Sandy’s research showcases this tradition as a way for understanding the environment at a time when we urgently need to listen to nature. His research is realised as live performances, films, recordings and web based media designed as tools for reaching the world. He understands the possibilities of emerging technologies and international collaborations in bringing
wider awareness to his research. At Sonic Environments, delegates can experience the Vanuatu Water Music through a dynamic film.

**Conservation VR Experiences** - QCRC Music Technology Research Focus Area Group

The Music Technology focus area at the Queensland Conservatorium Research Centre is currently investigating the possibilities of immersive sonic environments for mobile virtual reality using Samsung Gear VR and Google Cardboard. While virtual reality has been an active field for a number of years, it is only now that it is becoming a viable opportunity for arts, sciences and humanities projects to truly explore the possibilities of this innovative technology. Immersive media installations using 3D surround sound technologies are argued to have substantial evocative potential and communicative power in inspiring behavioural change such as enhancing environmental stewardship and climate change adaptation. While many artists have pioneered techniques in various mediums, virtual reality provides perhaps the greatest opportunity to create truly immersive experiences. These demonstrations will showcase projects featured in the upcoming ‘Immersive Sonic Environments in Mobile Virtual Reality’ Lab hosted at the Queensland Conservatorium Research Centre in 2016.

“The Kaleidophone – a sonic collage of the Leweton Cultural Experience in Vanuatu” - Toby Gifford and Kate Genevieve

This is an augmented reality audio installation, experienced through a prototype technology called the Kaleidophone that allows the listener to navigate through different sound-worlds via head rotation. The installation comprises 6 sonic scenes recently recorded in Vanuatu of Kastom ceremonies from the Leweton community in Espiritu Santo.

The Kaleidophone is a prototype augmented reality audio technology using hyperreal / surreal spatial audio driven by head pose. Instead of a background (actively spatialised) realist atmos soundscape, the Kaleidophone allows ‘placement’ of sound-objects at different compass headings with a hyperreal focus – so that these objects are only heard for a small arc around this heading, and the sense of angular motion of the head is amplified – i.e. a small change in head pose produces a sense of one sound-world whizzing off and another whizzing in.

The prototype exists currently as a mobile-phone-plus-computer application. A standalone mobile-phone app that integrates with 360 video playback is in development (projected to be complete by July) and also an open-source ‘ear-muff’ all-in-one solution based on the BelaBoard interactive audio platform, and compatible with any set of headphones, is under development (not projected to be complete by July).

The mobile phone based implementations (existing and under development) demonstrate one advantage of the hyperreal / surreal approach of the kaleidoscope: tracking systems with high latency (such as my HTC phone’s compass) give poor results for realist augmented reality audio, but can still be effective using hyperreal / surreal approaches, avoiding the uncanny valley.
SONIC ENVIRONMENTS LISTENING ROOM
Music Technology Area, Room 3.36

Floating Sound - Mari Ohno
We release extremely subtle sounds from inside our bodies which are hard to perceive. Although the sound is made by the body, it cannot be heard because of the limited audible range that a human being can hear. This work is a composition using the sound of the composer’s bloodstream as a sound source. All the sounds were created from the sounds of the bloodstream recorded mainly in an anechoic chamber. The purpose of this work is to deconstruct and reconstruct the components of personal biological information via computing. These sounds were composed to express another reality beyond the boundary of the animate / inanimate.

Nero ipogeo - Roberto Zanata
“Nero ipogeo” is the third of my acousmatic cycle of compositions dedicated to the colour “nero” (the first one “Nero metropolitano” [2014] and the second “Nero siderale” [2015] are published on a CD edited by “Taukay Edizioni Musicali”). It is mainly designed with the open source software SuperCollider. The sources of “Nero ipogeo” are audio gestures of high frequencies (not dissimilar to the whistle) and underground sounds on the verge of audibility or inaudibility. The principle of the compositional fragmentation and of the compositional reduction is taken to the absolute extreme. I sculpted a kind of sub-atomic composition that pick up the sounds from the crevices between one quantum event and the next one. The intention is to lead the listener to the most attentive and perceptive kind of listening.

Les chants de la mer (Songs of the Sea) - Gilles Fresnais
The sea isn’t actually the silent world that Cousteau described. If you’re willing and able to listen to the life there, a whole world appears; you’ll hear calls to travel, calls from fellows or rallying cries. I was fascinated by the life and the musicality of this world, so I tried to put it into music using almost entirely sounds recorded underwater. These sounds truly reveal the incredible diversity of the inhabitants of the deep.

1916 - Daria Baiocchi
This work is dedicated to the memory of First World War (1914-1918). In particular this project takes its cue from the 1916 abolition of Dublin Mean Time and introduction of GMT, at that time strongly opposed by Countess Markievicz. The main element of this composition is the sound of a flute that “gives voice” to Markievicz. I recorded 25 flute sound-fragments and 12 flute rhythmic-fragments (DMT): the sound fragments refer to the C, G, M notes that are the initials of the name of the Countess while the rhythmic sounds recall the sound of a clock. The contest of this historic event has been created with flute sounds that has became, with an electronic interpolation, sea and ship landscapes. A special thanks to the flautist Mauro Baiocchi.

Apax - Alexis Langevin-Tétrault
Apax reflects a creative process marked by a desire to disconcert my usual composition reflexes. The workpiece consists essentially of different variations of a single sound. It demonstrates a search for variation in continuity with the gradual changes of timbre and spatialization. The composition process is inspired by the phenomenology of time and by the reading of The Dialectic of Duration, Intuition of the Instant and The Poetics of Space by Gaston Bachelard. The piece was originaly created for an octophonic sound system with the multi-channel tools developed at Montreal University by Robert Normandeau’s research group.

usedlost - Roger Alsop
Translating the word usedlost from Czech to English renders three possible meanings: homestead, holding, and location. usedlost puts an emphasis on the environment as holding resonances that are often exposed through text and an ineffable and internal experience of spatial location. usedlost was created using eight computer generated translations and computer readings of descriptions of locations in Prague. It explores linking new and old information distribution technologies, and the idea that a sense of location can be experienced and possibly understood through virtual representations of varying histories and languages. It was rendered through a bespoke program developed to explore 8-speaker shifting spatialization and harmonic systems, which created shifting musical and spatial locations. usedlost was first presented at the SoundKitchen 2015 as part of the Prague Quadrennial 2015 at the New Stage of the Czech National Theatre.
Inhabited Places. Part III (Three Degrees of Inner Motion) - Jones Margarucci
Inhabited Places is a series of three pieces based on the concept of algorithmic composition. Although the general shape of these pieces has been determined in a conventional way, every sound that one can hear are selected in real time by different algorithms written in SuperCollider. These algorithms choose randomly audio files from different folders and play them at different speeds (time stretching) and in different moments. This pseudo-random process was also applied to the spatial domain, in fact in this case the amount of reverb was determined randomly between a minimum and a maximum value, and the movements of sounds - elevation and pan position - were determined by a noise generator. The sound materials used come mainly from different records and processing of my improvisation with guitar and/or electroacoustic devices and sounding objects. These pieces have been composed at the EMS studios in Stockholm.

“What U might have heard..” - Nigel Frayne
‘What U might have heard..’, 2015, is a re-envisioned version of an ambient electroacoustic soundscape installation that was commissioned for the public areas of the Australian Centre for the Moving Image (ACMI), Melbourne in 2000. This original project was a site specific work carefully designed into this unique precinct and public space.

A Small Timequake // Of Shifts And Currents - Cissi Tsang
A Small Timequake // Of Shifts And Currents is an audio-visual piece combining field footage and field recordings with music created from converting the footage into hexadecimal data, and music visualisation. The work explores the ways in which the found environment can be sonified using data, and how such data can be used to create evocative narratives. Through combining music created from converting field footage into hexadecimal data (HEX) with field footage, field recordings and music visualisation, the process can offer multiple perspectives of a scene. The resultant works from this process are pieces where both the aural and visual are deeply intertwined. HEX, when combined with field footage (still and moving), field recordings and music visualisation, can be used to sonify the found environment by creating multiple perspectives of the environment into the work. It also strengthens the connection between the aural and the visual by creating links between both mediums. With this form of practice, neither element can purely exist without the other. In a sense, this form of practice demonstrates a nexus point between visual and aural.

Proceedings of the ACMC/AFAE2016 Conference ISSN 2206-5296
so-called 'impulse' materials, including the soundmarks of Melbourne such as trams and trains, reflect the origins of the site as a public transport hub. These were placed in the North zone where the building fronts the city streetscape. Sounds derived of nature, reflecting the perspective of the nearby hills to the East of the city were sent into the building’s eastern atrium. The sounds of water, notionally connecting the wet areas of the building to the nearby river and ultimately the ocean were delivered within the toilets to the West.

The sound of footfall or footsteps representing the habitation of an urban space were delivered into stairwells. And, in recognition of the cultural institution housed within the building, the sound of a hand clap, was the basis for sounds generated for the central atrium — for it has been said that in 1932 an audience erupted into spontaneous applause when they heard the well-known sounds of Australian birds in the soundtrack of one of the first ‘talkies’ to be shown in Australia, Cinesound’s ‘On Our Selection’.

Within the ACMI soundscape these iconic sounds are rarely heard in their prime form and are actually departure points (impulses) for the creation of the content both in terms of inspiration as well as the actual production of the sound materials. The ‘response’ sounds are the product of extensive DSP manipulation of the impulses. These materials form the basis of this 25 minute composition.

Cúige (Province) - Cáithach Ó Nuanán

The name of the piece refers to the four provinces (or cúigi) of Ireland. The native folk music of Ireland, much like its dialectical language, has distinct territorial styles, that not only informs the ornamentation and instrumental technique of its practitioners but also the repertoire. Over the course of time, the exact boundaries of stylistic distinctions between the regions becomes blurred through musical interaction and cross pollination.

Using samples of instrumental music, Irish language radio broadcasts and environmental field recordings from key regions, this real world weaving of sound and music is mimicked in a computer composition through digital synthesis and processing. In the first part of the piece a fiddle performance of a slow “air” or lament is decimated beyond recognition by feeding it through a Max/MSP patch that captures input and triggers short buffers at playback speeds 1/10th of the original. In the second half more fiddle performances are deconstructed using a 4 channel granular synthesis environment also built in Max/MSP.
IMMERSIVE INSTALLATIONS
Music Technology Area, IMERSD Live Room

Fluctuant - Mauricio Iregui and Toby Gifford
Fluctuant is an installation that explores the primitive functionality of sound in human perception. Naturally, we have an immediate tendency to look at a perceived vibrating source and to change our listening position accordingly. This sensory stimulus is challenged by exposing the listener to an immersive sound environment, which transforms itself and reacts against the listener’s sitting position.

XIRMINJA NAHPY BERRY - Pablo Sanz
XIRMINJA NAHPY BERRY is an immersive sonic environment composed on the basis of a series of durational field recordings (plus 12 hrs each) made over a 6-weeks period at multiple flooded rainforest sites within the Mamirauá and Amanã Reserves in the Central Brazilian Amazon Region in 2015. The work consists of a multichannel installation (8-ch) evolving through cycles of ca. 4-hours which follow the chronological passage of the 24-hour night/day periods.
**AUGMENTED REALITY SOUNDWALKS**

**Ambulation** - Tim Shaw (Sound Walk)

Drawing upon the Situationist International’s game of the *dérivé* and incorporating performance, walking and sound art practices, Ambulation offers a sound responsive journey through urban space, immersing the audience into a familiar yet abstracted environment. The piece, which concerns the sonic through space, allows the audience to navigate through a variety of composed and ‘naturally occurring’ environments facilitated, processed and remediated by the artist.

During a 30-minute walk through a specially chosen area of Brisbane, 10 participants each wearing wireless radio headphones will receive an audio feed of live recordings, locational radio broadcasts and electromagnetic energy from their immediate environment. Sounds are processed, layered and re-introduced live by the artist using a specially made system, and played back directly into the participant’s headphones as the walk continues. Using a radio receiver, electromagnetic pick up coils and a variety of different microphones a diverse range of sonic material will be revealed, collected, processed and broadcast live. An animated improvisation with the immediate soundscape, unique each time it is performed, Ambulation plays with memory, intuition and impulse.

**“Tour(ist)”** - James Partaik, Luc Lévesque and Hernando Barragan

The App TOUR(IST), is a mobile experience, an augmented soundwalk through the urban landscape. The User can take interactive “sound tunnels”, urban shortcuts revealing a series of acoustic ambiances creating a stimulating listening experience, a mobile audio voyage through the urban environment.

“What I'm proposing, to myself and other people, is what I often call the tourist attitude - that you act as though you've never been there before. So that you're not supposed to know anything about it. If you really get down to brass tacks, we have never been anywhere before.” – John Cage

The word tour is derived from the Latin, ‘tornare' and the Greek, 'tornos', meaning the movement around a central point or axis. The suffix, –ist denotes 'one that performs a given action'. Playing with the usual codes of spatial representation, the App TOUR(IST) is an augmented soundwalk. TOUR(IST) offers urban shortcuts, virtual displacements and an immersive experience in a new acoustic space and ambience. By unveiling a series of 3D ambisonic recordings, TOUR(IST) creates “sound tunnels”, trajectories emanating from the actual location of the User. TOUR(IST) reveals a series of acoustic ambiances that incrementally create a whole new way of experiencing the city. Amidst the new urban soundscape thus created, the User develops a new sensory rapport with his or hers immediate environment. A new urban cartography is developed, a hybrid space in which the mobile User generates in real time, a listening experience while walking through the urban environment around the main gallery space.

Sampling sounds from buildings and the urban space surrounding the gallery, data is captured to create a virtual tour of the neighbourhood. This series of recordings, made in straight trajectories, are like “core samples” from drilling; they reveal simultaneously the various occurrences of sound phenomena of the urban core, from the infra-perceptible to the ephemeral sound event. The samples present the User with a series of related soundscapes from the area surrounding the main gallery explored by foot by the User.

Tour(ist) takes advantage of the integrated compass, GPS, tactile screen and binaural sound processing capabilities of the iPhone, enabling the User to move through the “sound tunnels”, either travel towards specific place in the city or generate a 360-degree sound experience, a total-field collage of sound just beyond his immediate location. These tunnels carry the User through obstacles from space to space, encounter to encounter. The User is like tourist (according to John Cage), like a wave, travelling through space and matter, confounding normal movement and penetrating both private and collective spaces.

Our approach focuses on the imagination of urban sites, their materiality, usage and memory. By interfering with what is normally a given “state” of operations, the intervention reveals an “augmented everyday soundtrack” leaving the field open to exploring the potential of the sounds of the city, the interaction with urban spaces and objects and the diverse interpretations of what surrounds us.

**CANOPY: Rainforest Listening 2.0** - Leah Barclay and Toby Gifford

Rainforest Listening is an augmented reality installation that layers rainforest soundscapes in urban environments to inspire ecological engagement. Listeners access the sounds via mobile devices and sculpt their own experience by triggering geolocated soundscapes as they walk through iconic locations across the world.

Rainforest Listening launched during Climate Week 2015 in Times Square, New York City and has since featured at global events, including COP21 in Paris where the Eiffel Tower was transformed into a sonic rainforest. Listeners can hear the rich biodiversity of insects and birdlife and those who venture
deeper into the global sound maps can discover the endangered Amazon River dolphins or elusive howler monkeys hidden throughout cities. Rainforest Listening explores the value of sound in contributing towards environmental awareness and engagement. As the recent documentary Racing Extinction highlights: if we can bring the sights and sounds of the natural world to humans who would otherwise never think about them, they might be motivated and inspired to alter their habits enough to take action and respond to the ramifications of climate change. Creativity combined with innovative technology has a clear opportunity to inspire environmental stewardship through empathy and community engagement. Many suggest it is the most valuable tool we have to elicit an emotional response. While many suggest smart phones disconnect us from nature, they also have the potential to reconnect us to natural environments in innovative ways. As the next billion people come online through accessible mobile devices in the next five years, there are clear opportunities to harness the power of mobile technologies for community empowerment at local and global levels in response to the ramifications of climate change. Rainforest Listening explores the sonic potential of mobile technologies and engages our auditory perception to inspire climate action.