

SPECTRA ART+
SCIENCE
2018

**THE ART AND CONSEQUENCE
OF COLLABORATION**
4-26 OCTOBER 2018

SASA GALLERY



THE ART AND CONSEQUENCE OF COLLABORATION

ROBERT ANDREW
KEITH ARMSTRONG
LEAH BARCLAY
DAVID HAINES
LEAH HEISS
CHRIS HENSCHKE
JOYCE HINTERDING
BADEN PAILTHORPE
HELEN PYNOR
ERICA SECCOMBE
MARTIN WALCH

about SPECTRA 2018

Spectra 2018 is Australia's pre-eminent art/science gathering showcasing the best research and creative work being produced through interdisciplinary collaborations between Australian and New Zealand artists and scientists.

Spectra 2018 explores the increasing convergence of art and science and considers how each area impacts the other and how, together, they shed light on who we are and where we're heading. Taking place in Adelaide, South Australia, the inaugural Spectra will comprise a three-day symposium presenting collaborative research, an exhibition showcasing research outcomes, and a compelling public program of screenings, talks, performances and special events.

Spectra 2018 is proudly presented by the Australian Network for Art and Technology (ANAT), with partners the University of South Australia and Experimenta Media Arts, in association with colleagues drawn from the arts and science sectors, and with generous additional support provided by Arts South Australia.

about ANAT

The Australian Network for Art & Technology (ANAT) began life in Adelaide in 1988 and, since then, has created opportunities for Australian artists to work with scientists and researchers and introduced them to emerging technologies with creative potential.

ANAT does today what others think about doing tomorrow. It was first in Australia to test the creative potential of mobile devices, wearables, and real-time data, among many other technologies. As an early adopter, ANAT scans the horizon, and identifies and pursues opportunities to demonstrate the transformative power of the arts, often in non-arts settings.

20 years ago ANAT presented its first art/science residencies, eventually leading to the establishment of the Synapse program in 2004. Over that time, more than one hundred artists and scientists have participated in ANAT's residencies, cementing its reputation as a leader in the field.

Australian artists have long been at the forefront of art and technology movements internationally; it is now time to celebrate Australian artists' equally important and influential work across the arts and sciences. By showcasing the work of those at the vanguard of art/science, Spectra 2018 leads and inspires from the cutting-edge, shedding light on who we are, where we are, and where we're going.

about EXPERIMENTA

Experimenta is Australia's leading media arts organisation. We showcase dynamic and challenging contemporary art that intersects with digital media, science and technology, and design. We lead industry discussion and grow audiences for media art. Experimenta is an incubator for experimentation, challenges convention, celebrates the maverick, and encourages collaboration.

Established in 1986 by experimental film and video makers, Experimenta has been instrumental in the development of Australian media art from an underground cultural phenomenon to a celebrated form recognised by major cultural institutions, and growing in scope and sophistication. Melbourne based, with a national and global reach, Experimenta commissions, presents and advocates for Australian artists. Through our research, education and development programs, Experimenta deepens engagement with our existing audiences and builds new audiences and markets for media art, increasing the capacity of the cultural sector.

To date, Experimenta has presented seven editions of its major national touring exhibition of media art - the only international biennial to tour Australia and present technology-driven art to diverse audiences across the country. Alongside this program, Experimenta has presented countless exhibitions, large-scale projects, site-specific interventions, screenings, performances, education projects, and international exchanges. Experimenta is currently touring *Experimenta Make Sense: International Triennial of Media Art* around Australia until 2020.

THE ART AND CONSEQUENCE OF COLLABORATION | by Jonathan Parsons

The Art and Consequence of Collaboration presents eleven Australian artists who courageously cross boundaries by deeply engaging with the sciences, resulting in an extraordinarily vibrant and diverse array of artworks. Their research not only impacts on their own artistic practices, it has opened up new horizons for the scientists they have worked with. This is where the potency of arts science collaboration lies: in its ability to spark new ideas, provide critical perspectives on some of the great questions of our time, and develop new forms of expression that speak to the sophisticated technological era we live in.

Australia continues to be fertile ground for art science investigations and collaboration. This is perhaps not surprising given that its very colonisation was the unintended (*at least publicly*) consequence of the search for new scientific knowledge via Cook's expedition to the Pacific to observe the transit of Venus. In Martin Walch's *Terra Antarctica*, the result of a recent residency at the Mawson Station in Antarctica, he shows a keen interest in observing a little known aspect of the natural world, like the artists and scientists aboard the Endeavour. Leah Barclay's *Migration Patterns: From Freshwater to Saltwater* brings this same observational rigour to explore an equally unfamiliar environment, our aqua-sphere. David Haines' *Slow Fast Mountains* appeals to the evocative power of our olfactory senses, triggering lived and ancestral memories of our connections to the earth.

Robert Andrew scrutinises the earth we tread in his work *Country, Land, Soil and Space*, reminding us that while the pursuit of objective truth is central to Western science, it cannot be disassociated from the particular social, cultural and political contexts within which it occurs. Furthermore, Andrew's work is a commentary on how markedly different the Western separation of artistic and scientific knowledge systems is to the holistic Australian Indigenous approaches to knowledge. Keith Armstrong's work *Inter-State* brings another cultural view. By drawing on Eastern philosophy to problematise the rigid categorisations and linear thinking of the periodic table, Armstrong suggests that new approaches are required if we are to tackle environmental issues. Just as scientific practice is influenced by its cultural context, Helen Pynor's video work documenting the hand gestures of Dr Salecker whilst discussing her research reminds us that scientists bring human feelings and passion to their work.

Accompanying this work is Pynor's *Fallen*, part of an extended exploration into the ambiguity of life's beginnings and endings.

Many of the artists utilise scientific research and new technological tools to reconnect people to the reality of the physical world. By studying the growth of lichen in the forests of the Blue Mountains World Heritage Area, Joyce Hinterding ponders how the adaptations of lichen might present new opportunities for biomimicry. Chris Henschke is fascinated by the underlying patterns of the universe explored in the field of physics. Inspired by his residency at CERN, his work *Resonance* gives visual expression to a phenomenon seen at both the microscopic and macroscopic scale. Erica Seccombe's *Out of Season* has utilised advances in microscopic scanning technologies to reveal the wonder of natural processes impossible to see with the naked eye.

Baden Pailthorpe's *Clanger* gives expression to the massive data sets extracted from players in an AFL game and transforms them into digital sculptures. By personalising medical devices in her work *Facett*, Leah Heiss demonstrates the transformative power in uniting aesthetics with functionality to challenge the norms of the health sciences.

The works in this exhibition traverse many scientific disciplines and are realised in many artistic forms. Most significantly, they offer a vital antidote to Stephen Wilson's warning in his seminal book "Art + Science Now" that "*the partitioning of curiosity, inquiry and knowledge into specialised compartments is a recipe for cultural stagnation.*"

Jonathan Parsons
Artistic Director, Experimenta
Curator, The Art and Consequence of Collaboration

Wilson, Stephen. *Art + Science Now*. London: Thames and Hudson (2010, p.6).

ROBERT ANDREW | *Country, Land, Soil, Time and Space*, 2018

Our lands and soil commodified, owned, colonised.

By investigating issues of disruptions to my heritage, I intrinsically connect with the realities of historic and ongoing disrespect for the diverse ecology of our lands and soils.

This time based kinetic work combines programmable technological machinery that erodes soils, exposes substrates, builds stories and creates residues.

Over the course of the exhibition the stratification of local soils, unnaturally placed in a vertical column, is eroded or re-placed as its restrictive binding is slowly pulled out, releasing the layers of different soil structures back to a natural form. This repositions the displaced, previously stratified layers of soils to create a new landscape on the horizontal surface below.

Over a period of weeks, this soil-based, interactive, kinetic work will create a 'landscape' that metaphorically addresses the creation and destruction of soils on which we are dependent for life, and invites contemplation and questioning.

By using new and old knowledge systems about our soil, we gain a symbiotic relationship with

the soil that sustains us physically, culturally and spiritually, and maintains our individual and community histories, health and perpetuity within its biology.

Robert Andrew is a Brisbane based artist of mixed heritage whose work combines electromechanical mechanisms that erode and expose substrates, build stories and create residues.

Andrew is a decedent of the Yawuru people from the Broome area in the Kimberley, Western Australia, and he also holds European and Filipino heritage.

Andrew's artworks bring together two distinct aspects. One aspect of his work is focused on the engagement and story-telling as an artist with Australian Indigenous heritage. The other explores ways to utilise programmable technologies as physical technologies to create visual artworks.

These works manifest as visually scraped back and built-up palimpsests that reference technology, natural materials and 'artefact'.

In 2012 Andrew completed a bachelor's degree in Contemporary Australian Indigenous Art at Griffith University. He is currently completing a doctorate in visual arts.

Courtesy of the artist





KEITH ARMSTRONG | *Inter-State*, 2016

Inter-State embodies 're-futuring' practices by integrating concepts of art, science and futural thinking through two related works: a large-scale backlit print depicting a re-imagined scientific periodic table of elements, and a scientifically-arcane microfiche viewer and headphone soundscape. Viewers can examine the imagery as a whole, or in forensic close up, by instigating slow scans across groups of 'elements' on the microfiche reader.

Inter-State re-conceptualises the 'periodic table' as a relational mesh of forms, contrasting its elemental reduction and tabular characteristics with Wu Xing's circular, interrelated five phases and their 'generating' and 'overcoming' relationships. The table becomes a deeply related collection of codes, quotes, thoughts and pictorial impressions of non-linear processes and philosophies, inspired by Tony Fry's deeply relational re-futuring theories. The 1970's vintage reader draws attention to the 'necessary obsolescence' that permeates contemporary design thinking.

The soundtrack's five passages are inspired by the Wu Xing's 'generative' cycle of Wood-Fire-Earth-Metal-Water. Each involves the sonification of a group of elements from the original periodic table, using their atomic numbers to control an audio synthesis process

that morphs into a 'noisy sound cloud', thereby controlling energies within a frequency band defined by the group's atomic numbers.

Keith Armstrong is an experimental artist profoundly motivated by issues of social and ecological justice. His engaged, participative practices provoke audiences to comprehend, envisage and imagine collective pathways towards sustainable futures. For over twenty years he has specialised in collaborative, experimental practices with emphasis upon innovative performance forms, site-specific electronic arts, networked interactive installations, alternative interfaces, art-science collaborations and socially and ecologically engaged practices.

Keith's research asks how insights drawn from scientific and philosophical ecologies can help us to better invent and direct experimental art forms, by understanding that art practitioners are powerful change agents, provocateurs and social catalysts. Through inventing radical research methodologies and processes he has led and created over sixty major art works and process-based projects, which have been shown extensively in Australia and overseas, and supported by numerous grants from the public and private sectors.

Photo by iFlair
Courtesy of Stegman Gallery

LEAH BARCLAY | *Migration Patterns: From Freshwater to Saltwater*, 2018

Aquatic ecosystems are complex acoustic environments, where species are reliant on sound to communicate and survive. Sound propagates underwater at different speeds, affected by temperature, pressure and salinity.

The impacts of climate change are often visible in terrestrial environments, yet dramatic changes in aquatic ecosystems go unnoticed simply due to visibility. Increased anthropogenic noise and rising temperatures cause ecological disruptions that are dramatically transforming the acoustic ecologies of our oceans, rivers and wetlands.

This artwork is an immersive soundscape exploring the fragility and complexity of life in a world of sound and vibration. Drawing on a large database of hydrophone recordings from the Queensland coastline, this work traces sonic migration patterns and shifting ecologies from the smallest micro crustaceans to the largest marine mammals on the planet. The recordings focus around the Great Barrier Reef and K'Gari (Fraser Island), a major transitory point for humpbacks. The whale song adapts in response to changing environments and the recordings contribute to ongoing scientific research on the value of aquatic acoustic ecology in climate action.

This sound work immerses listeners in the depths of aquatic ecosystems and transposes infrasonic and ultrasonic recordings into perceptible ranges for humans.

Leah Barclay is an Australian sound artist, composer and researcher working at the intersection of art, science and technology. She specialises in acoustic ecology, ecoacoustics and sound art through research projects that investigate environmental patterns and changes through sound. Her work has been commissioned, performed and exhibited by the Smithsonian Museum, UNESCO, Ear to the Earth, Al Gore's Climate Reality and the IUCN. She composes complex sonic environments, immersive live performances and interactive installations that draw attention to changing climates and fragile ecosystems. Leah leads several large-scale research projects including Biosphere Soundscapes, an interdisciplinary venture exploring changing soundscapes of UNESCO's Biosphere Reserves, and River Listening, which examines the future possibilities of freshwater ecoacoustics in collaboration with the Australian Rivers Institute. She is a research fellow at Griffith University where she leads collaborations between artists and scientists through research in acoustic ecology and climate change.

Production still
courtesy of the artist





DAVID HAINES | *Slow Fast Mountains (earth aroma)*, 2014

Lumps of coal found on the edge of the Wollemi National Park were taken from the middle of a dirt road that runs through the Newnes State Forest in the Blue Mountains, NSW. Coal mines deep below extend underground into sensitive areas. Custom tables made in Haines' workshop house the emission of these gaseous rocks into the gallery space. The aroma of damp earth (petrichor) fills the gallery space.

Geosmin, a relatively hard to obtain aromatic molecule is isolated from a harmless bacterium and mixed into a number of modifying aroma chemicals. These relatively non smelly chemicals give silage and body to a fragrance. Everyone who smells the fragrance gets this damp earthy smell immediately, and most seem to like it. Haines posits if this is because in the distant past, our noses were much closer to the ground? Scientists believe that humans can detect geosmin at about 1 part per billion in the air.

David Haines lives and works in the Blue Mountains, Australia. Haines has produced works for museums, festivals and galleries in Australia and internationally including Anderson Gallery, UC Buffalo, USA (2017); *Resonances Magnetique*, La Panacee Centre for Contemporary Art, Montpellier, France (2016); *Energies: Haines & Hinterding*, MCA, Sydney (2015) and Christchurch Art Gallery, NZ (2016); Ian Potter Museum of Art, Melbourne (2015); La Panacee Centre for Contemporary Art, France (2014); Dutch Institute of Time-based Arts; Taipei MOCA; Kuandu Museum of Fine Art; San Jose Museum of Art; Art Gallery of NSW; Wellington City Gallery; Dunedin Public Art Gallery; Gallery of Modern Art Queensland; Sendai Media Tech, Japan; FACT Liverpool England; Sao Paulo Biennale (2004); Adelaide Biennial of Australian Art (2004); Museum of Contemporary Art, Sydney (2003); 13th Biennale of Sydney (2002); Scott Donovan Gallery, Sydney (2002); Te Papa National Museum of NZ (2002); ACMI, Melbourne (2002 & 2003); The Physics Room, NZ (1998); Artspace Sydney (1997 & 2005); ZA MOCA Foundation Tokyo (1996); Artspace, Auckland; Tate Gallery Liverpool (1993).

Image courtesy of the artist
and Sarah Cottier Gallery

LEAH HEISS | *Facett*, 2016–2018

Facett is the world's first modular self-fit hearing aid, designed by Leah Heiss for Blamey Saunders hears. In order to distinguish *Facett* from traditional hearing aids Leah drew inspiration from the mineralogy collection at Museums Victoria in Melbourne, Australia. The crystalline form seeks to shift stigma, and move hearing aids from disability to desirability.

In addition to looking different to traditional hearing aids, *Facett* functions differently. The intuitive magnetic connector bypasses the need to change tiny batteries, an ongoing frustration for older people with arthritic fingers or vision impairment. *Facett* was designed through a human-centred approach.

Leah spent time with over 25 hearing aid users to understand what it is like to depend on a technology to live and work. The design process was iterative and Leah created over 200 3D printed models throughout development. These iterative models became the conduit for a collaboration between experts who do not have a shared lexicon. Leah also used the iterative models to engage with technology users and invite their participation in the process of creating the hearing aid.

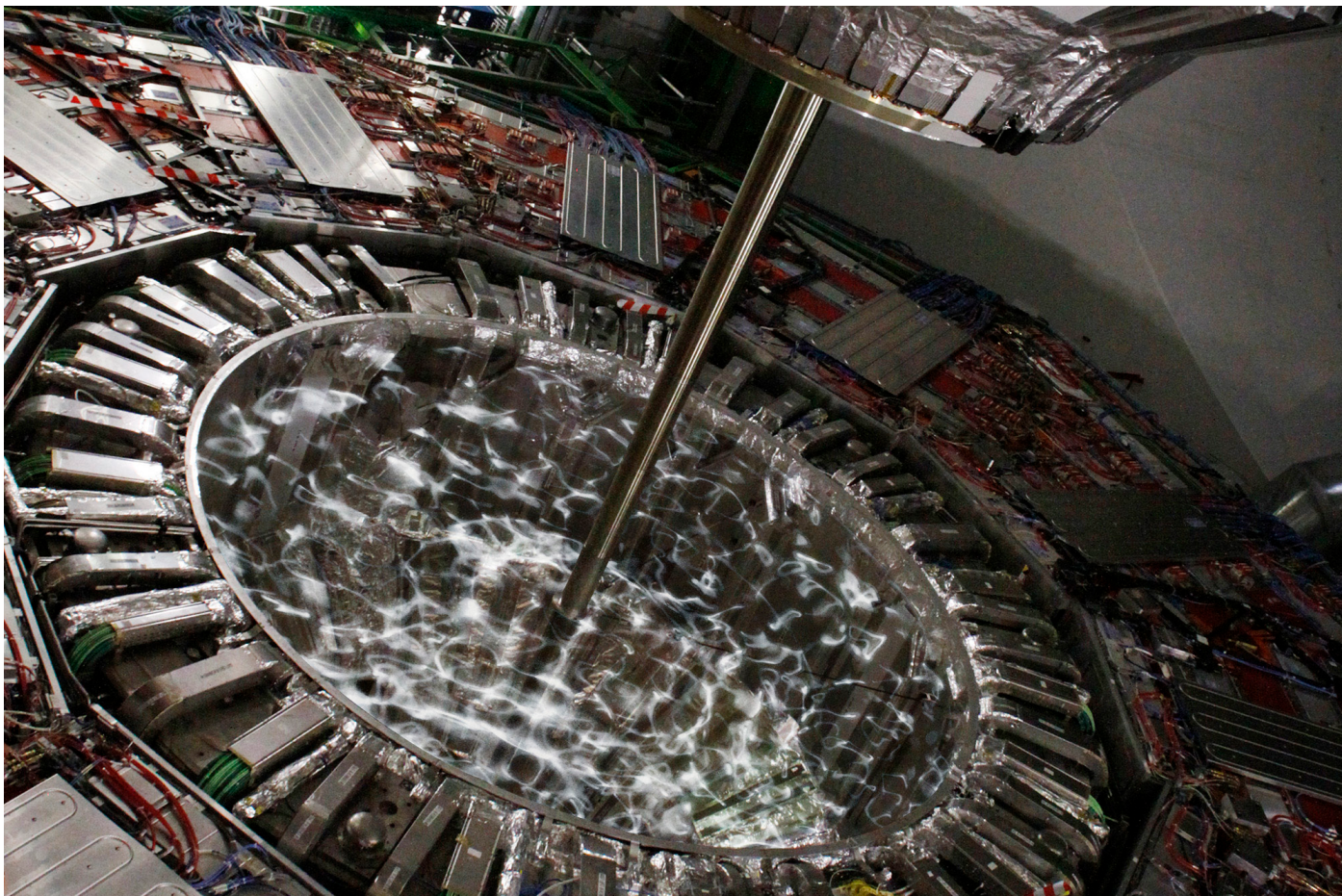
Leah Heiss is a designer and RMIT academic working at the nexus of design, health, and technology. Her practice traverses device, service and experience and her process is deeply collaborative, working with experts from nanotechnology and health services through to manufacturing. Her health technologies include Diabetes Jewellery; biosignal sensing emergency jewellery; and swallowable devices to detect disease.

Facett, the world's first modular hearing aid that Leah designed for Blamey Saunders hears won the 2018 Good Design Award and the CSIRO Design Innovation Award. Leah has won five Good Design Awards in total and her work is part of Museums Victoria heritage collection. She has exhibited at the Melbourne Museum, Queensland Gallery of Modern Art and other galleries locally and globally.

Leah teaches RMIT's Masters of Design Futures and the Interior Design honours program. Her teaching practice traverses embedded practice in cancer care and transdisciplinary design focused on health sector innovation.

Photo by Matt Harvey
Courtesy of the artist





CHRIS HENSCHKE | *Resonance*, 2015–2018

Resonance is an artwork by Chris Henschke, developed in collaboration with particle physicists at the European Organization for Nuclear Research (CERN) in Switzerland, as part of the art@CMS program. *Resonance* is a fundamental property of nature, and is found on all scales, from the subatomic to the cosmic. On the subatomic scale, particles such as the Higgs boson are so ephemeral, they are known as resonances, existing for femtoseconds (a millionth of one billionth of a second). This particle (also known as the “God Particle”) was recently detected in the Large Hadron Collider (LHC) experiment at CERN. On the cosmic scale, scientists are searching for resonations called “Baryonic Acoustic Oscillations”. These are theorized dark matter waves caused by the Big Bang itself, which may be of giga-parsec wavelengths (1 gigaparsec is about a thousand galaxies wide).

Resonance uses cymatic vibrations in water to audio-visually manifest data from particle collisions in the LHC experiment. In collaboration with CERN physicists, Henschke turned data from the Compact Muon Solenoid (CMS) detector into audio, in a way that is expressive yet mathematically precise. Through the cymatic manifestations of the energies produced in the LHC, the artwork materially and conceptually expresses the essence of resonance.

Courtesy of the artist

Chris Henschke is an artist who works with digital and analogue media, sound and light, and high-energy physics.

His artworks have been exhibited internationally, and he has undertaken a variety of residencies including an online artist residency at the National Gallery of Australia (2004), an Asialink residency (2007), and two residencies at the Australian Synchrotron (2008 and 2010), supported by the Australian Network for Art and Technology and funded by Arts Victoria and the Australia Council for the Arts Synapse program. He has recently completed a Doctorate of Philosophy at Monash University, which included project work at the European Organisation for Nuclear Research (CERN), Switzerland, as part of the ‘art@CMS’ collaboration program.

JOYCE HINTERDING | *Florice Antenna*, 2018

Florice Antenna 1 & *Florice Antenna 2* are energy scavenging loop antenna derived from a study of the growth pattern seen in orange lichen found in the Wollemi region of the greater Blue Mountains World Heritage. This small orange lichen is surprisingly robust, growing on rocks with few nutrients or water but successfully converting the electromagnetic energy of the sun into an optimised resonant receiving structure. In a world where mobile telephones contain fractal antennae, and fractal mathematics appear wherever we are approximating and describing the real, it stands to reason that the fractal patterns revealed through plant structures are potentially dynamic or have a hidden functionality.

In *Florice Antenna 1* & *2*, the medium of drawing connects to the technological world of circuit diagrams and the graphic language of electronics. Using the Voronoi algorithm, the image of the lichen is transformed into space-filling curves. This rendering of the natural growth patterns of lichen is then stencilled onto glass as a very long graphite conductive line that loops and twists around, never crossing over itself. In this way, the resulting pattern becomes the basis for a different type of electronic component, an experimental receiving and energy scavenging form derived from botanical observation.

Joyce Hinterding lives and works in the Blue Mountains New South Wales. Her practice is focused around explorations into energetic forces, through custom built field recording and monitoring technologies. These explorations into acoustic and electromagnetic phenomena have produced large sculptural antenna works, video and sound-producing installations and experimental audio works for performance. She often collaborates with artist David Haines to produce large scale immersive video, real time 3d and sound works that explore the tension between the fictive and the phenomenal. Her recent solo and collaborative exhibitions include *Astro Flora*, Sarah Cottier Gallery Sydney (2018). *Résonances Magnétiques - Haines & Hinterding*, La Panacée Centre for Contemporary Art, Montpellier, France (2016); *Energies*, Museum of Contemporary Art, Sydney (2015); *Graphite*, Indianapolis Museum of Art, Indiana, USA (2012). Joyce Hinterding is represented by Sarah Cottier Gallery, Sydney and is a lecturer at the University of Sydney, Sydney College of the Arts.

Image courtesy of the artist
and Sarah Cottier Gallery





BADEN PAILTHORPE | *Clanger (Longitude, Latitude, Velocity)*, 2018

Using anonymous player and crowd data captured during the 2017 AFL Round 23 Swans v Carlton game, *Clanger (Longitude, Latitude, Velocity)* re-stages the drama and flow of each players' position and performance data. Pailthorpe moves the game from the field to the virtual plane, rendering the players floating digital sculptures.

In statistical terms, the word 'clanger' refers to a turnover or a silly mistake made by a player in an AFL match. The criteria for each player's usefulness is defined wholly by the data they generate during the game. AFL players are tracked using micro wearable units that include GPS and accelerometers. The amount of data generated from these devices in a given game is immense; every movement is tracked, stored and interpreted in an effort to understand performance, mitigate injury and measure value.

Clanger results from Pailthorpe's Australian Network for Art and Technology (ANAT) 2017 Synapse Artist Residency with UTS Sport and Exercise Science and Professor Aaron Coutts.

Baden Pailthorpe (b. 1984) is an artist whose practice is shaped by internet culture. He holds a Ph.D from the University of New South Wales, an MFA from l'Université Paris VIII, an

MA from COFA and a BA from the University of Sydney. Much of Baden Pailthorpe's work consists of hyper-real animations, video and sculpture that engage with the spatiality of power, politics and the cultures of late-capitalism.

Baden received an Asialink/Australia Council residency with renowned Japanese art collective teamLab. Baden has been awarded residencies at UTS Sport and Exercise Science; Screen Space, Melbourne; and the Cité Internationale des Arts, Paris, where he developed a performance work for the Centre Pompidou (2014).

Significant exhibitions include *Clanger*, UTS Art Gallery, Sydney (2018); *Pitch Deck*, Sullivan+Strumpf, Sydney & Singapore (2017); *GAME ART/VIDEO*, 21st Triennale di Milano, Milan (2016); *Guarding the Home Front*, Casula Powerhouse, Sydney (2015); *On Return and What Remains*, Artspace, Sydney (2014) & CACSA, Adelaide (2015); *Students of War, Hors Pistes*, Centre Pompidou, Paris (2014); *Moving Image 10*, La Gaité Lyrique, Paris (2013); and *Rencontres Internationales*, Palais de Tokyo, Paris (2012).

Baden's work is held in numerous significant private and public collections.

Image courtesy of the artist

HELEN PYNOR | *Development of the Visual Circuit of Drosophila melanogaster in 3 Acts: Larva; Pupa I; Pupa II*, 2018

In 2017 Helen Pynor was commissioned by The Francis Crick Institute, London to undertake an extended residency in the laboratory of Institute scientist Dr Iris Salecker, and to produce artworks in response. This video was recorded over a 22-minute period as Salecker described in detail the complex series of events that take place during the development of brain circuits responsible for vision in the fruit fly *Drosophila melanogaster*. In this highly spatial scientific story, Pynor is interested in the precision and articulate nature of Salecker's gesture, and the way her body fills in some of the gaps - literally and metaphorically - between language and meaning.

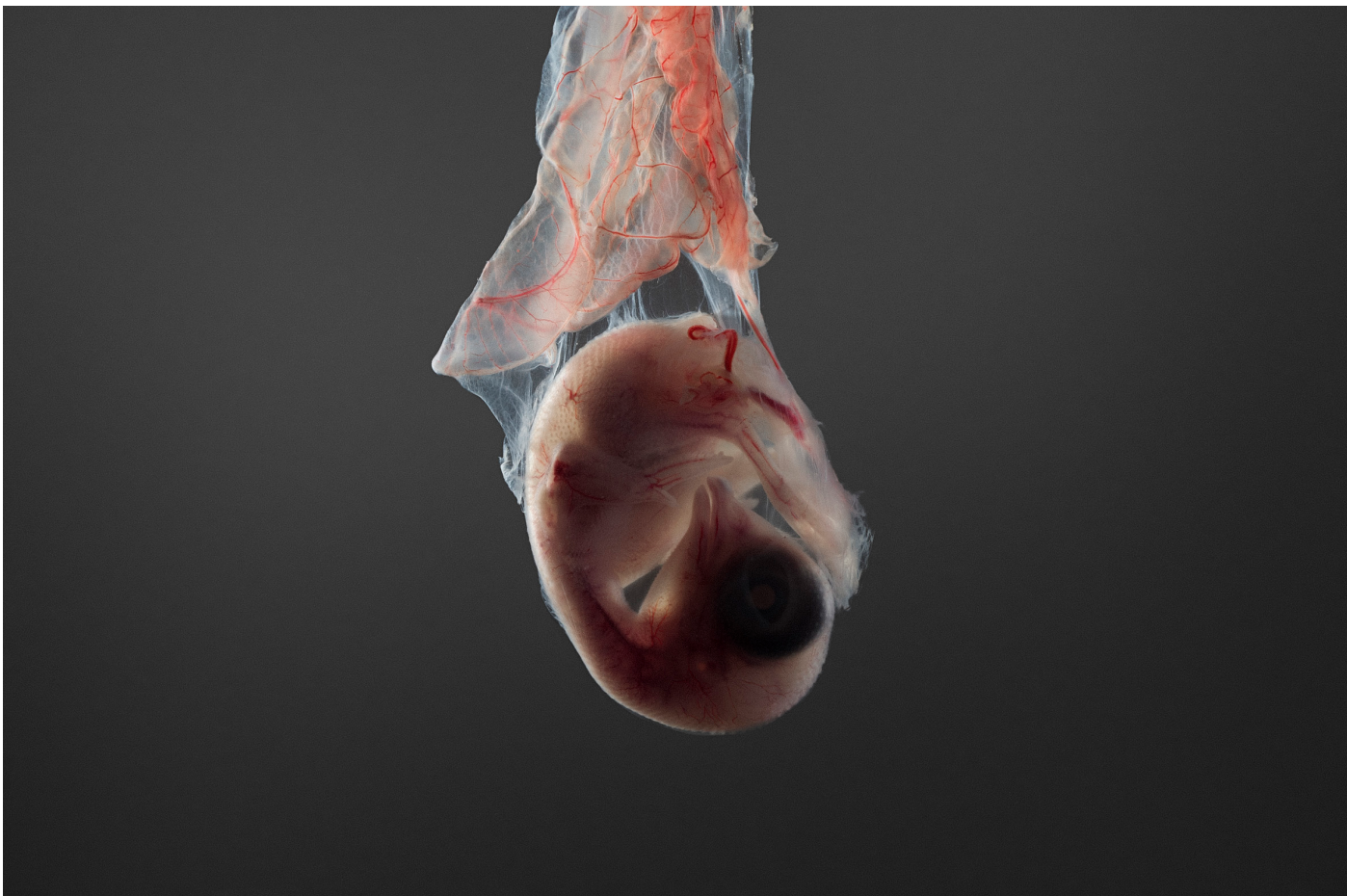
The work falls within a broader interest of Pynor's in the embodied, situated, performative and subjective nature of scientific practice. Scientific practice does not take place in some rarified, abstracted universe where scientists have a disinterested clinical distance from their subject. Rather, the feeling scientists have for their subject, the extended range of languages they use to articulate their work, and the centrality of their own bodies in dialogue with the bodies they study, are all layered into scientific research in spoken and unspoken ways.

Helen Pynor is an artist whose practice explores philosophically and experientially ambiguous zones, such as the life-death boundary. Her work is informed by in-depth residencies in scientific institutions, most recently The Francis Crick Institute, London; The Max Planck Institute of Molecular Cell Biology and Genetics, Dresden; and The Heart and Lung Transplant Unit, St Vincent's Hospital, Sydney. Pynor also frequently collaborates with members of the broader community whose embodied experiences connect with the themes of her work.

Pynor has exhibited nationally and internationally including at the National Taiwan Museum of Fine Arts; The National Centre for Contemporary Art, Russia; Science Gallery Dublin; Science Gallery London; FACT, Liverpool UK; Wellcome Collection, London; and the Australian Centre for Photography. She has received an Honorary Mention at Prix Ars Electronica, Austria, and national awards in Australia. Pynor holds a Bachelor of Science (1st Class Hons), a Bachelor of Visual Arts, and a PhD.

Image courtesy of the artist and
The Francis Crick Institute, London





HELEN PYNOR | *Fallen* (11-17), 2017

Fallen forms part of an extended exploration into the ambiguity of life's beginnings and endings in the context of chickens raised for human food consumption.

The embryos depicted in the series are contained within the tenuous safety of their amniotic sacs, or fall unfettered through space, entangling in the ruptured and torn remnants of these sacs. Embryos occupy a biologically liminal space, as form emerges from the abstraction of cellular biology. However, these embryos also occupy a culturally transitional space as they fall from the maternal space of the egg into spaces of human manipulation and control.

The series juxtaposes innocence and our reflexive attachment to the potentiality of the embryo, with these embryos' thwarted potentiality. The work was developed at The Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, in the laboratory of regeneration biologist Dr. Jochen Rink.

Fallen extends the previous long-term engagement Pynor had in Rink's laboratory during development of installation *The End is a Distant Memory*.

Image courtesy of the artist and
Dominik Mersch Gallery

ERICA SECCOMBE | *Out of Season*, 2016

Have you ever thought about what a mung bean looks like from the inside when it germinates? Erica Seccombe has, so she created an innovative work of art using leading-edge scientific technologies to capture a unique view of mung beans and alfalfa seeds sprouting. Projecting the resulting time-lapse data stereoscopically in cinematic 3D, the immersive installation *Out of Season* creates a translucent and mesmerizing experience as the 'virtual' seeds come to life. By creating a moment of intense self-reflection, this work connects an individual meaningfully to new ways of thinking about our relationship with nature.

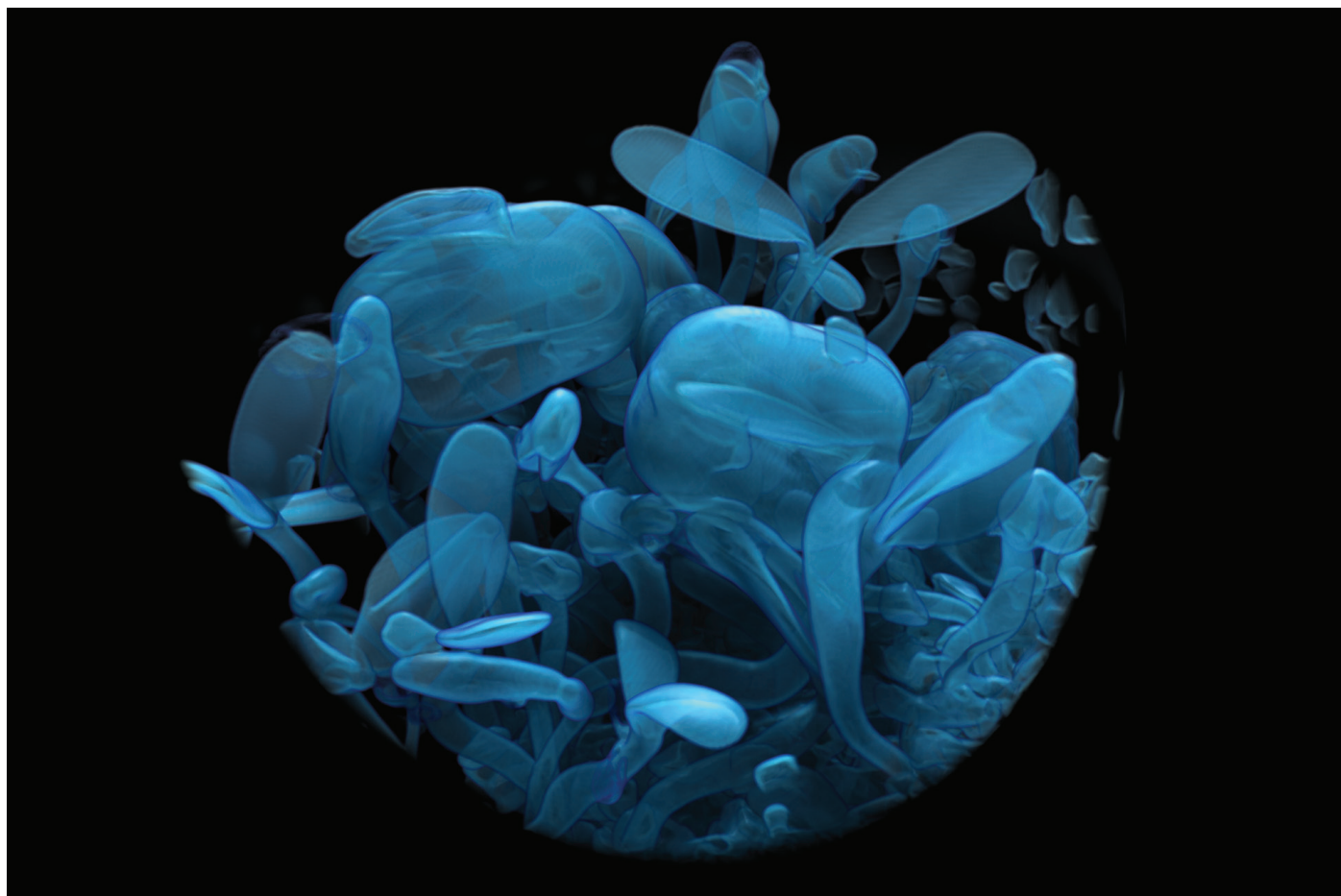
Erica created *Out of Season* in order to incorporate her use of science and technology to pose new questions, and contribute to relevant contemporary art discourses and environmental concerns. Researching agricultural seeds she X-rayed in the laboratories led her to consider the impact of plant extinction, global food security issues and the concept of the anthropocene in relation to her practice.

Motivated to create *Out of Season* because of her own concerns for the future of the environment, Erica has stated, 'I have been driven by the need to express through my practice, a response to the now. *Out of Season* reflects the questions, concerns and themes relevant to my lifetime.

I live in a techno-scientific society in an era of rapid environmental change.'

Dr Erica Seccombe is a visual artist based in Canberra. Her practice spans from traditional and photographic print media and drawing to experimental digital platforms using frontier scientific visualisation software. Since 2006 she has been an artist and resident researcher at the ANU Department of Applied Mathematics and Vizlab, NCI. She is currently a lecturer in Foundation Studies at the ANU School of Art & Design, teaches for The Centre for Art History and Art Theory, and is the Convener of Graduate Studies Coursework for Visual Arts, Design and Art History and Curatorship.

Image courtesy of the artist





MARTIN WALCH | *Terra-Antarctica_Time-panorama_Mawson_Station_60_days_20171208-0180205, 2018*

This artwork is a digital animation derived from one of two semi-permanent time-lapse cameras installed at Mawson Station in Antarctica. The thousands of resulting photographs are chronologically ordered, computationally sliced and recombined, to create a series of frames that each derive from 640 individual time-lapse images.

Each frame of the animation shows a duration of 26.66 hours across its horizontal dimension, and the play back of the full animation covers an original period of 60 days, from December 8th 2017 to February 5th 2018.

The red and blue points are derived from Bureau of Meteorology data recorded at Mawson during that period. The red dots are air temperature samples and their values range from -6 Celcius at the bottom of the frame to +6 Celcius at the top. The position of the horizon in the image represents 0 degrees Celcius.

The blue dots are wind speed in kilometres per hour. Their values range in scale from 0 kmph at the bottom of the frame to 160 kmph at the top. The position of the horizon in the image represents 80 kmph.

Image courtesy of the artist

The ticks across the bottom of the frame represent noon (light-blue), midnight (dark-blue), whilst dawn and dusk appear orange.

Martin Walch is a Tasmanian artist who works across a range of media including photography, video, computer programming and data visualisation. From 2011-2017 he was involved in a major collaboration on The Derwent Project with photographer David Stephenson, which secured ARC Discovery Project funding from 2014-2016. Most recently Walch has returned from Mawson Station in Eastern Antarctica, where he was the 2017 Australian Antarctic Arts Fellow. Martin lives and works in Hobart where he coordinates the Photography program at the School of Creative Arts, University of Tasmania.

LIST OF WORKS

ROBERT ANDREW

Country, Land, Soil, time and space 2018

Soil, ochre, string, aluminium, electro mechanical components.

Variable dimensions 120 cm x 180 cm x 120 cm

Duration three weeks

[Soil Science Australia](#)

KEITH ARMSTRONG

Inter-State 2016

Microfiche, microfiche reader, LED signboard, transparent print, headphone sound.

200 cm x 300 cm x 200 cm

Sound: Roger Dean

Original Imagery: Stuart Lawson

Quotes from Tony Fry's refuturing philosophies

[Keith Armstrong - Associate Director of QUT's Creative Lab Research Centre.](#)

[This project has been assisted by the Australian Government through the Australia Council, its arts funding and advisory body.](#)

LEAH BARCLAY

Migration Patterns: From Freshwater to Saltwater 2018

Audio, 15 minutes loop

[The Griffith Climate Change Response Program and Queensland Conservatorium Research Centre at Griffith University.](#)

LEAH HEISS

Facett modular hearing aid 2018

Facett modular hearing aid: Injection moulded plastic, electronics, microphones, wiring

10 mm x 7 mm x 35 mm

By Leah Heiss for Blamey Saunders hears

Facett iterative models 2016

Facett iterative models: 3D printed plastics

Each model 30 mm x 15 mm x 7mm

Leah Heiss and Blamey Saunders hears

[Facett was supported with assistance by the Australian Government Department of Industry, Innovation and Science through a commercialization grant as part of the Entrepreneurs' Program.](#)

BADEN PAILTHORPE

Clanger (Longitude, Latitude, Velocity) 2018

36-channel digital video installation, Raspberry

Pi3, LED screens, custom Lupa software

97.5 cm x 121.5 cm

Duration infinite loop

[Courtesy of the artist and Sullivan+Strumpf, Sydney|Singapore. Supported by the ANAT Synapse Residency Program, with funding from the Copyright Agency Cultural Fund.](#)

DAVID HAINES

Slow Fast Mountains (earth aroma) 2014

Aroma, Geological specimens, steel plinths, sound.

Dimensions variable

[Courtesy of the artist and Sarah Cottier Gallery.](#)

CHRIS HENSCHKE

Resonance 2015-2018

Sound, water, particle collision data, media player, amplifier, exciter speaker, housing, 100 cm x 55 cm x 55 cm

Developed by Chris Henschke in collaboration with Wolfgang Adam and Michael Hoch, CERN. art@CMS

JOYCE HINTERDING

Florin Antenna 1 (Orange Lichen study) 2018

Eraphite on glass, wood, custom cables, mixer headphones 85 x 85 cm

Florin Antenna 2 (Orange Lichen study) 2018

Eraphite on glass, wood, custom cables, mixer headphones 85 x 85 cm

[Courtesy the artist and Sarah Cottier Gallery.](#)

HELEN PYNOR

Development of the Visual Circuit of Drosophila melanogaster in 3 Acts: Larva; Pupa I; Pupa II 2018

Video

Duration 22 minutes 24 seconds

Performer: Iris Salecker

Videographer: Ben Gilbert, Wellcome

[Courtesy of the artist and The Francis Crick Institute, London. Commissioned by The Francis Crick Institute, London, for the *Deconstructing Patterns* Exhibition, Feb-Dec 2018.](#)

Fallen (11-17) 2017

Archival pigment prints, face mounted on glass 129 cm x 30 cm each

Artist: Helen Pynor

Camera: Jürgen Jeibmann, Dresden

Retouching & Printing: High Res Digital, Sydney

Framing: Graphic Art Mount, Sydney

[Courtesy of the artist and Dominik Mersch Gallery, Sydney. Developed with the assistance of Dr Jochen Rink, Group Leader, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden. This project has been assisted by the Australian Government through the Australia Council for the Arts, its arts funding and advisory body.](#)

ERICA SECCOMBE

Out of Season 2016

Single channel projection.

2 minutes 40 seconds

Dimensions variable

[ANU Department of Applied Mathematics, VizLab, National Computational Infrastructure, artACT project grant, Synapse residency, ANAT.](#)

MARTIN WALCH

Terra-Antarctica Time-panorama Mawson Station_60_days_20171208-20180205 2018

HD 1080/25P Video

Duration 1 hour 07 minutes 48 seconds

[Australian Antarctic Division & University of Tasmania.](#)

ACKNOWLEDGEMENTS

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