

# Seeing Science



Cover image: Maria Fernanda Cardoso *Actual II*, 2015 (Digital imaging in collaboration with Geoff Thompson and Andy Wang, Queensland Museum.  
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# Seeing Science

15 September to 3 November 2017

Contemporary artists engaging with the  
concepts of science

Julie Brooke  
Maria Fernanda Cardoso  
Julia Davis  
Janet Laurence  
Helen Pynor  
Caroline Rothwell  
Jack Stahel  
Shona Wilson

Launched from 2-4 pm on Saturday 16 September  
by Ms Kim McKay AO, Director and CEO Australian Museum

# Introduction

Recently musician and artist, Brian Eno was interviewed about the oft-cited polarisation of science and art. He declared that since the 1960s educators have been trying to reconcile both fields. In speaking about the creative impulse that is common between scientists and artists, he nominated the feelings around the thrill of discovery in research that no one else is experiencing at that particular point in time. However, he also thought that science and art are quite different activities using different languages.

He went on to explain, the scientist is engaged in testability in THIS world to be able to predict outcomes, whereas the artist is engaged in creating OTHER and different worlds to visualise ambiguity and flux. To clarify these ways of thinking he joked that he wouldn't want to fly in a plane that was designed by an artist and conversely he wouldn't like to hear music or see films by scientists.

Eno also says that 'art is everything you don't have to do', that humans are unique among animals in that we are the only species that creates stylistic choices for ourselves. It is how we locate ourselves in the world and we have endless conversations through art.

Science has had the perception of authority as it is based around accuracy of data and demonstration, repeatable testing and thus consistency. The way artists research is different because the expectations around outcomes are different. Artists can engage with social and political issues in a freer way but scientists can supply the basis of the truth to engage in major issues such as climate change, sustainability, identity, privacy and human rights.

The eight artists in this exhibition have sought ways to engage with social and political issues through engaging in conversations with scientists. They seek current scientific knowledge within our world but hold separately the imaginative process that maintains a sense of otherworldliness and wonder in their ideas and artworks.

Artists do sometimes use testability to build their processes, to predict certain outcomes, thus mimicking a standard scientific approach. Sometimes artists use the visual and material equipment of the science laboratory to aesthetically connect the disciplines, such as laboratory glass ware, scientific and medical instruments such as microscopes, as well as graphs, grids, vortexes and diagrammatic imagery; or in studying biological or ecological disciplines, the adoption of plant and seed specimens, in museum style displays that use the scientific names and classifications of the selected samples.

The use of materials adopted by artists that were meant for other purposes is a common story for visual artists. Science provided the materials that visual artists, museums, conservationists and gallerists have used over centuries. Paint technology, ink and paper making technology, plastics, digital printing, architectural products, electronics and computerisation have all been intended for other purposes but then purloined by artists and used differently.

In recent years, partnerships have developed between scientists and artists who have been dedicating themselves to making issues such as loss of species, unstable climate and protection of privacy and security more visible and thus more understandable. Both fields acknowledge that they are part of the warning systems within our culture.

Playfulness and listening and looking to each other to test hypotheses can open up both areas to new ways of designing experiments or visualising phenomena and making it clearer to a general public. Artists and scientists must continue talking to each other to imagine a way through so that we can all keep living with hope.

**Dr Therese Kenyon**

Artist, curator and program coordinator at Eramboo Artist Environment

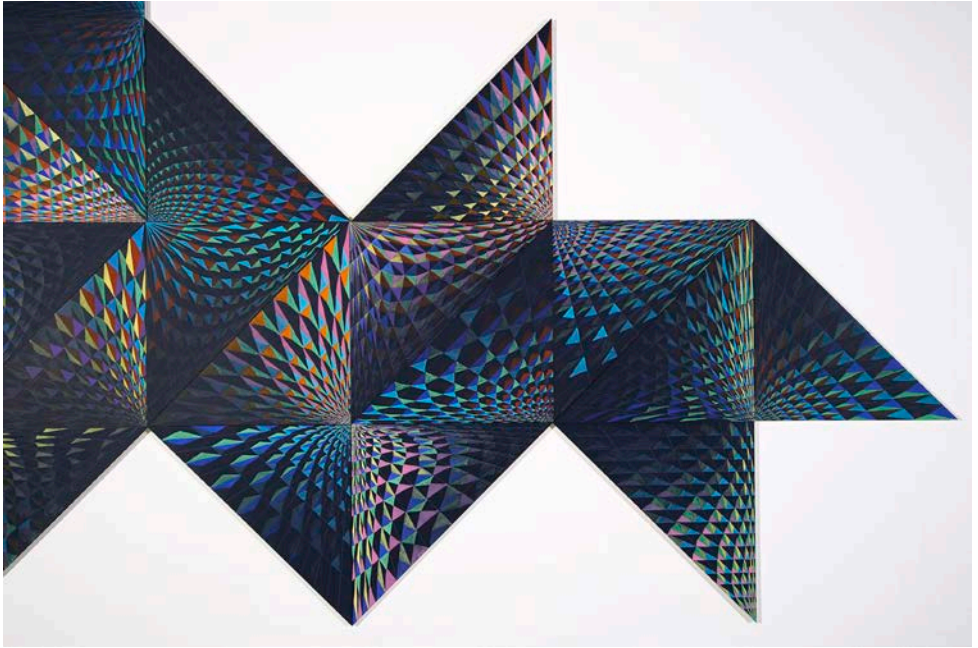
## Julie Brooke

*Extended Labyrinth* is a modular geometric work developed from a residency held in the ANU Department of Applied Mathematics in 2014. I worked with topologists who investigate a complex labyrinthine structure involved in the formation of butterfly-wing scales, and this painting explores its metaphorical and mathematical implications. Working with gouache and pencil lines on boards that fit together to create amorphous crystalline forms, I aimed to evoke the shimmer of the butterfly's wing while investigating how mathematicians visualise and communicate abstract concepts. However, the origin of this project lies in my earlier PhD research (2009-13) in which I explored the potential of geometric art to visualise speculative, hypothetical thought through the creation of spatially ambiguous and optically active imagery.'

Julie Brooke is a Canberra-based painter and former biomedical scientist. She is a Research Fellow at the ANU School of Art and completed a practice-led visual arts PhD in 2013 for which she was awarded an ANU J. G. Crawford Award. Brooke was a Vice-Chancellor's Artist in Residence in the ANU Department of Applied Mathematics in 2014.

[www.juliebrooke.net](http://www.juliebrooke.net)

*Extended Labyrinth*, 2015, gouache, pencil and acrylic on 109 boards, dimensions variable.



## Maria Fernanda Cardoso

*On the Origins of Art I & II*, 2016 sees Maria Fernanda Cardoso focus on the small Australian peacock spider species, the *Maratus*. The work was developed over several years through an Australian Council Fellowship grant awarded for her exploration and experimentation in a cross-disciplinary approach through the blending of art and science. Cardoso has captured visual and auditory proof of the 3-4mm-long spiders' dance and subsonic vibrations, inaudible to the human ear but revealed to us through the use of laser vibrometer technologies to reveal a music-like beat. Using large-scale, multi-screen HD Projections, Cardoso has created a video art installation featuring the different mating dances and looks of several of the *Maratus* species.

Maria Fernanda Cardoso is an international artist, born in Colombia, now living in Sydney. Graduating from Yale University with a Masters degree in Sculpture and Installation in 1990, and in 2012 with a PhD from Sydney University, she is well known for her unconventional use of materials and the use of animals as inspiration. Cardoso exhibits widely in major museums and galleries in the US, Latin America, Australia and Europe and is represented by Arc One Gallery, Melbourne.

<http://mariafernandacardoso.com/>

*Actual II*, 2015 (right)

pigment print on premium paper 300gsm

152.40cm x 154.40cm x 5.70cm, edition 7

Digital imaging in collaboration with Geoff Thompson and Andy Wang, Queensland Museum.

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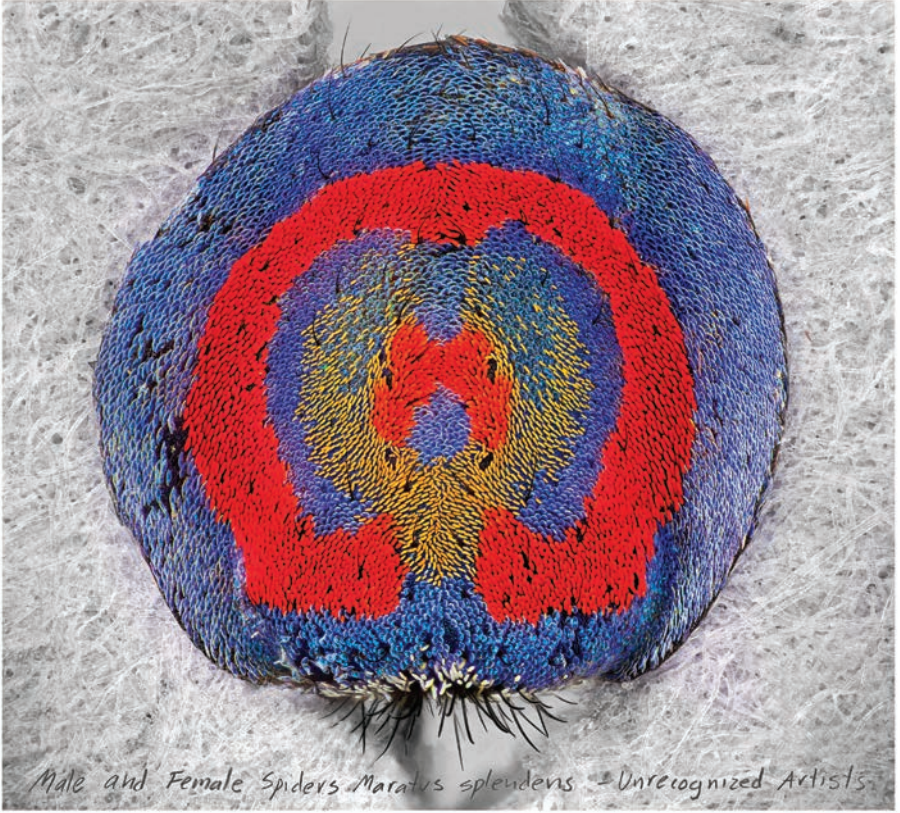
*On the Origins of Art I & II*, 2016

single channel HD video, hyper realistic sound with tactile dimension

running time: 7 mins



Actual Size



Male and Female Spiders *Maratus splendens* - Unrecognized Artists.

## Julia Davis

In 2013, as recipient of the Australia Council residency in Rome, Julia Davis travelled with volcanologists and geologists to southern Italy where people live with the constant threat of volcanic annihilation. The artwork created during her residency included video, digital prints on paper and silk, and three-dimensional forms cast from volcanic ash. The work in *Seeing Science* evolved from this project. Ash and tephra gathered from a volcanic event in 1991, the same week her son was born, is ground into plastic sheeting then cast into a spherical form. In geological time, the landscape moves, pulses and crashes in processes of coming into and out of existence. The geologically active places she refers to mirror the fragile human experience of movement, instability, rhythm, reflection and change.

Julia Davis works with a wide range of materials and processes including object, photography and video. Her installations are often site-specific and have been installed in salt lakes, deserts and parklands, as well as within galleries and the built environment. Her work explores the effects of time on understandings of the body in relation to the material world and how this underpins our sense of self and place. Active sites such as deserts, volcanoes, coastal precincts and salt lakes provide ways to explore the idea that landscape is cultural space – a space informed by and informing culture. She has an MVA from Sydney College of the Arts 2005, exhibits nationally and internationally and is the recipient of numerous awards. Her work is represented in private and public collections in Australia and Europe.

<http://www.juliadavis.com.au/>

*Ru(a)pture #6*, 2016 plastic, volcanic tephra, 170cm x 170cm (right)

*Time After Time* 2014, plastic, wood, lava, 30cm x 20cm x 22cm

*Ru(a)pture #5*, 2013, inkjet print on Canson Rag, 240cm x 150cm,  
1 of 5 edition



## Janet Laurence

Janet Laurence created the *Fabled* series during a residency at the Fauna and Flora camp in Aceh, Sumatra as part of her research for the project, *After Eden*, commissioned by the Sherman Contemporary Art Foundation. She discovered many animals living in the hills of Aceh, one of the few places in the world with wildlife still in natural habitat. Images of the animals were captured with a hidden camera triggered by the movement of animals. On her return to the region in 2015 Laurence found the hills burnt to the ground to accommodate the planting of palm oil crops, by a global company, for short-term profit. Another graveyard of lost habitats and thus lost species had been created, reinforcing her fear for these endangered worlds. Laurence's film *Sanctuaried*, from *After Eden* (2012), is compiled from footage taken at an elephant sanctuary in Aceh, and a panda sanctuary in Chengdu, China.

Exploring notions of art, science, imagination, memory and loss, Janet Laurence's practice examines our physical, cultural and conflicting relationship to the natural world through both site-specific, gallery and museum works. Her work alerts us to the subtle dependencies between water, life, culture and nature in our eco-system and reminds us that art can provoke its audience into a renewed awareness about our environment.

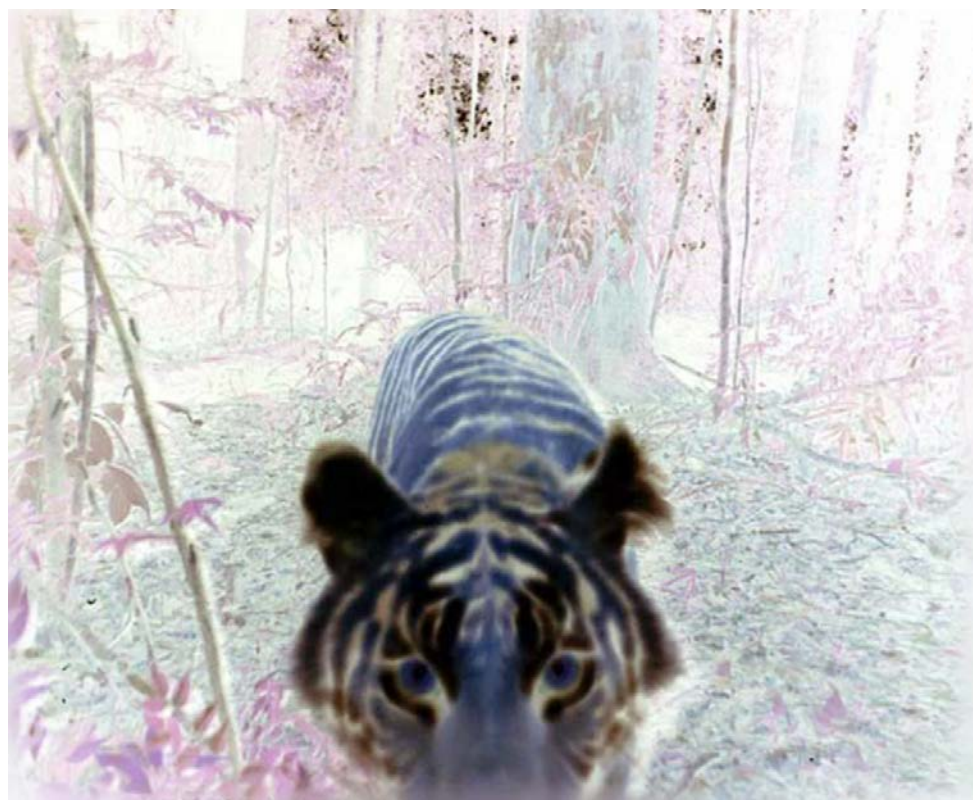
Laurence was the Australian representative for the COP21/FIAC, *Artists 4 Paris Climate 2015* Exhibition, exhibiting a major work, *Deep Breathing: Resuscitation for the Reef*, at the Muséum National D'Historie Naturelle in Paris, France. This work was then shown at the Australian Museum Sydney where, as artist in residence, she was able to conduct her research. Laurence is a visiting fellow of the 2016/2017 Hanse-WissenschaftKolleg (HWK) foundation fellowship. Her work is included in many Museum, University and Corporate collections as well as within architectural and landscaped public places worldwide. She is represented by Dominik Mersch Gallery, Sydney and Arc One Gallery, Melbourne.

<http://www.janetlaurence.com/>

*Fabled 1-12, 2011. Sumatran Tiger (tigris sumatrae)/Fabled 2*, altered camera trap image, archival ink on archival paper, 60cm x 48cm framed (right)

*Film Still, After Eden – Sanctuaried*, running time 24:43 mins,  
Courtesy National Gallery of Australia

*After Eden* commissioned by Sherman Contemporary Art Foundation, Sydney.  
All proceeds from sale of works will go to *Flora & Fauna International*.



## Helen Pynor

'These works form part of a series in which I have knitted together single strands of human hair to form large and small-scale sculptures. The works explore the in-between status of hair – between living and dead, nature and culture, attractive and repulsive, fleshy and spectral. Barely visible to the eye but intensely demanding to make, the works also reference time and the endurances of everyday living. Hair recalls the events of its owner's life – emotional and physiological states registered in the cellular materiality of each strand of hair. I sourced the hair from a dealer in London who buys from women across Europe and Asia, this particular hair coming from Spanish women. I wonder about the lives of those who spent so many years growing the hairs I now knit, their invisible labour and the unvoiced transmission of the memories of strangers.'

Helen Pynor's work explores philosophically and experientially ambiguous zones such as the life-death boundary and the interpersonal dimensions of organ transplantation. Her practice spans large-scale installations to small intimate works using photography, sculpture, video, wet biology, media art and performance. Pynor has exhibited widely nationally and internationally, most recently at the National Taiwan Museum of Fine Arts (2017) and FACT – Foundation for Art and Creative Technology, Liverpool, UK (2016). In 2012 her collaborative work *The Body is a Big Place* was awarded an Honorary Mention at Prix Ars Electronica, Linz, Austria and she has been the recipient of national awards in Australia, including the Josephine Ulrick and Win Schubert Photography Award and the RBS Emerging Artist Award. Pynor's work is informed by in-depth residencies in scientific and clinical institutions such as The Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, where she was resident for five months during 2015; The Crick Institute, London; The Heart and Lung Transplant Unit, St Vincent's Hospital, Sydney; and SymbioticA, University of Western Australia, Perth. Pynor has completed a Bachelor of Science (1st Class Hons), a Bachelor of Visual Arts, and a practice-based PhD. She is represented by Dominik Mersch Gallery, Sydney.

<http://www.helenpynor.com/>

*Exhale*, 2005, knitted human hair, 197cm x 130cm x 70cm (right)

*Inhale I*, 2006, knitted human hair, 90cm x 59cm x 24cm

(image right)



## Caroline Rothwell

'The paintings are made using the emissions found in the exhaust pipes of cars. I collect the black gunk and mix it with a binder medium to make paint and my studio is becoming more and more like a chemistry lab. It's similar to the process in the Victorian era, when they mixed carbon from inside lamps (the pigment known as lamp black) with a binder. The images are of endangered Australian species presented in a style reminiscent of science and natural history. I thought it would be interesting to create a specimen drawing of an endangered creature using the pigment from our pollution. I don't want to be didactic though and I'm not a specimen illustrator. I want to engage with the land, history and politics, but I find my ongoing idea is to create a kind of parallel world – of the here and now but with a warp and twist. This is pseudo-science – I'm looking at endangered species but putting them into a context of the imagination, a very human place. The associations with the paintings could be with a kind of feminine delicacy associated with natural history painting yet they're made using noxious by-products and gold, and then categorised according to car and specimen data, which nods to issues of value and scientific enquiry.'

Caroline Rothwell is a British-born artist now based in Sydney. Her practice is varied in materials and processes, maintaining her scientific focus and deep interest in hybridity, biomimicry and biotechnology. Recent projects include: *Another Green World: The Landscape of the 21st Century*, Western Plains Cultural Centre, Dubbo (2017); *Inspiracje 2017*, TRAF0 Centre for Contemporary Art, Szczecin, Poland; *Fragil*, XII Bienal de Cuenca, Ecuador (2016); *Antipodes Cut Apart*, research project and exhibition Museum of Archaeology and Anthropology, University of Cambridge, UK (2016); *Composer*, Museum of Contemporary Art, Australia, (2016). She exhibits nationally and internationally and is represented by Roslyn Oxley9 Gallery, Sydney and Tolarno Galleries, Melbourne.

<http://www.carolinerothwell.net/>

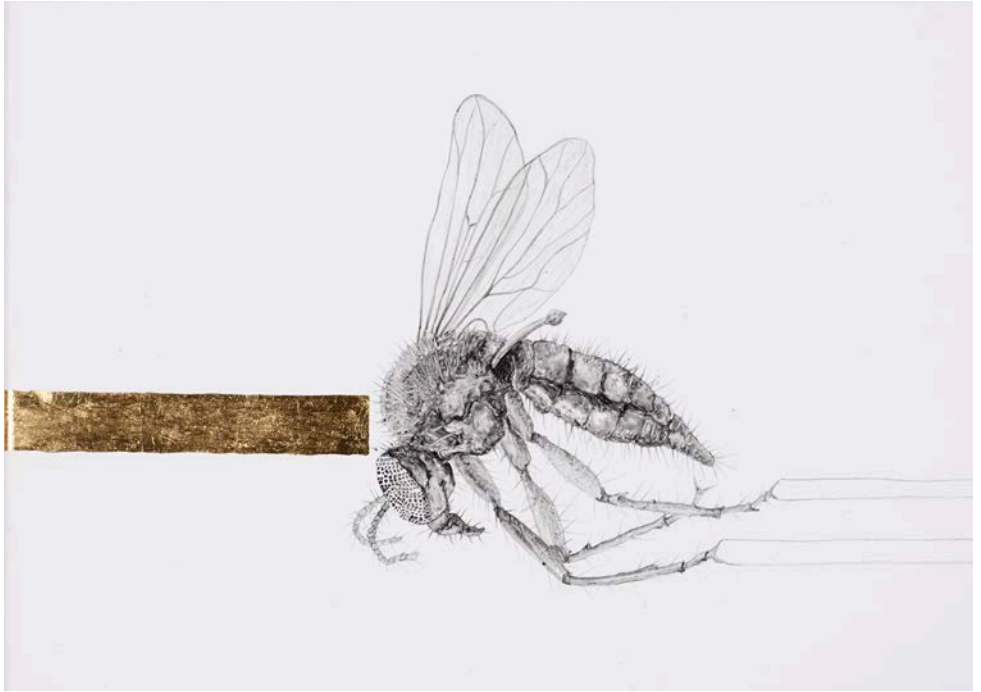
*Tasmanian Torrent Midge (Edwardian tasmaniensis)*, 2013, Toyota Corolla Ascent exhaust emission, acrylic binder medium and 23 carat gold on primed canvas, 25.5cm x 36cm x 2cm (right)

*Regent Honeyeater (Xanthomyza phrygia)*, 2013, Ford Futura MKII Conquest exhaust emission, acrylic binder medium and 23 carat gold on primed canvas, 25.5cm x 36cm x 2cm

*Golden Sun Moth (Synemon plana)*, 2013, VL Holden commodore exhaust emission, acrylic binder medium and 23 carat gold on primed canvas, 25.5cm x 36cm x 2cm

*Peppered Tree Frog (Vitoria piperata)*, 2013, Alfa Romeo 156 Selespeed exhaust emission, acrylic binder medium and 23 carat gold on primed canvas, 25.5cm x 36cm x 2cm





## Jack Stahel

'Imaginary Science is a unique approach to studying how the brain thinks about itself. It is a hybrid of two of the most important tools humans have invented to understand themselves and the world around them. It is an entirely fabricated field of research and one that acknowledges the inherently self-reflexive nature of a brain attempting to study its own experience of itself.

Just as the processes and content of the mind are one and the same, the creative and analytical processes embedded in the act of creating these works are no longer distinguishable from the content they represent – the understanding of itself. This forms an ongoing cycle of creation, habit, analysis, and categorisation. Attempting to understand ourselves involves an understanding of what understanding actually is, of what we don't understand, and how we come to understand.'

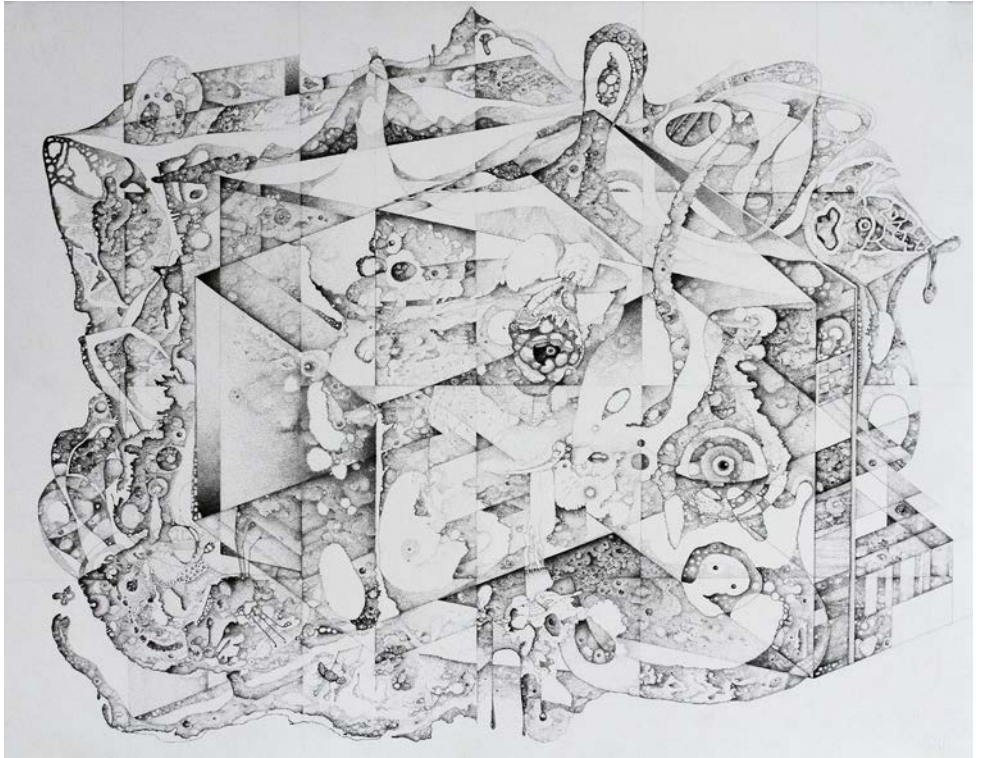
Jack Stahel is an imaginary scientist. His office is located just over the border of human understanding, and just a little way past the frontier of the mind's own self-comprehension. His practice incorporates introspective processes of drawing and collecting within an installation framework, and can briefly be described as both pragmatic and pseudoscientific, foreign yet familiar, and an informative bunch of nonsense. Stahel graduated from UNSW College of Fine Arts with first class honours in 2012, and completed his MFA research project 'Imaginary Science' in 2015. He exhibits regularly in Sydney, in both group and solo shows, as well as occasionally interstate and internationally.

<http://jackstahel.com/>

*Hypothesis Framework #4*, 2017, installation

Ink on paper, timber, tape, pinboard, pins, waste paper basket, dimensions variable

*Drawn Hypothesis 10.2 (A continuous self-dissection)*, 2017, ink on paper, 76 x 57 cm (right)



## Shona Wilson

*Seed Rain* is a scientific term for the fall to the ground of seeds by wind, gravity or animals. The extraordinary fact that there exists approximately 1000 plant species in Ku-ring-gai Chase National Park (KCNP), of which around 900 produce seeds, was a major 'factalyst' in creating *Seed Rain*. With over than 300 collected seed species, captured in 900 test tubes, *Seed Rain* describes the underground seed bank of KCNP. By making the invisible visible, *Seed Rain* celebrates and exposes some of the wonders, connections and vulnerabilities of seeds through the lens of the KCNP biome. This collaborative artwork was originally developed for the Ku-ring-gai pH: art + science project, presented by Eramboo Artist Environment, NSW National Parks and Wildlife Service and Manly Art Gallery and Museum, 2016-17. Dr Si-Chong Chen was Shona Wilson's collaborative seed scientist.

Shona Wilson majored in Sculpture from Sydney College of the Arts in 1990. Since then she has continued to curiously explore, predominantly with natural found materials. Shona creates both commercial abstract and semi-representational 2 and 3-D assemblage works as well as project-based installation work. She has exhibited continuously since 1990 in both gallery and public spaces. For the past four years, in parallel with her studio practice, Shona has been facilitating her *Collaborations With Nature* Ephemeral Art workshops – working with preschools, high schools and adult education. Shona is the creator of the One A Day Ephemeral Art Project, which has inspired people worldwide #ephemeralartjourneysdaily. Increasingly, Shona's art practice engages with scientific and environmental concerns and collaborations. She is represented by Arthouse Gallery, Sydney and Mossgreen Gallery, Melbourne.

<http://www.shonawilson.com/>

*Seed Rain*, 2016, repurposed test tubes, fishing line, seeds, audio file and written text on wall. Dimensions: variable. Photo: Jo Yeldham.

With special thanks to Ingrid Bowen, Gwen Wilson, Marina Grassecker, Mia Dalby-Ball, Shane Fahey (acoustic engineer), Julie Janson (Darug language speaker), Holly Rankin (Latin speaker) and Professor William Gladstone and Karen Privat.




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acknowledges and extends sincere  
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Curators: Lisa Jones and Mary Faith



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