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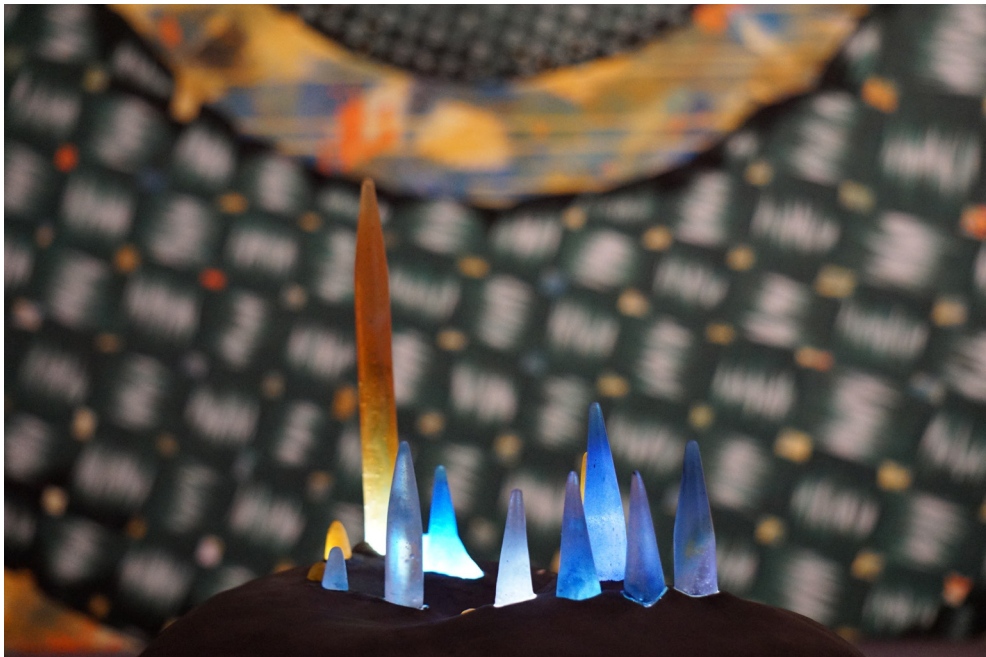
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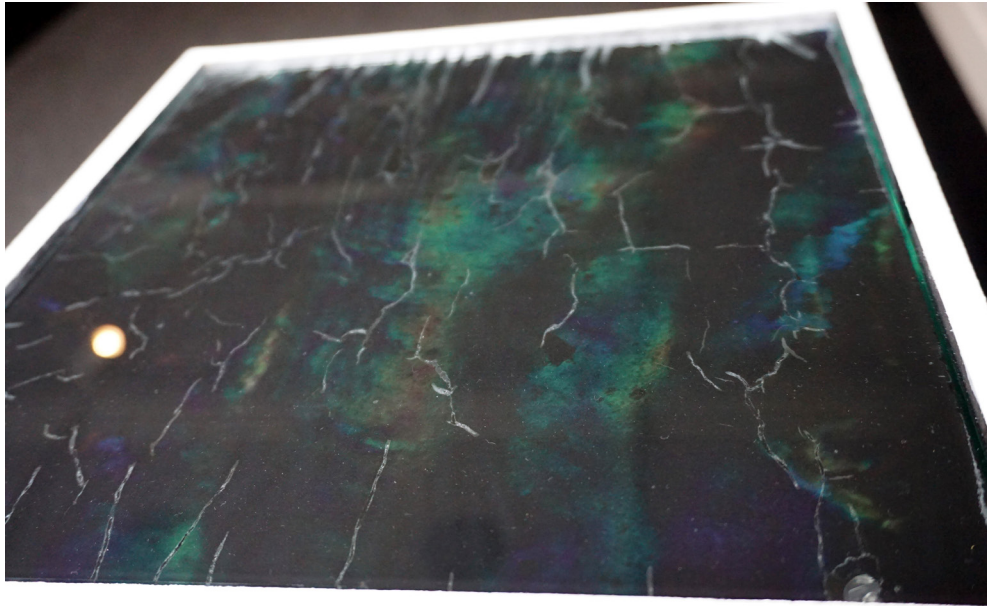


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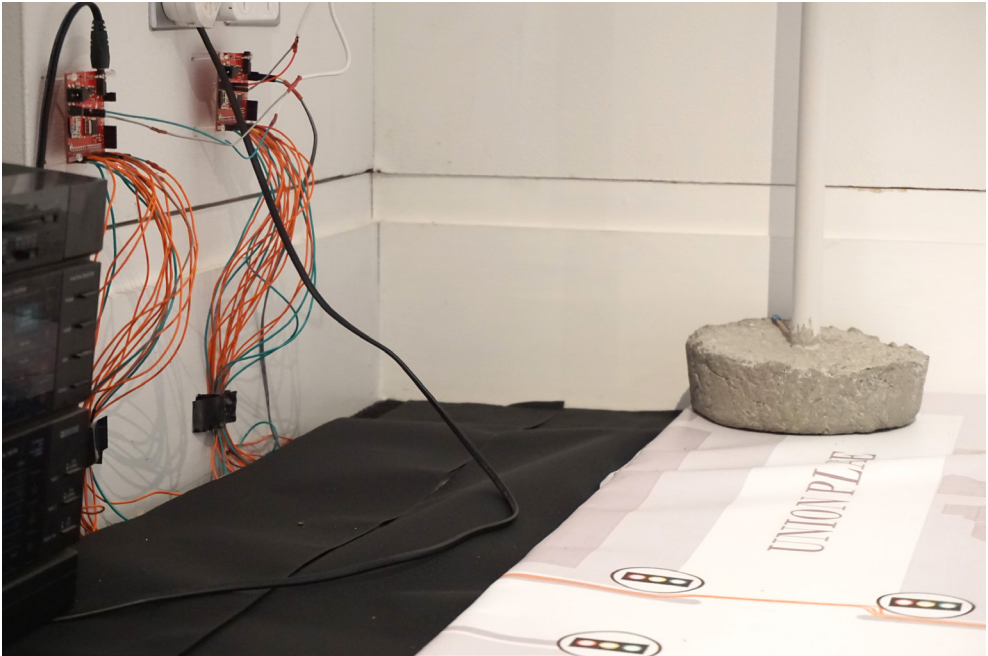




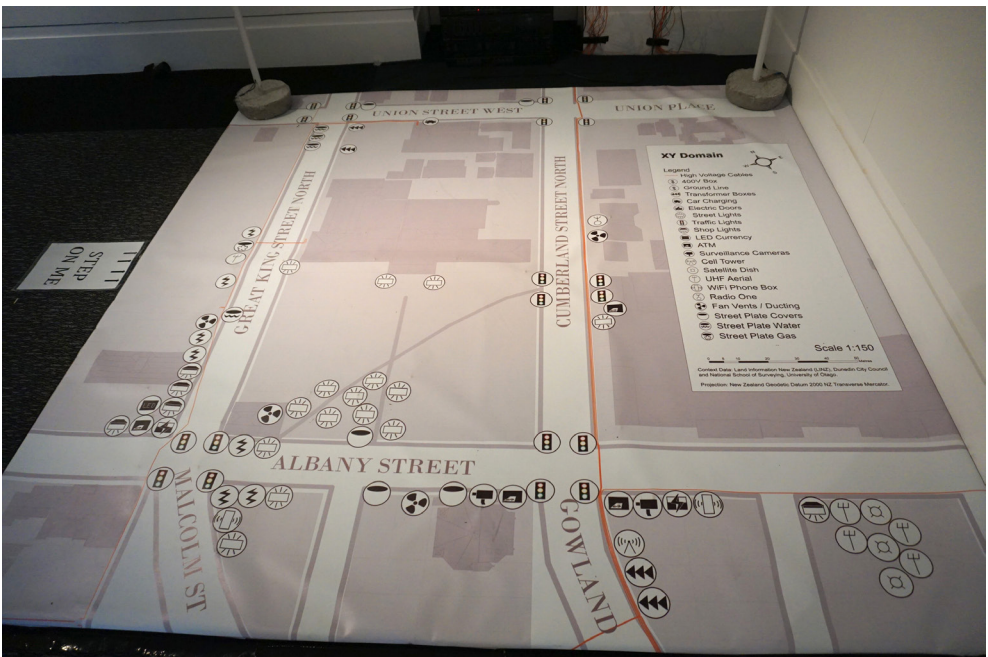
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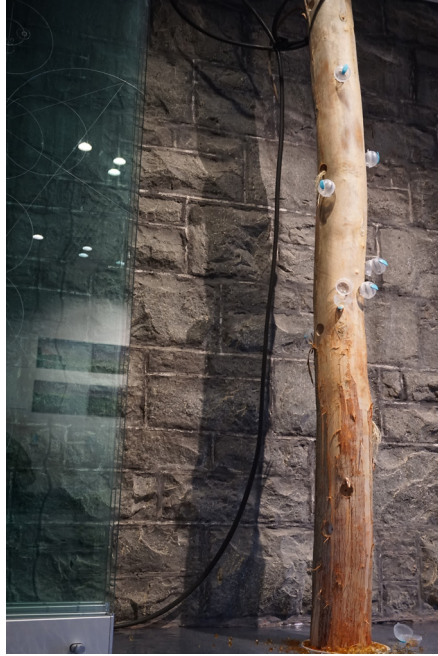
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## COLLABORATIONS BETWEEN ARTISTS AND SCIENTISTS

### **Exhibition Installation: Art and Space Project 2016 Exhibition**

#### HOLLY AITCHISON AND DAVID BILKEY

Number 1. Holly Aitchison, *In Such a Glen, On Such a Day*, 2016, series of works on paper, watercolour and pencil

“Place cells” of the hippocampus are cells that fire—become active—when the animal (or person) is in a specific location within their environment. Place cells form a representation of a specific location in space and thus form a cognitive map and are used to predict future paths through space.

#### JAMES BELLANEY—GUEST ARTIST

Number 2. James Colin Bellaney, *Looking for a Wave (A Wave in Time)*, 2016, acrylic on paper, 150 X 150 cm

*Looking for a Wave* explored notions around space and form, cosmogenesis wave-forms and flow in time. In the work the red of the earth is our origin and represents life. The contour lines of the land are topographical and metaphorical. The four emblems at the top of the painting represent the four pillars holding up Rangī. They are associated with the diurnal motion of the sun, and with the motion of the (four) trade winds.

#### EMILY BRAIN AND DAVID BILKEY

Numbers 3, 4. Emily Brain, *Hippocampal Astrolabe*, 2016, wood, perspex, copper

These Hippocampal Astrolabes combine designs of historical navigational tools from historical and real-world navigation with the topography of internal space allowing journeys to imaginary places or states of mind as marked in the “place fields” in the brain.

## HERAMAAHINA EKETONE AND IAN GRIFFIN

Numbers 5-7. *Ngā Taurapa o te waka o Tama-Rereti Ikarangi*, Acrylic on canvas; *Ipurangi*, porcelain and cast glass made in collaboration with Jesse-James Rehu Pickery; *Taurapa macrocarpa* carved and painted.

Both the canvas and the carving, represent the procession of the equinoxes, where both the north and south poles move in a circular direction, taking 25,992 years to do a full circuit of 360 degrees. The wrapping of the Taurapa around the wood is the continuous changing and moving of the stars, more specifically Te Taurapa o te waka o Tama-rereti, and is a symbol of the precision in navigation and the cyclic nature of Māori.

*Ipurangi*—Each star within the constellation Scorpius is represented through different heights. Each height is in relation to the approximate distance the star is from earth as a way of visualising stellar distance, temperature and colour.

## MARY MCFARLANE—GUEST ARTIST

Number 8. Mary McFarlane, *The Moon Knows*, 2014, 90 x 74, mixed media on mirror plate.

The mirror works embody different aspects of astronomy as “a seemingly magical process of transformation & creation” alluding to the mystery of the Universe

## IAN GRIFFIN

Number 9. *Galactic arch*, taken at Hooper’s Inlet, composite image combining 12 separate images *Aurora Australis and Milky Way Panorama: 20:56:28, 25 July 2016*, photographic print, 12” x 36” on card

On 25th July 2016, just after sunset, ionised material which had left the sun a few days earlier began to interact with the Earth’s magnetic field thousands of kilometres to the south of Ian’s vantage point at the southern end of Papanui Inlet, in a display of the aurora australis.

## PAM MCKINLAY, DAVID HUTCHINSON AND TERENCE SCOTT

Numbers 10, 12. *Experiments in search of the perfect G-wave in the Woven Universe: 1. Big Bang Therapy—Dancing In Plato’s Cave at the Edge of the Empyrean, (right) 2. There’s a (black) hole in my bucket e-LISA*, hand woven panels, monofilament and wool, 2500 x 800cm.

Made on the occasion of the centenary of Einstein’s General Theory of Relativity, which explained how gravity works. Although we can’t see gravity, we can learn about it from its effects. Gravitational waves are the so called ripples in the fabric of spacetime.

## SUE NOVELL AND HOLGER REGENBRECHT

Number 11. Sue Novell, *Alternative Universe 2220*, 2016, 75 x 100, cm, acrylic on canvas.

Augmented Reality (AR) and Virtual Reality (VR) are computer-mediated realities. These are three-dimensional worlds which can be explored interactively in real-time, aim at, benefit from, and may

indeed require the user to feel present in them. To feel present means that the user feels that he/she is part of the mediated environment, accepting it as reality or world. The painting gives us a view of the artist's impression of being in this strange world, being here and being there in the same but different space, at the interface between real and imagined worlds.

#### CHRISTINE KELLER, PAM MCKINLAY, DAVID HUTCHINSON AND IAN GRIFFIN

Numbers 13, 14. Christine Keller and Pam McKinlay, *INTERSTELLAR* installation, *21 cm H SPECTRUM*, 2016, ten handwoven textiles, washing line, domestic accessories, ironing board, iron, Constellation™ vacuum cleaner, photograph *The Big Picture*, Pam McKinlay, 2016. (Image credit: CC-BY-SA. photograph of nebulae and simulated gravitational waves, Pam McKinlay, 2016 and visible spectrum of Hydrogen, Jan Homann, 2009).

The interstellar medium of nebulae contain “dust,” matter from exploded supernovae, and are mostly composed of a high proportion of hydrogen gas. This is confirmed by spectral analysis data in both the emitted and absorption spectrums. The Balmer emitted spectrum shows the spectral series of lines in the visible region of the electromagnetic spectrum (from red to ultraviolet). The hydrogen emission spectrum, illustrated in this work, is light that gives us information about the underlying quantum world of wave-particle duality.

#### RUTH NAPPER AND DAVID BURRITT

Number 15, 16. Ruth Napper, *Carefully into the Future*, necklace, fabricated from sterling silver, copper, resin and found objects.

The work represents the historical importance of seeds in the history of mankind and the wonder of plant adaptation. The investigation of the long-term storage for our current plant material by preserving plant germplasm in liquid nitrogen for travel beyond Earth is intended to secure our future in space. Will natural adaptation occur as the new environment rapidly changes? What do we know and what are we unable to control?

#### AROHA NOVAK AND PETER STUPPLES

Numbers 17, 18. Aroha Novak, *Sold Out*, 2016, ticket building banners, Carisbrooke, and two embroideries from The Brook Project, 2015

Spaces are named, circumscribed, bounded by their use. Social spaces change their function over time, gain and lose significance. The Carisbrook stadium holds many memories for the public, and the site-specific project by Aroha Novak explored the notion of public and private ownership. As well it questioned future uses of this space through community engagement and the resulting contemporary art installation.

#### SARAH MCKAY AND CHRISTINA HULBE

Numbers 19, 20.

Sarah McKay, *Contained*, 2016, mixed media, glass, light, photography. 5 works, approx. 30x30 in surface dimensions but different heights, from 55 to 115.



Earth's polar regions are changing rapidly and understanding both the causes and implications of change have great scientific and social relevance. Observations of the ice sheets and polar ice formation which have taken place over long periods of time help anticipate our future.

#### CHARLOTTE PARALLEL AND TONY MOORE

Numbers 21, 22. *XY Domain*, 2016, interactive installation, vinyl map, electronic sensors, speakers.

*XY Domain* references axis, data, code and area. A formal structure was used to plot coordinates of objects emitting electromagnetic signals to perform and power operations of our daily lives in the locale of the Otago Museum. Mapping in this way is a kind of energetic forensics that observes and considers the socio-physical environment and its interaction between local signal ecologies. *XY Domain* is akin to an aural circuit that implies our interaction with an on-going, invisible and often unheard cross-pollination of electrical and electromagnetic signal.

#### JESSE-JAMES PICKERY AND DAVID HUTCHINSON

Number 23. Jesse-James Rehu Pickery, *Standing Wave in Space*, 2016, speaker, tone generator.

In this work the frequency of the room was calibrated using a tone generator. The sustained frequency generated a standing wave in which a phase lock was established.

#### SALLY SHEPHARD AND DAVID BURRITT

Number 24. Sally Shephard, *Bane*, 2016, mixed media installation.

The Earth should be regarded as the womb of life, but one cannot remain in the womb forever. Cryopreservation of plant germplasm is a technique that involves the storage of germplasm at very low temperatures, often at or near to  $-196^{\circ}\text{C}$ , followed by regeneration of plants. The technology is a cost-effective method for the long-term conservation of plant genetic material and is very important for the preservation of many clonally propagated crop plants. It enables the long-term storage of large amounts of genetically diverse plant material in a relatively small space for extended periods of time. Because of this, cryopreservation has been proposed to be potential way to store plants for long-duration space travel.

#### ESTHER RITTER AND RUTH NAPPER

Number 25. Esther Ritter, *Shared*, 2016, two paintings, mixed media on canvas, 115 x 130

During foetal development, as a direct consequence of the neurotoxic effects of ethanol (alcohol) the brain rewires itself following the loss of neurons, which create a kind of space (an absence) where there was once a living cell. Problems occur with brain function, specifically spatial learning. Working against the backdrop of social disadvantages, the artist conceptualised the paintings from the vantage point of a lack of voice and visibility, a social perception of deficiency.

## JEN SMITH AND RACHEL SIZEMORE

Number 26-28. Jen Smith, *Lamellar Body*. 2016, tracing paper on board, 3x120x60.

Through the use of repeated contours, mapping and transparency, this work looks at the structure of concentric membranes, known as a lamellar body, based on 2D electron micrographs of a specialised structure from the brain cell of a rat. This structure is located within a brain cell that produces the neurochemical dopamine, which plays a role in reward-related behaviours.

## BEN WATKINS—GUEST ARTIST

Number 29. Ben Watkins, *Explorations of time and space using sound and radio*, 2016

The work utilizes an area of physical space augmented with overlapping radio frequencies coming from multiple FM radio transmitters. The viewer is armed with a portable FM radio and is able to explore the physical space and create new acoustic/sonic arrangements of sound dependent on their chosen path through the space.