Presented by the School of Creative Media

FREEZE/FRAME

City University of Hong Kong
Extreme Environments: Antarctica
FREEZE FRAME 冰凍之境

Fremantle Museum

18 April 2018 – 12 May 2018

Exhibition Opening Gala

23 May 2018

Exhibition Information

18 April 2018 – 12 May 2018

Venue: Fremantle Museum

Opening Hours:
10am – 5pm

Admission:
Free entry

Website:
www.fremantlemuseum.com.au

For further information:
https://antarctica.exposity.com
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"Freeze Frame" is the exhibition of inter-episodic projects developed by our students based on the research in Australia. The show acts as a marker for City University of Hong Kong that extends beyond the classroom and creates exciting contexts for moments of discovery. The Curatorial Experiments program uses field research as a way to engage students into exploring and advancing knowledge about our environment and then uses emerging media technologies to creatively share their discoveries with new audiences.

I had the privilege of visiting Australia in 2003 as part of the delegation tour of the Hong Kong Professionals and Social Executive Association providing me with a personal appreciation for the work here, a sense of a culture of learning. As these young researchers have gone deeper, measuring the invisible and sensing the intangible. Our undergraduate students have collected meaningful data that connect with larger international scientific knowledge. Working with leading scholars, based on a recipient research work, they developed a more complex understanding of one of the world's most fertile and endangered habitats. The role of student research helps even those who have visited the continent to see it from a fresh perspective.

In its English translation, "Freeze Frame" means to stop a move at an exact moment to study it more closely in detail. Here too, the students have paused the global changes occurring in Australia to observe and learn from the details. Using the basis of media and design, they have added their personal discovery into their findings, and at the core of every project in this exhibition is carefully considered and thoughtfully produced. Their creative interpretation of what they have learned demonstrates the power of art to inform and question.

I have met these the students on several occasions now. One of their activities is a computer program through the long-distance communications during the expedition, key events of which are captured and then placed back into the narratives so as to back home. The first journey we see at this exhibition is of people and images, but as we enter these two stations, we begin to see journeys of personal and professional growth. Few university courses can offer skills in teamwork, physical existence, clarity, speed, proficiency and responsibility. 

I have taken this incredible journey with these students by connecting with them through both technology and methodology. The exhibition consists of a year-long commitment that involved extensive research to the students ability to see and feel like experience as possible for our students. I commend many of the people who took on additional responsibilities because they believed in helping students learn more about the world and making us all better global citizens. Please enjoy the results of one of the most groundbreaking programs in education.

Mr. Herman Ho Shun-ming
Chairman of the Council
May 2014
The expedition is the Antarctic last winter embodies the essence of the fresh strategic direction that City University of Hong Kong (CityU) has pursued in recent years.

Since taking over as President, I have worked hard to encourage faculty and students to seize rich opportunities for realizing a spirit of discovery and innovation. Our pioneering Discovery-Enriched Curriculum is specifically designed to ensure that every student at CityU experiences the process of creating new knowledge, and communicating that knowledge to society. We want our graduates to look back on their university learning experience and relish the originality of the projects they have worked on.

I have also urged the University to look beyond the confines of traditional academic disciplines and to work in interdisciplinary fields, where the arts and sciences meet, where creative minds and technology form symbiotic alliances. In my view, some of the most interesting questions in research today defy traditional discipline classifications, and demand expertise from across the spectrum of academic fields.

By exploring these new rich areas of inquiry, we witness the importance of breaking down barriers that in the past have separated teaching from research in universities. In today’s rapidly changing knowledge society, our students need to learn from excellent teachers who conduct world-class research, and from talented researchers who are highly effective teachers.

These educational drivers aligned strongly with the Antarctica expedition objectives. Armed with cutting-edge technology on a mission to collect scientific data from the unique environmental systems in the world; our faculty and students have created an array of fascinating creative media installations with strong environmental messages. The students have been guided by first-class faculty members from the School of Creative Media who have encouraged the students to devise their own projects, advising and encouraging them as they progress through their journeys of discovery.

Since the Antarctica expedition followed from the equally spirited expedition to the Wright Museum in the US in 2011, a trip that also sought to create artworks using environmental data, I am confident that CityU will devise equally exciting learning and research opportunities for our students.

President Professor
Way Kuo
 MESSAGE

As mentioned in the previous issue, our society is facing numerous challenges in the field of Antarctica. In response, the City University of Hong Kong has organized an exhibition titled "Antarctica: Our Shared Responsibility," to raise awareness and encourage public participation in the conservation of this vital region.

The exhibition, which was held in December 2013, featured a series of engaging displays and interactive activities designed to educate visitors about the unique ecology, biodiversity, and scientific research conducted in Antarctica. The exhibition aimed to foster a sense of global responsibility and inspire individuals to take action towards protecting this precious environment.

The exhibition was part of a larger initiative by the City University of Hong Kong to promote public engagement in environmental conservation. Through various educational programs and community outreach activities, the university seeks to create a culture of sustainability and encourage a broader understanding of the importance of preserving our natural resources.

In conclusion, the City University of Hong Kong's "Antarctica: Our Shared Responsibility" exhibition serves as a powerful reminder of our collective responsibility to protect this beautiful and fragile region. By increasing public awareness and fostering a sense of global responsibility, we can work together to ensure the continued health and well-being of Antarctica and its countless species for future generations.

Arthur B. Ellis
Institute of Antarctic Studies, University of Hong Kong
June 9, 2014
Description
The Extreme Environment programme explores how student artists, researchers and scientists working together can collect and interpret environmental data using new forms of creativity and visualization. This multidisciplinary strategy in media art becomes a tool for scientific interpretation.
From 13 December 2013 until 3 January 2014, interdisciplinary teams of City University students from such fields as art, business, engineering, natural sciences, and social sciences conducted meaningful research in remote locations across Terra del Fuego and the Antarctic continent. Using the tools and artistic resources of the School of Creative Media, they have developed new media art and design projects that utilize new presentation technologies to offer innovative approaches to understanding climate change and sustainable solutions.
The Extreme Environment programme promotes interdisciplinary research and discovery as an integral part of learning. The project's remote locations are among the most fragile and endangered. They offer unique insights into a sustainable future. This project brings together teams from across the academic spectrum to help further understand issues that threaten nature and our cities.

Background
The Extreme Environment programme links to City University's groundbreaking Discovery Research Curriculum and currently is offered every two years. The University promotes additional types of learning outside the standard lecture model and is developing courses that give students the tools and opportunities to learn by doing their own research and making their own discoveries.
The first expedition involved Clyd art and design students working with UCL ocean scientists in the Mojave Desert in California. Our students collected environmental data and returned to Hong Kong to create an exhibition of artworks that presented their data in a creative way. The project was well-received and helped many of the students obtaining excellent jobs, being admitted into top programs, and having their projects accepted into international exhibitions.
Based on this success, Clyd has broadened the initiative to be a university-wide and solicited data in one of the most remarkable science sites on the planet. Artists and scientists from our students, and selected students from other universities were interviewed. The 13 project represents what we believe are the most innovative interdisciplinary ideas proposed by our students.
The environmental ‘footprint’ of this programme is designed to be zero: we have partnered with scientific organizations that are dedicated to the protection of this endangered resource and ensure that no project is invasive or damaging to the environment.

The Exhibition
The exhibition presents 13 new media artworks from diverse technologies such as interactive games, light installations, interactive cinema, immersive environments and kinetic sculptures. In addition to the 23 students on the expedition, Hong Kong-based teams also created projects and invited students from arts and engineering schools to assist in the creative and technical aspects. Through a range of software, hardware and presentation technologies, the resulting artworks present data not only visually, but interpreted through the lens of art.
START FROM
Hong Kong (UTC+8:00) 22°12’S
Buenos Aires (UTC-3:00) 55°49’1”W

Distance Travelled
Hong Kong → Ushuaia
21997 KM

Total Travel Time
Hong Kong → Ushuaia (including layover)
45 HRS-44 MINS

Argentina is exactly on the other side of the world from Hong Kong.
DRAKE PASSAGE

Located between
Cape Horn, Chile (Southernmost tip of South America) and the South Shetland Islands, Antarctica

Meeting Point Between
Atlantic & Pacific Oceans

Average depth
2064 M

Maximum depth
5019M

Considered the world’s roughest stretch of water.

Approximate height of waves
6.0M - 10.0M

Built in 1989 at Rauma, Finland
Owned by RF Shchelkov Institute of Oceanography, Russia
Named after the nuclear physicist Abraham Ioffe

AAKademik Ioffe:
Vessel Schematics

Main Deck Height
10M

Weight
6600TONNES
EQUIPMENT LIST

Total Weight
OVER 1 TONNE

- Plastic Bottle
- Washing Bottle
- Water Bottle
- Incubator
- Filter Paper
- Paraffin
- Quadrat
- Canon 3D Mark II
- 3D Camera
- GoPro
- Thermal Camera
- Ladybug (360 degree camera)
- Tripod
- Canon Lens
- Monopod
- GoPro Holder
- Camera Stabilizer
- Solder
- Solder Iron Stand
- Desoldering Pump
- Cut Crimper
- Chckered Paper
- Universal pH Paper
- Tissue Paper
- Forceps
- Blackboard
- Drone
- Kite
- Diagonal Cutter
- Screw Drivers
- Insulation Box
- String
- Laser Pointers
- Zoom H4n
- Beam Microphone
LAYERS OF CLOTHING

NO. OF IMAGES & VIDEOS OF TEAMS

MOST MEMORABLE PART OF THE EXPEDITION

Environment:
- Sunset and sunrise
- Seeing icebergs in reality
- Getting inspiration from nature
- Looking at things from both the macro and micro perspectives

Leisure:
- Lying in bed, waiting to fall asleep
- Trying to mimic a penguin’s sound
- Taking photos on islands
- Interacting with new people from around the world
- Scott’s stories about his life at dinner time

Expedition Activities:
- Getting motivated by Scott to work ten times harder
- The ship voyage
- Climbing the hill
- Heading back to the ship at full throttle from the Chilean base
- Helping Jess with her “Black Ice” photography
- Taking Zodiac boat cruises around icebergs and islands
- Swimming in polar waters

Wildlife:
- Watching penguins living near icebergs
- Observing penguin behavior closely
- Whale-watching
- Watching penguins steal rocks from each other
- Watching seals sleep on top of each other

One Ocean Wind Resistant Jacket
Down Jacket
Sponsored Hoodies
Sweatshirt
HeatTech
THE PENQUIN TIMES

Penguin species were filmed and studied with infrared cameras and selected videos of behavior were embedded into a mobile game application that looks like a daily newspaper.

The behaviors of penguins were studied in detail, and their movements and actions were captured using infrared cameras and embedded into a mobile application that resembles a daily newspaper.
The team observed and documented individual, familial, and group behaviors connected to the daily activities of three species of penguins—Adélie, Chinstrap, and Gentoo. The expedition coincided with the season for incubation, birth, and care of baby penguins allowing the team to focus more closely on the potential protection of penguin chicks. Multiple cameras were used to capture over 3,500 minutes and 102 videos of penguin activities including incubation, feeding, fighting, hunting, and more. Using an infrared camera in various colonies, the team also measured the temperature variance of penguin chicks and eggs and gained a detailed thermal study of penguin behaviors under the extreme environment.

The data is connected into an interactive and informative mobile application where users can learn more about the penguins’ behaviors using videos, virtual and infrared data taken in Antarctica.

 globally, many penguins are facing threats such as changing climate and pollution.

The colourful bird is a symbol of hope, resilience, and the pristine beauty of nature, but as the climate changes, their habitats are shrinking, and their survival is under threat. This application aims to raise awareness about the challenges faced by penguins and the importance of conservation efforts.
WALLED KITE: TRACING THE WIND

Wind movement data gathered through cloudly monitored microregion to contrast the environments of Antarctica and Hong Kong through a 3D animation.

風園區由雲團式監測搜集風流數據，並以其動畫影像來對比其香港及南极環境。
DATA COLLECTED

- GPS and Multiple Camera Perspective of Kiteflying Performances
- Artwork contains elements of a kite with threads and strings attached to it.
- Wind direction and speed
- "Artwork Description: Kite Flying"

ARTWORK DESCRIPTION: Kite Flying

The frastic, turbulent movement of air around a kite is like a walk of flying a kite that profoundly affects the wind environment. Our animation is based on the path and movement of a kite flying freely in Antarctica that is gradually restricted by a visualization of Hong Kong building construction. In our work, we highlighted the consciousness of 'the wind effect'. Our dense concrete jungle blocks the cooling entity of wind and drew up the city's energy use. We hope our story helps people understand the complexity of the existing relationship between the wind and our overbuilt cities, reminding them that the breezes they feed across their faces is also a valuable and endangered resource.
REFLECTS & REVEALS
反照・揭示

UV radiation intensity was measured along with samples of lichen growth, directions, and color and visualized inside four mirrors arranged above a compass.

UV-UV "りりつげいしょーにかんしてつじんしゅうげいしゅう、りりつざい、りりつさいじゅうごつのひょうユーパマールヌーにし、るいしゅうげいしゅう。

PHYSICAL DISPLAY
實物展示
ARTWORK DESCRIPTION 霜序白綾

As the outer layer increasingly intrudes into Detritus, the UV radiation penetrates the surface, influencing the growth of the already existing vegetation. The research showed that the UV intensity in Antarctica is lower than that in Hong Kong. However, the Antarctic lichen are adapting for tolerance to UV exposure through their natural antioxidant molecules. Antioxidants are one of the key ingredients in cosmetics, skincare and sunscreen products due to their ability to prevent cellular damage from free radicals. By measuring the levels of UV radiation and resistance of lichen against antioxidants in Antarctica, a better understanding of UV radiation damage and some of the earth’s own natural defenses.

The artwork uses the most essential of all beauty items—the mirror—as an interactive display system that both reflects and refracts. Using the photographs taken in Antarctica, designs and patterns are pressed between the glass and polished silver surfaces. We see both the surface due to the intricate line patterns and our reflection due to the mirror. We see both sides all at once and in the mirror and see our skin aligned with and petrified into a smaller, tighter, more surface area—small, being thinner than us. When left on the surface as a permanent part of a lichen and fused to the UV-not watered surface, the ripples of the patterns become distorted and thin, creating a new view into the reflectivity of a lichen. This new view into the chemistry of a lichen, a new view into our skin, and, as a result, new insights into the chemistry and reflectivity of a lichen to UV.
SHAPE THE STORY

3D shapes and forms that represent the Antarctic environments were collected during the expedition and used to tell a story in a kinetic sculpture that uses an early animation device.

In the sculptural installation, the forms are positioned to evoke the feeling of being at sea or on ice. The movement of the sculpture relates to the shifting climate and its impact on the environment.
ARTWORK DESCRIPTION

Throughout the journey, the team photographed key shapes and forms they encountered that revealed deeper symbolic meaning about the environment, history and culture of Antarctica. Objects were documented through 360-degree photography as well as their importance, location, and other measurements.

The team has built a story-telling device inspired by the praxinoscope, an early media device that was integral to the origins of film and animation. The device is an important feature of the 19th century praxinoscope, a form of the new medium that allows a physical shape - a mirrored diamond - to be part of the presentation.

Using this device and converting the storyboards into animations, the team have narrated a narrative that is told through the sequencing of the still photos.

In the exhibition, it is also possible to view the visual renditions, in keeping with the narrative, that are displayed on the walls. These represent the key shapes and forms that were documented and selected, from the perspective of the exhibition's viewers.

ARTIST STATEMENT

Shape is the most basic and direct recognition of the world in human beings' eyes. In this presentation, we encountered forms that were completely unfamiliar to us yet clearly defined the location without any words needed. We wanted to "shape the story" with this project to test whether sequential 3D forms could act as a narrative device.

Throughout the journey, we chose key shapes that revealed deeper symbolic meaning about the environment, history and culture of Antarctica. Using an early animation device, the forms would become cues to a story that we hope will draw attention to the need for environmental protection.
Microscopic organisms were studied in three locations – Antarctica, Tierra del Fuego and Hong Kong. DNA samples were collected and sequenced, and the organisms are musically re-arranged across an artificial sky.

In Antarctica, Tierra del Fuego, and Hong Kong, DNA samples were collected and sequenced. The organisms are musically re-arranged across an artificial sky.

INVISIBLE, UBQUITOUS

微
The team collected 20 water samples from the seas around Antarctica, Argentina and Hong Kong, recording the real time and GPS location of each sample as well as environmental parameters like water temperature, salinity and turbidity. Through an optical microscope, photos and videos of diverse phytoplankton and zooplankton were documented and then analyzed through the various sequences.

The artwork uses a 36-meter dome as an immersive environment, the images of the microscopic organisms are re-animated to reveal the tiniest group in the massive ecosystem. The organism's DNA sequences of varying succedences are also transformed into real-time text and lights. The animation and music combine to make a melody of micro-organisms.

ARTWORK DESCRIPTION

The most beautiful thing to our eyes could be the most significant thing in nature. In most ecosystems, plants lie at the back of the food web, providing maintenance for many other organisms. In the South Antarctic ecosystem where plants can barely survive, aquatic micro-organisms have taken up this vital role as producers due to their amazing flexibility. By displaying these tiniest, barely visible forms, our hands hope to literally and metaphorically elevate their status. We hope that by making these tiny creatures visible and audible to the audience, it helps us appreciate the manifoldness of nature as well as its relationship with man.

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ZOOM IN ICEBERGS

Iceberg texture, shape and geometry was documented and used in five interactive user-activated installations.

紅寶冰山

紅寶冰山的樣貌、體形與表面細緻的冰山結構圖案等五個互動作品。
ARTWORK DESCRIPTION  EASTERN EXPANSION

Our artwork expresses the fragile beauty of icebergs. We studied and documented the shape, size, structure and texture of different icebergs as they drift along the ocean and sway them through the lens of architecture. The form and surface of the icebergs often tell the story of their state of decay as each is under the process of melting and weathering by natural and human forces. By displaying the icebergs’ fragile but exquisite structural details, we hope to demonstrate how our own actions might impact a single iceberg as far away as Antarctica.

In addition to this personal connection, we also hope that our research adds to the knowledge regarding the aesthetic aspects of icebergs and imbues a unique, familiar experience for the audience.

ARTIST STATEMENT E T E A H A E X P A N S I O N

The team researched the geometry and surface texture of dozens of icebergs using 3D photo technologies and underwater camera hardware. Most architectural elements used in modern buildings are made in plastic or glass, while the geometry found in nature is non-traditional, fractal, and organic. Despite the non-idealized forms of the icebergs, they are still shaped and manipulated under certain natural laws.

The team selected five distinct features in their iceberg research, studied their geometry, mapped, and modeled them through 3D architectural software. The geometric structures found in Antarctica are interpreted through digital fabrication and then generated into a series of vertical structural elements with the sculptural and volumetric qualities found in their research. Presented as a type of sculpture, the project highlights the form and detail on the textures, materials, and their roles in the unique interaction of the audience.

The research and documentation of the icebergs have been presented in various exhibitions and installations in various unique locations. The project highlights the unique interaction of the audience with the icebergs. The presentation of the project is the first time through the lens of architecture.
THE AURORA

The Aurora

Color spectrum data was studied in the light in Antarctica and Tiem Sha Toul, Hong Kong and composed in a 3D animation created for a 360-degree theatre.

THE LIGHT
ARTWORK DESCRIPTION

DATA COLLECTED 項目概況

Living spectrometers and GPS, the team measured the color spectrum embedded in the natural light of Antarctica and the artificial light pollution traced in Hong Kong over periods as long as five hours. Various locations in Antarctica where artificial light exists were measured as well as the 157.2 kilometer trip from the island to the mainland. The most enduring effect on the team was... (rest of text cut off)

ARTIST STATEMENT 藝術家談

Not all light is created equal. Understanding the complex variations of sunlight as both a phenomenon and power source is key to global sustainability issues. However, understanding the harmful effects of artificial light pollution is equally key. By using 3D immersion to the accessible, our artwork transforms the city's light pollution into a personal, sensual, and poetic experience. This visualisation will help the public better understand solar energy as well as the damaging environmental and psychological effects of urban light pollution.

Antarctica Mitra
CIE Electronics and Communications Engineering
University of Technology, Sydney
Australia

ARTS 134
The School of Creative Media
Hong Kong University of Science and Technology
THE PRISONERS

THE ISOLATED AMONG US

Interviews with and documentation of people experiencing different types of isolation are combined in a site-specific performance piece and installation.

試著以不同方式展現不同人，紀實他們的故事，並以此展覽形式表達概念層面上的象徵。
For the exhibition, a near projection system and installation
alone visitors is to offer a space similar to the size of the
Tokyo's principal city. Projected onto the walls are 360-degree
images of the place, the last from the internets, ideas from
the Tang Klip exhibition and value-filled from inside one
of Hong Kong's "cage flats". This montage of the aesthetics
of isolation demonstrates a variety of perspectives on what
it means to live through restrictions.

小由个别家带著父母“回乡”，看新编的“母亲县”，感受和自己不同时代
的母亲，给自己带来不同心理上的冲击。

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的母亲，给自己带来不同心理上的冲击。

ARTWORK DESCRIPTION

The team considered the concept of isolation from a variety of perspectives.

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X CHANGE

Beginning with simple Hong Kong themes, the team traded and bartered with different people encountered and created a game that graphically demonstrates the trades and involves successful bartering as a sustainable practice for a better environment. An installation that allows visitors to trade for exhibition souvenirs recreates the experience.

The installation brings together the cultural and social elements that make our city unique. The project is a series of small transactions, where a visitor can choose a souvenir and trade it for another item. The process of trading helps to preserve the cultural heritage of our city, ensuring that the history and traditions are not lost.

The installation also serves as a platform for people to engage with the city’s culture and history. It encourages visitors to explore and discover the unique aspects of our city, fostering a deeper understanding and appreciation of Hong Kong’s rich cultural tapestry.
The international monetary system is six connected to our culture. To forget that once to get money in hand, you need a whole network of marketing and trading. With this network, currency circulation at government regulations, internationalcontinuity to exchange. In this tradition, sugar is traded for clothing, dat for medicine, and equipment for services. To research both the economic system and the personal interactions that built it, the team collected data by creating hand-out barter experience during the length of the expedition. Yet culturally unique items from Hong Kong (e.g., stamps, postcards, coins) were exchanged for other goods and services with the people the team encountered. Such items were traded, photographed, measured and weighed and information regarding its manufacturing location, appropriate and the famous, and the location of the trade were also retained. The team also documented the social interactions that were part of each trade revealing an economic system that includes the background, histories, cultures and nationalities of the parties trading.

The trades are recorded and translated through a game application that allows inventors to guess perceived value of the objects through bartering. The details of each item and the nationalities of the trading parties are the clues for them to guess a particular item is traded forward and the route of the barter journey. The game contains the data collected with our finding that monetary value is meaningless in a barter system and currency. Everything can be traded and the result may be out of our expectation.

An installation invites visitors to the expedition to take a specially-made souvenir can but exchange it for something in their pockets. Visitors can have a closer experience by giving up something in the trade, the cost also implies the people are traded for the same because of its special and unique design instead of the monetary value.
THE VEILS WE BREATHE

我們呼吸的窗紗

Laser were used to filter and measure air quality in Antarctica. The measured results are converted through walls of fabric and sequenced light.

利於製作過濾並測試南极洲的空氣質量，接下來透過壁面的織物將光線序列化結果。
ARTWORK DESCRIPTION

An area multiple times in both Antarctica and Hong Kong, the
four teams used a laser to measure air quality—placing them at
different distances and collecting the readings from a light
detector. Light intensity is a good scientific quantity for
indirect reflection of air quality: the more pollutants in the
air, the more the laser beam scatters and fades.

The installation remotes the light detector’s readings from
both sites by using layers of translucent fabric to reveal
pollution density. An array of lights on the ceiling simulates
the passing of the sun over Hong Kong, a series of lights on
the rear mirrors the sun’s path over Antarctica. As the lights
pass through the vertically layered layers of fabric, a visual
comparison can be made between the air qualities found in
these two contrasting sites.

With the help of their creative and technical backgrounds,
year-long field work and years of research, the four
participants were able to install an art work which sought
to make the invisible visible and create new possibilities for
communication and reflection.

Located in the City Hall, the installation is a platform of
art and science. With the help of the four participants,
the exhibition takes art as a vehicle of bringing together
material, conceptual and experiential elements. Art and
science do not need to be seen as separate disciplines; they
can be merged, used, and brought together for a new
understanding of the environment.
AN ECHO OF FRAGILITY
脆弱之迴響

Observing the observers: this team collected extensive data on the expedition team and their new environment, translating it into infographics and a sculptural installation.

觀察者即為被觀察者：小組採集了探險隊及其周邊環境的大量數據，轉化為信息圖表及雕塑裝置。
 DATA COLLECTED / 資料收集

/ 13 sensor "black boxes" worn by teams that automatically collected 24 hour GPS and Altitude
/ 13 支出隊員配備的「黑盒」13 日自動收集全球定位系統及高度
/ Plan 標準...

/ Oceanography / 水洋學
/ Water Temperature, pH Value, Dissolved Oxygen Content, Salinity, Turbidity
/ 水溫度、pH值、溶解氧含量、鹽度、濁度
/ Weather 資料
/ Weather Temperature, Humidity, Pressure, Light Intensity, Sunny Index
/ 氣候溫度、濕度、氣壓、光強度、晴天指數
/ Wind Direction and Speed, Sunshine and Sunset Times, Dewpoint
/ 風向、風速、日出及日落時間、露點

/Journey 漫遊
/ Latitude, Longitude, Altitude, Depth, Ship Speed and Heading, Total Miles Traveled
/ 經緯度、海拔、深度、船速、航向，總里程
/ Cruises, Car rental, Heading and Distance to Hong Kong, Voyage Charts
/ 樂遊、租車、航線及去香港的距離，航線圖

/Vessel 機器
/ Ship Schematics, Orgs, Tank Capacities, Research Activities Onboard
/ 船隻圖表、組織、油罐體積、船上研究活動

/Equipment 設備
/ Photos and Observations of Equipment for Life-saving, Communications, Fire, Pollution Prevention, Machinery, Laboratories, Weapons, Cranes
/ 救生、通訊、防火、污染預防、機械、實驗室、武器、吊車

/Life-time 綜合
/ Wildlife Sightings, Daily Activities, Food and Water Intake, Money Spending, Logs of Clothing Worn, Photo Color Information, Email Keyword Frequency, Team Details, Member Statistics
/ 野生動物觀察、每日活動、食餉及飲用水、化費、著穿衣物記錄、照片顏色信息、電子郵件關鍵詞頻率、團隊詳情、成員統計

/Artwork Description / 美術作品描述

Using an array of sensors, field research, interviews, questionnaires, experiments and data mining techniques, the team collected over 50 unique datasets during the course of the expedition. Comprehensive information was retrieved consisting of environmental data such as weather, ocean depth and water sample statistics, expedition data such as voyage charts, wildlife sightings and GPS information, and personal and cultural data such as diet, correspondence and physiology. Much of the data was collected by conducting experiments on-site while the rest was obtained through visits to remote science and military bases stationed in Antarctica and from the laboratory aboard the Academica Griffi.

The team created the interactive infographics sections within the exhibit cabin and programmes websites as a way to educate and entertain the public. In addition, they used map data, GPS coordinates and altitude to create an abstract installation representing the Antarctic landscape.

A small team of lithographers were engaged in registering, preparing and printing the artwork for the exhibition. In the exhibition, the GPS and altitude data could be explored through a new "tunnel"—the students accidentally arranged the "axes". The old cab was used to develop our installation using techniques in computational geometry, programming and procedural modelling. Our installation allows the audience to explore an abstract representation of the Antarctic landscape. Through these interactions, one may draw connections to complex relationships between human beings and this pristine and fragile environment.

We spent the majority of the "move" period developing the exhibition in-cabin. In the exhibition, we collected a variety of datasets such as weather and altitude data, which we displayed with the help of new technology such as 3D printers. In order to make our exhibition portable, we designed a "move" process that optimized the placement of large artefacts. The artist designed large artefacts that included a large poster and a large screen, which were transported to the exhibition location by trucks.
BETWEEN TWO VERGES

Iconic photos from Antarctica and Hong Kong are animated and projection mapped onto a kinetic sculpture that hosts a live magic performance.

Compiled by 香港视觉艺术协会

85
DATA COLLECTED

/ Student Photographs and Videos from the expedition
/ 學生在數位影視下的實地攝影

ARTWORK DESCRIPTION

The Hong Kong-based team used the dossier of expedition photographs and Aaron's Hong Kong photographs mixed with projection mapping and computational art to create an immersive and engaging stage for the play. The performance was designed to educate and inform the audience in an innovative, entertaining way.

The site was the former site of the Museum of Science and Industry. The museum was designed as a memorial for the victims of the earthquake and tsunami in Japan. The museum was destroyed and rebuilt after the disaster.

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As a team working in the Hong Kong side of the expedition, we had our perspectives of Hong Kong changed through the experience. We were both thrilled and disappointed to see the changes in Hong Kong.

The hybrid technology enhances the performance, allowing the artists to create a more immersive and interactive experience for the audience. The performance was a success, and we look forward to future collaborations with the team.

ARTIST STATEMENT

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P.S. I'M COLD

P.S. 我有點冷

Inside the Creative Media Centre you can almost inhale the whispers of ideas originally streamed from as far away as Anthropics by ascending or descending the stairs and seeing the emitters and receivers in frame from the exposition.

在創意媒體中心內，只要走上幾層樓，就可以聽到由遠臨近的電波中的觀念與訊息，彷彿我也融入世界各地的一網情懷之中。
ARTWORK DESCRIPTION

With two members staying in Hong Kong while the rest explored the South Pole, the project merges two datasets collected in Hong Kong and Antarctica during the expedition. GPS and altimeter data, the result is a single perspective on both physical and psychological presence. All three members were sensors collecting GPS data to compare physical distance on opposite sides of the planet. Moreover, while crossing the Drake Passage and trekking through Antarctica, the expedition team had no mobile communication—new group that only email could be sent daily via satellite which condensed the entire expedition team's emotions and expressions. When analyzing using various metaphors and methodologies, the two datasets constituted an exceptional perspective for studying physical distance and emotions.

The artwork spans nine stories in the Creative Media Centre with 6,000 LEDs hanging from the ceiling in a concave shape. With the 1st and 3th floors mapped to GPS coordinates on a virtual globe alongside the building, analysis of the GPS data and Polar team's emotional and psychological expressions on their journey. The virtual globe and emotional analysis will be displayed on the LED lights. The emotional analysis is based on the words the team wrote back to home. The LED lights represent the emotional distance and the emotional expression.

ARTIST STATEMENT

We are a group of three close friends and when some of us was selected for this expedition we began to consider the unique effects of physical and psychological presence. As for the trip to the South Pole, we are a large group of friends. A group of people, like a small group of friends, can communicate through mobile phones, but the Drake Passage and Antarctica is a place with no phone service. We used to send daily emails to our friends back home. The emails are a source of the emotion and expression of the expedition team. The creator used two data sets—GPS and Polar team's emotional and psychological expressions on their journey. When analyzing using various metaphors and methodologies, the two datasets constituted an exceptional perspective for studying physical distance and emotions.

We hope this installation to be both micro and macro—a close look at the feelings sent from friends on the other side of the world and the larger impact of changing global communications.

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PHOTO EXHIBITION & DISPLAYS

The Black Ice 2014
by Lau Ching Wai, Jeez School of Creative Media

On-site photography using lasers and pure ice in Antarctica

Artist Statement

The idea of ‘black ice’ is derived from the artist's vision of Antarctica's dark ice that has been compressed over time. The light interacts with the ice, creating a visual spectacle that is both dramatic and ethereal. The artist hopes to evoke a sense of wonder and contemplation using this unique phenomenon.

Antarctica's ‘black ice’ is 50,000-year-old pure water that has been so compressed over time that all air and impurities have been removed, leaving it so that looks like large shards of glass. Its clarity reminds us of an ancient, untouched nature and serves to explore the effects of light on this complex, mysterious moment from the past.

THE DISPLAYS (展示)

360 穹頂：八面
Gallery 360: 8th Floor

展示由楊凱澤與溫州顧名思義藝術工作室合作

二維信息投影地圖

製作：張澤善及李志行

Produced by Zhang Zexian and Li Xihai

Opening Ceremony Projection Mapping Performance
Animation and Programming by Gabor Pfitzner
Presenting 360-degree videos from Antarctica

Computer Graphics and Post-production by Ed Zee Wal and Ray Jyan

Produced by Ed Zee Wal and Ray Jyan
In Appreciation

by Executive Producer Scott McHale

The Antarctica expedition and exhibition was one of the most ambitious educational experiences ever attempted by our students, and its success is due to a remarkable team of educators, artists, scientists and friends who all believed in an unanswerable idea.

I owe much to the shared vision of our Provost, Professor Arthur Ellis of our Dean Professor Jeffrey Shaw and Chair Professor and Associate Provost Christian Wagner. In the fall, the Provost’s Office was the catalyst for bringing all the elements together smoothly and Ms. Emily Tom Kel in the SCM General Office and Ms. Philip Loewy were brilliant liaisons.

The programs spawned the entire university under the leadership and support of Chairman of the Council; Mr. Hermann Haas-Ming and President Professor Wony Kern. I would like to thank Mr. Shlomim Tso Shu Rie, Ms. Katy Loo Ming Tik, Ms. Catarina Poon Shan and their colleagues in the Finance Office, Mr. Andy Law and her colleagues in the Development Office, and Professor Matthew Lee, Ms. Linda Lo and the Finance team in the Communication and Public Relations Office. The Office of Education Development and the Gateway Education has now reached so much both with the donor and the bottom of the world thanks to the support of Professor Shon Ho Chong, Mr. Rodney Jones and Ms. Carmen Peng.

Many professors stepped forward and worked directly with the programs or students. Mr. Stephen Tung, Dr. Marko Siverson, Dr. Ray Cheung, Dr. Per Johan Dahl, and Dr. Peter Morse are included in sending the first proposal.

Mr. Frederic Camara and Dr. David Jason Johnstone helped with the interviews and Dr. Jane Prophit, Mr. Tobias

Grennan, Dr. Shawn Walsh, Ms. Tanja Wulofske, and Mr. Albert Fu, all worked directly with our students. Preparation is key to our success and I thank everyone for their help.

Dr. Robert Lattes’ many critiques of the student proposals put the students on the right path. Our research assistant for the expedition, Mr. Alexander Wong Ken Pin was instrumental in the planning and success of the journey. Mr. Tony Wong Sze Wah joined the trip for the exhibition as a project manager and his extensive knowledge of design and fabrication benefited every student project as did Mr. Wai Yan’s assistance with the specialized SCM technologies. I am always encouraged when I meet professionals who can so effectively convey their knowledge to students.

Presented by the School of Creative Media as is simple sentences but means that my entire school was affected. We moved over a ton of equipment to Antarctica and back again. I want to thank Larry Yuyuen and the SCM Production Equipment Centre at Mr. Joshua Chen Chan Chong, Mr. Anthony Cheung Chi Wai, Ms. Jinn Wong Kiu Pak and the SCM IT Support team who could not have possible. SCM, events team, Ms. Ada Luing Ming Woe Miss, Vener Poon Sze Pui and Miss Tung Ng Xue Chau assured that the exhibition would be of the highest standards and both Miss Ada Chung Man Ting and Ms. Estella Tong Mei Hoi helped to make sure our work was done correctly. Mr. Harold Krugman taught us about professional exhibition design and design Mr. Charlotte Britt helped with this catalogue, manage a team and assist in the marijuana.

On the expedition, Mr. Gary Shirley proved much more than a skillful researcher and added a sense of insight and skills to the expedition. Captain Levett Waterhouse (Savannah Emerson Barenson Cambridge) and the crew and scientists aboard the icebreaker Offtides allowed us to safely to some of the most isolated sites on the planet and gave us access to scientific equipment and data that verified our understandings. The One Degree organization quickly opened to our vision and made nearly every student project possible—their assistance with logistics, equipment, support and research was astounding. Led by Mr. Clod Gustaf and Mr. Nick Meyer, the whole project was phenomenal. Thank you Mica Elmore, John Robleda, Stillie Strohm, Sarah Oster, Rose Fawcett, Bob Rall, Qylis Berretta, Mark Dyerberg, Michal Grazia, Dana Gies, Steve Prosser, Andy Politzer, Andy Borwell, Cheryl Randall and Mr. Jesu Loewy.

We watched our team of 23 enthusiastic students embark on the bus on our return with the promise of an arctic journey way from our chaotic and messy depot. Over 20 days and two thousand miles, we learned to work as an interesting team of friends and I thank these fine young adults for their humor, focus and support. Together we have achieved something miraculous and as they graduate, I hope they will be better prepared to face a brave and creative profession.

And finally, I thank my supportive family and in particular my 55-year-old mother who has too many times watched our son disappear into the wilderness and waited with patience and love.

Associate Professor Scott McHale

Executive Producer: Extreme Environment Programme

Hong Kong

May 2014
Scot Henderson 出身于 núvol 创始人和主席。他从 2004 年 5 月


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ACKNOWLEDGEMENTS

THE PENSORS

We would like to thank Dr. Ray Cheung from the Department of Electronic Engineering and all ouragalumni who provided financial support to the Penguns Project. We also like to thank Ms. Cheung Wei Yao from the School of Creative Media who brought brilliant graphical design vision to the project.

THE MIND

The team would like to thank Kaspersky Lab and Airlines Hong Kong Ltd. for their support as well as Mr. Scott Neeson for organizing the event and providing support to the group along with Dr. Mike Davis, Sintron, 濠威資訊科技會有限公司 and Mr. Humbert Leung for their efforts in promoting the project.

THE SKILLS

During the exposition and the proceeding of the project, our team has gained much experience and have been involved in various projects. We also have much fun while completing the task. It has been a great opportunity for us to work together and to complete the project. We are thankful for the support from all our partners.

THE CHAOS

During the exposition and the proceeding of the project, our team has gained much experience and have been involved in various projects. We also have much fun while completing the task. It has been a great opportunity for us to work together and to complete the project. We are thankful for the support from all our partners.

THE MICROBIONICS

The team would like to thank our academic advisors, Dr. David J. Monroe from the School of Creative Media, Dr. Lucy Lam from the Department of Biology and Chemistry and Dr. Paul K. L. Low from the School of Environment and Energy.

THE ACCOUNTability

Thank you for your support and being there to bounce ideas off of. Thank you for being there to provide feedback. Thank you for being there to provide support. Thank you for being there to provide encouragement. Thank you for being there to provide inspiration.
Thank you, my brother, for being so patient, but I hope you like this. Thank you, my friends, for being helpful, supportive, and excited for this new opportunity.

And thank you to Mr. Tian, Deshun, without whose tireless work, I am sure the road of going to Atlantis would never have been planted in my head.

The drive through the tunnel to the main exhibition hall is fascinating. It feels like you are stepping into another world. The inner hall is where the exhibition of the project is taking place. There are three main sections: Tsinghua University Architecture School, Beijing Normal University Architecture School, and the China University of Geosciences (Wuhan) Architecture School. The Tsinghua University Architecture School has a significant presence at the exhibition. The Beijing Normal University Architecture School has a more subtle presence, but it is still noticeable.

THE PROJECT

Behind the team are many people who have supported and assisted us. We would like to first offer our gratitude to Chibi and Mr. Scott; for giving us the opportunity to participate in this once in a lifetime program. Meanwhile, we would like to thank our assistants in the project, project advisors, and interviewers during the trip, without them we would not be able to become who we are now. We are also grateful to our team members and our families for their encouragement and support.

In this showcase, we hope to share our experiences with others. We believe that knowledge is a tool for growth and development. We also hope that our work will inspire others to pursue their dreams and ambitions. Through our projects, we aim to showcase the power of architecture and the importance of collaboration.

THE EXCHANGE

First of all, we would like to thank Scott and Clijay for providing us with this unique opportunity for us to explore the world. Also, we appreciate Kay, Waldo, Alexander, and Tony for guiding us with a lot of advice and new ideas. Thank you Oki and Roland for the interface design and programming of the game application. Of course, thanks to our friends, family, friends who have supported us as well as encouraging us to join such a life-enriching experience.

THE MUSEUM

Firstly, we would like to offer our special thanks to all our backers who provided us with the opportunity to create this project. Truly, without your support, none of this would have been possible. We would also like to express our gratitude towards our supervisor, Mr. Scott Nesbitt, for his constant guidance, his constructive advice and vision, and having helped to steer our project to fruition. Our grateful thanks are also extended to Mr. Tony Wong, for his contribution in helping us plan and set up our installation.

When coming to the exhibition area, we are deeply moved by the diversity of projects. The Chinese School of Architecture has a significant presence at the exhibition. The Tsinghua University Architecture School has a remarkable presence, with several projects that stand out. The Beijing Normal University Architecture School has a subtle presence, but it is still noticeable. The China University of Geosciences (Wuhan) Architecture School also has a significant presence, with several projects that stand out.

THE DISTANCE

We would like to thank the expatriate who sent out the back email. During the exhibition, it has provided us with a unique perspective in viewing "distance." However, we would like to thank Scott for his suggestions on the development of the project and keep on working with the technology.

As we conclude this showcase, we hope to inspire others to pursue their dreams and ambitions. We believe that knowledge is a tool for growth and development. Through our projects, we aim to showcase the power of architecture and the importance of collaboration.

Last but not least, we would like to share our designers for their support on our work and friends who show the same enthusiasm for technology as we do.

And now, let us enjoy the exhibition! It is a grand exhibit of architectural projects. The AIA, the American Institute of Architects, and the Architectural Institute of America have contributed significantly to the exhibition. The Tsinghua University Architecture School have a significant presence at the exhibition. The Beijing Normal University Architecture School also have a remarkable presence, with several projects that stand out. The China University of Geosciences (Wuhan) Architecture School also have a significant presence, with several projects that stand out.
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Art practice in the 21st century is no longer a purely self-focused enterprise. The exigencies of the contemporary social and environmental context create new agencies that call upon the artist’s inventiveness and insights to contribute to a better understanding, and to possibly even make a difference. Therefore, it is the responsibility of all schools today to cultivate in students in their training the desire and capability to address these contexts. This implies the ability to work in trans-disciplinary groups, and to devise the communicative tools that enable artists to engage and interpret the language of their practice with others in other fields. Only in this way can they be equipped to creatively address the full complexity of our current condition.

(Olaj and the School of Creative Media have made this one of its priority areas of education. Initiated and led by Scott Hinekam, we have developed the Exteme Environment program as a breakthrough method to introduce students to the environment and challenges of interdisciplinary undertakings. This program provides students with the opportunity to have profound real-world engagements with increasing critical environmental issues. The Arctic expedition has been paradigmatic in this respect, bringing artists and scientists together in an endangered environment where the fullest exercise of our human understanding, sensitivity and creativity is called for to avert an impending crisis. An art practice that elucidates and addresses these challenges is an art that contributes to the world and all humanity. This is the lofty ambition of our students’ edition Freeze frame, and we are proud of their work.

Profession: Jeffrey Shaw
Dean, The School of Creative Media
May 2014

21世紀的藝術創作已不再是個人的事，而是結合更多跨學科的元素。當社會與環境面臨挑戰，必須要求當代藝術家發展新的語彙和工具，以理解並參與其中。

因此，我們學校強調這種跨領域的合作，以動態的環境為例，這一計劃讓學生有機會深入了解當代環境的挑戰，透過藝術與科學的結合，將藝術的洞察力與科學的解決方案結合在一起，來理解這些環境問題。

(arctic接納)
Nothing was taken from or left in Antarctica. Every effort was made for a zero footprint. Every project used recycled or sustainable materials when possible and all materials were recycled at the end of the exhibition. When you finish with this catalogue, please use it to barter for something that you love.

我們在南極不留下一物，亦不帶走一物。我們已盡最大努力，達至零足跡。
所有展品都盡可能用循環或可持續物料製作，所有物料在展覽完成後會循環再用。
希望你開學手冊，會以此書交換你心愛的物品。