



University of Brighton

Host



Organizer

art center nabi



Sponsor



Partner



ISBN 979-11-87275-05-3 | ₩25,000



ISEA2019 CATALOG

L U X
A E
T E R
N A

ISEA2019
Gwangju, Korea
Lux Aeterna



ISEA2019

Gwangju, Korea

Lux Aeterna

June 22 - June 28, 2019

INDEX

4	INTRODUCTION	Soh Yeong Roh (Director, Art Center Nabi)	57	Kurokawa Ryoichi unfold.alt
6		Namhee Park	59	Lancel Karen, Maat Hermen
		(Team Leader, ACT Festival Team, Asia Culture Institute)		Shared Senses: Intimacy Data Symphony
12	EXHIBITION	Akamatsu Nelo Chozumaki	61	Laurenzo Tomas Memoirs of the Blind
14		Brueckner Sophia Code That Sings Itself	63	Lee Inmi, McDonald Kyle Mother
16		Côté Jean-Philippe Yöti, The Algortihmic Portrait Artist	65	Lee Marc
18		Cummins Rebecca, DeMarinis Paul Moon Pointer		10.000 Moving Cities - Same but Different
20		Deng Honghao, Li Jiabao, Sayegh Allen	67	AR (Augmented Reality)
		Twinkle: A Flying Lighting Companion for Urban Safety	68	Lee Nancy, Bhumber Kiran Telepresence
22		Deustchbauer Arno, Scherabon Herwig,	70	Lee Hye Rim Black Rose
		Fliszar Lukas, Ari Michael Afterlife	72	Lee Han LamX
24		Dörfelt Matthias Face Trade		Li Jiabao, Deng Honghao, Michalatos Panagiotis
25		Flint Jon, Jankauskas Vytautas Somestic Media		TransVision: Exploring the State of the Visual Field in the
28		Grant Jane, Auborn Jay, Manton Coral Between Us	75	Age of Extreme Augmentation
30		Griem Oliver divine mercy	77	López Solimán Limbology
32		Gromova Vladlena, Paramonov Artem Cryptographer	79	LOVOT LAB BUDDA I + STAND I + The monument of robot ethics
34		Gumiela Josh, Ryan Dave dreamBot	81	Lyle Kimberly After Words
36		Han Yoon Chung Eyes	83	Peiró María Molina One Year Life Strata
38		Ip Yuk-Yiu BOOK OF A HUNDRED GHOSTS	85	Monte Patrick, Questa Brian Anomy, for U.S. News
39		Cached Collective(Jankauskas Vytautas, Flint Jon,	87	Mosher Matthew Secrets of the Dark
		Souza de Felipe, Martinez Aline, Mateus Joana,	89	Nam Hye Yeon Invisible Stream
		Bouttier Clément, Dzelzkanlns Ryan) Cached	91	Niemeyer Timo Value Manifesto
41		Jasielski Przemyslaw Oracle	93	Nohlab Studio Arium
43		Kang Eunsu, Craig Donald, Poczoz Barnabas,		Oh Jooyoung, Lee Byungjoo
		Li Chun-Liang, Ge Songwei, Dill Austin, Zaheer Manzil	95	Artificial Viewer for Appreciation of Interactive Art Surrogates
		Aural Fauna: Illuminato	97	Oury Jeremy, Briot Antoine IMMERSIVE
45		Kim Hyun Ju (ex-media) Robot Symbiosis - ANT 2019	99	Quévillon François Manceuvres
47		Klein Tobias Glass Mutations III		Ribeaux Tiare, Jody Stillwater
49		Knox Elena, Watanabe Katsumi Omikuji	102	Cyanovisions:The Transmutation of Light Harvesting Bodies
52		Kranidiotis Yiannis Cyma {Fos}	104	Robles-Angel Claudia MINDSCAPE
54		Kuchera-Morin JoAnn, Rincon Gustavo, Kim Kon Hyong,	106	Rondeau Louis-Philippe LIMINAL
		Cabrera Andrés	108	Schindel Jens, Dufner Timo XSICHT
		ETHERIAL - Quantum Form from the Virtual to the Material		Seo Jinsil Hwaryoung, Bruner Michael, Payne Austin,
				Ayres Nathan Upwell: Performative Immersion

INDEX

110	Shogaolo Tamara (Ado Ato Pictures) Another Dream		
112	Toots Timo Memopol-3	164	Celebrating Performance:
114	Unemi Tatsuo, Bisig Daniel		Tacit Group Analytical, Hun-Min-Jung-Ak, Morse ðung ðung
	Rapid biography in a society of evolutionary lovers – facial icon version	167	Invited Performances:
117	Uozumi Goh New Order / Siren Call?		Nohlab & Nos Visuals with Udi Bonen Deep Space Music
119	Vorn Bill Copacabana Machine Sex	169	Purform Enigma
121	Wong John RuShi	171	Myriam Bleau Eternity Be Kind
123	XRT I AM/WERE HERE/THERE #1 & #2		
125	Yoe Winnie, Gao Chenshan Smile, Please	173	Local Engaged Workshop Performance:
127	Young David Learning Nature		Marcus Neustetter Searching Darkness
129	Zics Brigitta Pachinko Machine		
131	Benayoun Maurice, Klein Tobias, Mendoza Nicolás	178 SCREENING	Araújo Sandra U\$AAR
	Value of Values	179	Baek Jungki, Kim Hyung-Gi
134	McCarthy Lauren Smarter Home		Walking alone on a Clear Night
136	Moura João Martinho How Computers Imagine Humans	182	Clothier Ian
138	Roomtone In the Gray		Light seen and unseen, Moonlight and Higgs boson inverted
140	Darkson Brad Old light (reflection)	184	Damiani Luca M. Blocked : Sound Sensitivity
142	Groom Amala The Visibility of Blackness	186	Duranagac Eylul ,Alici Ferdi Poetic AI
144	Zada Raymond At Face Value	188	Harvey Justin Saturn Return
		190	Nelson Peter Data Stones
148 PERFORMANCE	Ahn Sabina Hyoju Breath	192	Qu Qianwen Confidential Records: Dual Metropolitans
150	Cortes Malitzin, Abreu Ivan CODING IN ATYPICAL PLACES	194	Steinke Krista Sun Notations
152	Langevin-Tétrault Alexis Interférences (String Network)		
154	Pelusio Michela SpaceTime Helix		
156	Vlad Monica Lost, but not lost forever		
158	Opening Performance:		
	Lee Lee Nam, Robolink & Pablo Air, GongMyoung,		
	Art Center Nabi		
	Drunken Drone		
162	Closing Performance:		
	Jayoung Chung Fiat Lux		

INTRODUCTION

Lux Aeterna: Celebrating the Light in Everyone

Welcome to ISEA2019!

It is with much gratitude that I greet all who are contributing to the making of ISEA2019 in Gwangju. Thank you, Asia Culture Center, KAIST, and the City of Gwangju for co-organizing and supporting Lux Aeterna. And thank you, many participating artists and scholars who have so generously given your time and energy to make this beautiful celebration of creativity and community. I also thank the many partner organizations, such as Gwangju Cultural Foundation and Korea Foundation for the Advancement of Science and Creativity, whose participation and support have been invaluable.

It is meaningful that ISEA, having started as a volunteer organization of media artists some 30 years ago, is commemorating its 25th anniversary this year. Inheriting such a great tradition of expanding "the avant-garde", we have had overwhelming responses from media artists around the world. Our program showcases 120 cutting edge artworks, including performances and workshops. The symposium addresses cogent issues of our time such as living with artificial intelligence, virtual/augmented realities, biotechnology, new urbanism and social fragmentation. We expect a feast of ingenuity, inspiration, and inclusiveness in addressing today's human conditions while probing the future possibilities of mankind.

Light is a source of life. Human civilizations have been based on the interpretation and utilization of it. There are many colors and shades of light, which make the world interesting and abundant. We express the light illuminated onto our unique experiences of time and space. Some are called art. Others are called intelligence, wisdom or goodwill. In artworks, papers, performances, or in plain human interactions, it may be up to the beholder to see this "Eternal Light" that resides in each and every one of us. Let us salute this light.

Soh Yeong Roh
General Director
ISEA2019

Preface

At the 25th International Symposium on Electronic Art (below ISEA2019), you can see various works that employ artistic interpretations of technology that explore and experiment on the future with light. 'Lux Aeterna: Eternal Light' is the theme of ISEA2019. The theme was inspired by the name of the exhibition site at Gwangju, the 'city of light'. Light is life, material, and spirit in itself as it is the very thing that allows the world to exist. In all fields of culture, art, science, philosophy, politics and society, 'light' is the Absolute (Plōtinos, 一者, the One) and the highest value. It is the name of a transcendental being that penetrates the human history, not merely an exclusive concept that is defined within a specific period, area, or culture. Many parts of the world are related to light, including the following: turning on lights in everyday life, the significance of the enlightenment as a metaphor for the awakening of human reason, ethical teachings that overcome injustice and corruption, the invention of the chiaroscuro in art and the invention of the camera, Albert Einstein's quantum theory of light and Werner Karl Heisenberg's uncertainty principle, the binary system that uses 0s and 1s and their digital properties, and the yin(陰) and yang(陽) of Eastern philosophy.

Based on this deep and broad discussion of light, the special event of ISEA will explore its 2019 theme in the city of Gwangju, South Korea. The spirit of ISEA, which began 30 years ago, has grown, illuminating a path in the arts and science, towards the new. This event, which does not have a fixed location but will travel in many cities around the world, can also be called a 'Glocal Symposium on Electronic Art' as it combines its topic of art and science along with the venue's characteristics. As the ancient capital, starting from 1018, Gwangju has been the center of the economy in the southwestern part of South Korea and has also been known as the city of the arts, the city of education, the city of food (famous for its kimchi), and has recently been designated as a Media Arts Creative City by UNESCO. Above all, as a starting point for the 5.18 Democratization Movement in 1980, it is a historical city that carries the spirit of "democracy, human rights and peace," which was pursued by 1980 Gwangju massacre victims. The Asia Culture Center (ACC), the main venue where the art of ISEA will be presented, is a multicultural art center that opened in 2015 (in the area of the previous Gwangju provincial government and the sacred site of the 5.18 Democratization Movement). The site, a base for the spirit of Gwangju's "democracy, human rights and peace," memorializes the past and cultivates a

life today toward the future. The "Forest of Light" – the theme of ACC designed by architect Kyu Sung Woo – is regarded as a center of the creative city for healing and coexistence through culture and art. In this "Forest of Life", the "eternal light" from ISEA2019's participants will be projected.

ISEA2019, under the theme "Eternal Light," consists of a juried exhibition, a special exhibition, local engaged programs, and educational programs for children. The exhibition venues include 5 Multi-functional Exhibition Halls (MFEH) at the ACC, the media wall at the Asia Culture Center Plaza, and finally the multifunctional hall at ACC Children for the Kids Media Art Camp ("Delicious Lab"). The opening performance will be held at ACC Theater 1 and the closing ceremony will take place at the Gwangju Cultural Foundation Traditional Cultural Center. Furthermore, the 1200 submissions from 59 countries for the juried exhibition demonstrate much enthusiasm, while presenting a tough process for the juries to make their decisions. The juried exhibition will be presented at MFEH 2 and 5. These interesting works are selected according to their "ability to artistically express, as well as through technical experimentation, the theme of eternal light." Some spaces of MFEH 5 will be dedicated to special exhibitions curated by Art Center Nabi, with support from the Korea Foundation for the Advancement of Science and Creativity. Meanwhile, four works from the juried exhibition – supported by ACC_R Creators in Lab – will be presented as a part of ACC's ACT (the Arts and Creative Technology) Festival 2019 to celebrate ISEA2019. As a showcase of the ACT Festival, the MFEH 1 will present the WTC (Walking Through Cinema) project and the ISEA2019 special exhibition. At MFEH 3 and 4, programs and exhibitions of ACC's ACT Festival (with the theme of "FoodHack") will be on display, which will create a harmony in media art that resonates in Gwangju alongside ISEA2019. The period of ISEA2019 will be a brilliant time to interact with many people through art. In Gwangju, the city of light, ISEA2019 imagines the eternal light of mankind toward the future world with media's meditative and alternative vision through creative experiments in art and technology in the electronic age. Now, in the moments of people, art, technology, the city and the future, the ISEA that is here and now will possess the intense memory of light.

Namhee Park

ISEA2019 Artistic Director

NELO AKAMATSU

Chozumaki

Chozumaki is a sound installation which consists of glass vessels filled with water. The circulation of water causes a vortex and sparkling bubbles produces clanging but sensitive sonority. These small sounds are amplified through the pipes and horns on the top of uniquely designed glass vessels. *Chozumaki* is an original word by the artist, which combines two Japanese words, Chozubachi (stone washbasin) and Uzumaki (vortex). Vortex is one of the fundamental elements of the universe. The galaxy, typhoons, vines and snails, they all have fractal vortex forms from the immense to the tiny. Vortex is deeply concerned with human aesthetic. As a typical example, Golden Ratio is based on the shape of Vortex. In the field of fine arts, architecture and design, Golden Ratio is widely utilized for the expressions with harmonious beauty.

Chozubachi is a stone washbasin for guests to wash their hands in for purification when participating in a tea ceremony. Chozubachi has a function of making them notice that they are going to enter the eternal universe and inner sanctum of the tea ceremony from the outer world and their ordinary life. The design of top components of vessels is associated with human organs like cochlear ducts in ears, lungs, pancreas, heart and etc. If the time has come when the artificial intelligence overcome humans in every aspects of life, the mankind may exist merely as organs of their bodies. In the narrative for Akamatsu's artwork, humans as organs will listen to the sound of vortexes and at the same time identify with the universe. The sight and sound of the water vortex will remind viewers of crossing the boundary between the physical world and the psychological world, and will extend their perception of vital organs.



Chozumaki, 2017.
Controllers, distilled water, electronic devices, glass vessels, magnets, plastic.

Nelo Akamatsu

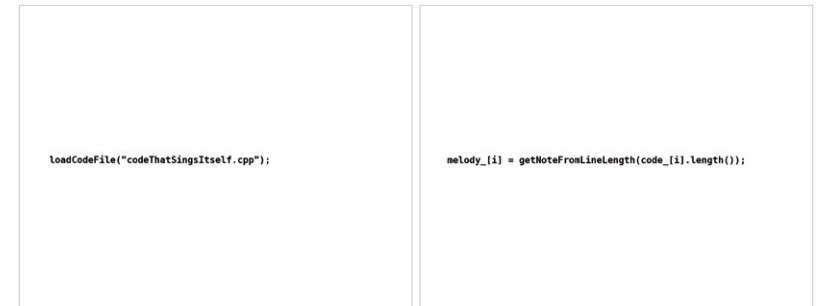
Nelo Akamatsu creates artworks across several media such as installations with electric devices, event installations, video installations, sculptures, paintings and photos. Since his sound installation titled "CHIJIKINKUTSU" won the Golden Nica prize (Grand Prix) in Digital Musics & Sound Art category of Prix Ars Electronica in 2015, his artworks have been widely introduced in the exhibitions and art festivals in Austria, Germany, Spain, France, UK, Slovenia, Ukraine, Mexico, Canada, Taiwan and etc. In Japan, he had solo exhibitions at Mizuma Art Gallery, which is one of the leading galleries in Japanese contemporary art scene.

<http://www.neloakamatsu.jp/>

SOPHIA BRUECKNER

Code That Sings Itself

This C++ program maps its own code structure to sounds that recorded using only the built-in microphone on an iMac. The artist recorded samples of herself singing, typing, pushing on the desk, tapping on the computer, and breathing. The program goes through its own code line by line using the characters, whitespace, punctuation, and line length to generate the music. Strong programming is elegant and concise, and, like a poem, it makes good use of whitespace. This piece translates how programmers describe their work, strangely poetic, into sound, but it unexpectedly does so with a female voice.



Code That Sings Itself, 2018. C++ code, sound.

Sophia Brueckner

Sophia Brueckner, born in Detroit, MI, is a futurist artist/designer/engineer. Inseparable from computers since the age of two, she believes she is a cyborg. As a software engineer at Google, she built products used by tens of millions. She received her MFA from RISD and MS from the MIT Media Lab where she investigated the simultaneously empowering and controlling aspects of technology with a focus on wearables. At the University of Michigan, she teaches Sci-Fi Prototyping, a course combining sci-fi, prototyping, and ethics. Her work has been featured internationally by Artforum, SIGGRAPH, The Atlantic, Wired, NPR, Eyeo, Smithsonian Magazine, Portugal's National Museum of Contemporary Art, and more. Brueckner is the founder and creative director of Tomorrownaut, a creative studio focusing on speculative futures and sci-fi-inspired prototypes. Her ongoing objective is to combine her background in art, design, and engineering to inspire a more positive future.

www.sophiabrueckner.com

JEAN-PHILIPPE CÔTÉ

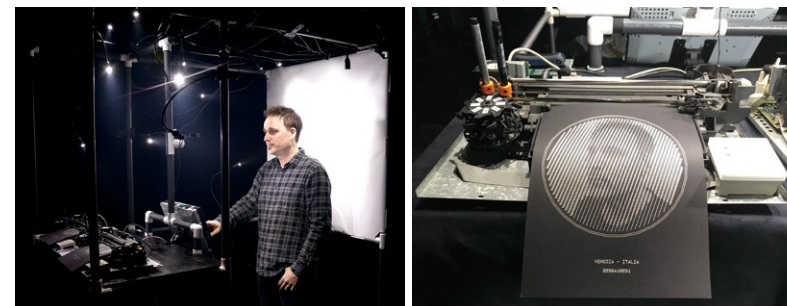
Yöti, The Algorithmic Portrait Artist

Yöti is an automated portrait artist that uses salvaged 1980s pen plotters to draw the likeness of participants using algorithmically-generated squiggly lines, on actual paper. From up close, the portraits look like an abstract collection of linear markings. However, from a distance, the lines clearly reveal *Yöti*'s interpretation of the visitor's visage.

Yöti can be thought of as a deconstructed photobooth. Just like the good old analog photobooths, *Yöti* takes a few minutes to draw a portrait. During this time, visitors can witness their face slowly being drawn on paper by the plotters.

The installation invites the visitor to reconsider its relation to anticipation and immediateness. This feels particularly relevant in these times of instant gratification through selfies, SnapChat and Instagram. By purposefully using "outdated" technologies, the installation also questions our relation to obsolescence, ephemerality and permanence.

Furthermore, it also takes interest in our rapport to the physical world. All participants leave with a physical object: a piece of paper bearing their portrait. Virtual, artificial and augmented realities are all fine but sometimes it just feels good to hold on to an actual, tangible object.



Yöti, The Algorithmic Portrait Artist, 2017.
Computer, webcam, plotters, silver pens, black paper, plastic tubing and lighting, 160x210x110(cm).

Jean-Philippe Côté

Born and based in Montreal (Canada), Jean-Philippe Côté (a.k.a. djipco) is an artist and teacher. His hybrid creations, sourced in cybernetics and prosthetics, explore this juncture where the roles of humans and machines overlap. Using open source software and 'obsolete' hardware, he puts together interactive installations that bring back a sense of tangibility to this growingly artificial world of ours. Leveraging his early years as an award-winning developer, he devises algorithmic approaches to reinventing reality and creating art. This makes him a regular contributor to the open source community especially in the field of physical computing and creative computing.

His subject of choice is the human face which he often draws using micro or macro line segments. While somewhat figurative, his work always challenges the viewer's first perceptions and usually calls for further scrutiny. Using generative and algorithmic processes, his creations are time and again the result of emergence and serendipity. Côté's work has been exhibited in galleries and festivals internationally in venues such as Venice's Arsenale, Minneapolis' Walker Art Center, Montreal's Museum of Contemporary Art, Gwangju's Asia Culture Center and Fukuoka City's Science Museum. He holds a master's degree in communication with a specialization in experimental media from Université du Québec à Montréal. He teaches interactive media at Édouard-Montpetit College.

REBECCA CUMMINS, PAUL DEMARINIS

Moon Pointer

Where is the moon right now?

Moon Pointer is a slow-time kinetic sculpture that continually points at the moon, wherever it is located, whether above or below the horizon, in daylight or night, clear skies or overcast. A computer-controlled mechanism will calculate the current position of the moon as viewed from the city of Gwangju - and point to it. The pointer will describe a continual presence to the moon's movement. Its design refers to the history of scientific instrumentation, the timing is incremental. It is formally and mechanically minimal - and calculated to perform the singular task of tracking the moon. By tracing the entire path of the moon's complex movement, the *Moon Pointer* offers viewers a heightened awareness of their spatial and temporal place in the universe and a series of insights into the most frequently considered object of vernacular celestial observation.

The *Moon Pointer* consists of a computer-controlled mechanism that computes the location of the moon by accessing locally stored ephemeris data in accord with the current local time. The time is acquired by reference to a local real time clock module and checked against network time via a Wifi connection. The computers use these positions to run a set of motors that move their respective pointers to the correct azimuth and elevation. Photographic images (from NASA) accompany the *Moon Pointer* and depict the daily phases of the moon as seen at lunar transit from Gwangju for the period of the exhibition. A related version was commissioned by the Western Washington University and the Washington State Arts Commission.



Moon Pointer, 2019. Acrylic and digital prints, electronics, metal, 61x61x190.5(cm).

Rebecca Cummins, Paul Demarinis

Joint projects: Cummins / DeMarinis, *Luna Drift: Sun and Moon Pointers* and *Light Reign*: The 2006 Shanghai Biennial, Shanghai Museum; ISEA at the The Museum of Contemporary Art KIASMA, Helsinki, Finland, 2004, the 2008 Biennial of Seville, Spain and a Washington State Arts Commission for Western Washington University, 2014.

Rebecca Cummins explores the sculptural, experiential and sometimes humorous possibilities of light and natural phenomena, often referencing the history of optics in installations that have included a machine for making rainbows, a photographic rifle, paranoid dinner-table devices - and a variety of sculptural and photographic approaches to marking time. Currently, she is utilizing microscopy in the Wordeman Lab, University of Washington. Cummins has exhibited widely internationally and has also completed several public art commissions. She is a Professor in the School of Art + Design + Art History, University of Washington, Seattle, WA.

Paul DeMarinis has been making noises with wires, batteries and household appliances since the age of four. One of the first artists to use microcomputers, DeMarinis has toiled since the 1970's in the areas of interactive software, synthetic speech, noise and obsolete or impossible media. He has created installations, performances and public artworks throughout North America, Europe, Australia and Asia. He is a Professor of Art at Stanford University in California.

JIABAO LI, HONGHAO DENG, ALLEN SAYEGH

Twinkle: A Flying Lighting Companion for Urban Safety

Imagine a city with flying light: as night fell and darkness creeps in, all of a sudden there's a bright sparkle, and another - one by one lighting up the city street. Soon the sullen city comes alive, orchestrated with a natural rhythm of *Twinkle*.

Lighting, as one major part of urban infrastructure providing areas with an abundance of potential witnesses, contributes significantly to feelings of safety. However, the current city lighting system that leaves many areas uncovered induces unsafe perceptions and instigates crimes. The addition of ubiquitous surveillance is an intrusion on privacy and does not take real-time actions. The cold, lifeless light shines in the darkness, trapping people in the solitude of silence. These absences motivated us to create *Twinkle* - a luminous transformative creature inhabits on light posts. They are curious aerial animals attracted by human activities. During the daytime, they rest on urban light posts for charging. At night, they interact with individuals walking on the street in their own way based on their distinct personalities. *Twinkles'* behavior and habit help people have a better observation of the surroundings. Meanwhile, this indifferent act exposes the individuals attempting to conduct misbehaviors to dazzling light to prevent crime ahead of time. In this way, there is no more blindspot in dark streets. When one *twinkle* is out of battery, it flies back to the light post, and send another *Twinkle* to continue following to guide people all the way back to home.

Twinkles are indirect lighting solutions for improving urban safety without surveillance. For everyone's daily life, urban lighting is no longer a cold, immutable infrastructure but a new form of companionship with personalities and responses. We envision a future that appliance goes beyond machine and becomes a companion with us.



Twinkle: A Flying Lighting Companion for Urban Safety, 2017.
drone, electronics, LED, resin, dimensions variable.

Jiabao Li

Jiabao Li works at the intersection of emerging technology, art and design. Her work opens questions about technology's influence on human perception, identity, and emotion. Her research-based projects range from wearables, projections, drones, installations to scientific experiments. She holds a Master of Design in Technology degree with Distinction from Harvard GSD. Jiabao's work has been featured in Domus, TechCrunch, Yahoo, CCTV, Yanko Design. Her work has been shown in Milan and Dubai Design Week, ISEA, CHI, SIGGRAPH, and PRIMER. She is the winner of the Fast Company Award, iF Design Award, Future Cities Award, and ISWC Design Award.

Honghao Deng

Honghao Deng is a computational designer. He holds a Master of Design in Technology with Distinction at Harvard GSD and was a researcher at City Science Group, MIT Media Lab. Recognition gained in the design and interaction community includes Golden A' Design Award, iF Design Award, Future Cities Award. His work has been covered by Domus, CCTV, ArchDaily, Arab News, the National and Metropolis Magazine.

HERWIG SCHERABON, ARNO DEUTSCHBAUER,
LUKAS FLISZAR, MICHAEL ARI

Afterlife

Afterlife is an immersive virtual reality experience inspired by Buddhist contemplation techniques where we can escape the sensory overload of our physical environment for a moment. Everything in this world is designed to focus the attention to simple things like colours, light and droning sounds or to let the spectator experience the vastness of space. The work created in collaboration with Herwig Scherabon, Arno Deutschbauer, Michael Ari and Lukas Fliszar, commissioned by sound: frame, aids in understanding the inconsistency of life and to detach oneself from one's ideals and expectations. The experience invites the audience to be just a spectator and let go of his or her thoughts, expectations and worries.



Afterlife, 2019.
Audiovisual Experience in Virtual Reality, Computer, chairs, Oculus Rift, projector,
screen, speakers, dimensions variable.

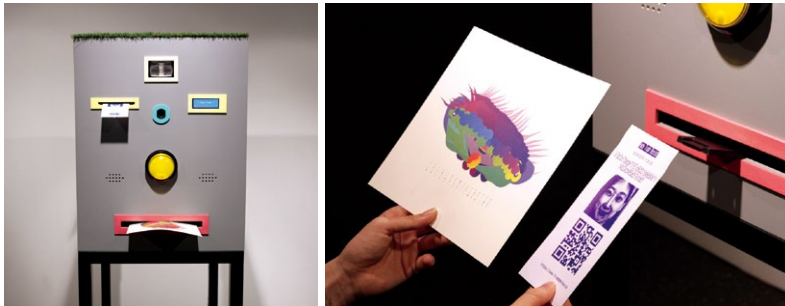
Herwig Scherabon, Arno Deutschbauer, Lukas Fliszar, Michael Ari

The collective behind *Afterlife* consists of Herwig Scherabon, Arno Deutschbauer and 101 (Lukas Fliszar, Michael Ari). The creative menage joined forces in the studio of 101 where a lot of discourse about the possibilities of virtual reality sparked the idea for the installation. The artists and designers share the feeling that space as a commodity is becoming sparse and they sense a general need for the retreat from society's hectic modern lifestyle. *Afterlife* is a collective effort to fuse the worlds of art, technology and contemplation. Everyone involved comes from different backgrounds like design, 3D art, coding, and music production. Together they want to bring their knowledge into virtual reality and explore the graphics and immersive possibilities of this technology.

MATTHIAS DÖRFELT

Face Trade

Face Trade is an Art Vending Machine that dispenses unique prints of computer-generated face drawings. Instead of paying with money, buyers trade a mugshot that is taken on the spot in order to be permanently stored in the Ethereum Blockchain, consequently turning the transaction into a semi-permanent Face Swap.



Face Trade, 2018. Code, computer, printer, thermal printer, button, LCD screen, speakers, camera, flash, MDF, Metal, paint, 52x182x60(cm).

Matthias Dörfelt

Matthias Dörfelt is a Los Angeles-based artist. He mainly works in software producing artifacts ranging from drawings, prints, animation, videos and interactive installations to robotics. In his works, he often trades control in favor of surprise because he strongly believes in computation as an expressive, playful and humorous tool. Dörfelt will continue to explore these aspects by infusing technology with flaws, naivety and weirdness. He believes in a media arts practice that favors spontaneity over streamlining and hopes that his works, contribute to shape our relationship to machines in a similar way. Matthias Dörfelt studied at the Muthesius Kunsthochschule in Kiel and holds a Masters of Fine Arts from the University of California in Los Angeles.

<https://www.mokafolio.de/information>

VYTAUTAS JANKAUSKAS, JON FLINT

Somestic Media

Somestic Media defines a trio of connected objects, retrofitting complex social media interactions within the domestic appliances from the last century. An alarm clock, a radio, and a TV distill and encompass our mundane digisocial dilemmas, from stalking to swipe-right and FOMO.

Each device pulls, processes and displays specific data from a major social network. However, the output of each device simply reports its information, depriving the user of any two-way interactions we are accustomed to in the digital age. This enforced isolation amplifies and exposes the presumably frictionless communication processes orchestrated by complex social media algorithms. The *Somestic Media* suite includes:

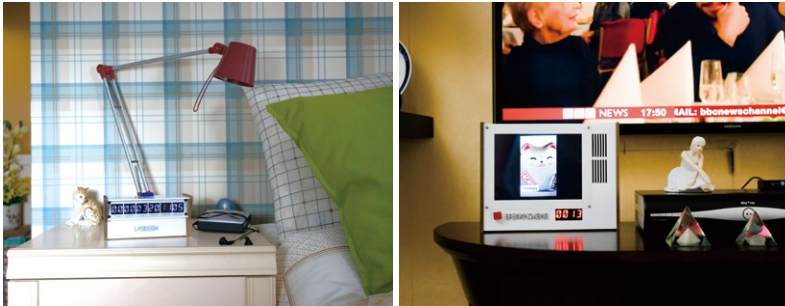
'LastSeen' – an alarm clock that goes off when a person of interest comes back online on Facebook, keeping track of how long ago the target individual was last active on the platform.

'SoulMate' – a radio that uses text synthesis to read the profiles of potential romantic partners on Tinder out loud and includes a special "Follow Mode" that can be accessed via a key switch, giving an accurate distance to each of your existing matches.

'BreakingViews' – a television that displays Instagram stories from your feed and keeps track of how many times you have replayed a specific story.

The saturated display of the collected data conveys the impact social media has on our perception of time, distance, and priority. Whose online presence do you follow, and why? What information on dating profiles is important, apart from the profile picture? What type of content – news or views – do we prefer and why?

The aim of *Somestic Media* is to critically render social media processes, make them more tangible. Such exposure is vital for understanding how the new technologies change the way we live and socialise, and the information we take for granted.



Somestic Media

LastSeen, 2018. Alarm clock, code, computer, LCD Screen, speaker, TV. 180x92x92(mm).

BreakingViews, 2018. Code, computer, LCD Screen, speakers, TV, 260x97x205(mm).



SoulMate, 2018. Code, computer, LCD Screen, radio, speaker, 128x97x125(mm).

Vytautas Jankauskas, Jon Flint

Vytautas Jankauskas and Jon Flint, or VJF, bring experiences around complex technologies and their impact on our domestic mundane.

Vytautas Jankauskas is a designer interested in how emerging technologies inhabit our domestic mundane. His practice encompasses the Internet of Things, data ownership, digital citizenship, social media and their influence on our everyday lives. Vytautas holds a BA in Media Art at the Brera Academy of Fine Arts, followed by an MA in Media Design from HEAD – Genève. Vytautas' work has been exhibited at the V&A, CCCB, Salone Internazionale del Mobile, and Cite' du Design St.Etienne, among others.

Jon Flint is a designer with a hands-on approach. His work has been showcased at the V&A, Vitra, as well as frames of pushchairs and bikes roaming the streets

of London, in the form of a high quality air pollution sensing kit. Jon holds a BA in Product Design from Central Saint Martins College of Art and Design, and an MA in Interaction Design from Goldsmiths University of London. He has given talks on the criticality of making as part of 2016 MCE conference in Warsaw and Maker Assembly Sheffield. He has conceived and led workshops around drone technology. Jon was selected to be one of the delegates for the 'Living research 2018' programme by The British Council and the Arts and Humanities Research Council, exploring maker culture in China.

Vytautas and Jon met in London working at the critically-acclaimed futures design practice Superflux. After joining the Hive social innovation residency at 'thecamp' in the south of France, the duo decided to pursue critical and futures design endeavours as a collaborative practice. Since 2018, Vytautas and Jon are residents at the Pervasive Media Studio at Watershed in Bristol, UK.

JANE GRANT, JAY AUBORN, CORAL MANTON

Between Us

Between Us is an Augmented Reality audio/visual artwork about desire, solar physics and the impossibility of touch. *Between Us* is made for Magic Leap and Sennheiser AMBEO 3D audio.

Drawing on quantum physicist Karen Barad's work on touch, the narrative in *Between Us* is at once seductive and unsettling.

Participants inhabit an audio/visual world where they are addressed directly through the narrative. Immersed in the 3D soundscape and visuals, the participant is both audience and artwork, guided by a disembodied voice that speaks of solar physics and the haunting nature of desire, the anticipative action of touch.

Between Us allows us to sonically and visually inhabit the temporary intimate fusing of the outer edge of our atmosphere as it meets the sun's radiative action - the ionosphere where the sun and the earth first touch. Our skin is constantly filtering air, reacting to temperature changes, signaling hormonal drives, fears and desires. In likening the ionosphere to the skin of our bodies we may be able to imagine the invisible interactions taking place between things and selves, things and things, and selves and selves. In sonifying this interaction we inhabit where the sun and the earth meet, where the ionosphere draws towards the sun like the pilomotor reflexes of the tiny hairs on our skin. The desirous nature of *Between Us* evokes the dynamic interplay between two bodies or systems, where we inhabit the in-between, the invisible interactions that take place where attraction and repulsion reside.

Between us is funded by SWCTN and University of Plymouth.

Jane Grant: Artist, Director, Scriptwriter.

Jay Auburn: Sound design, audio production.

Coral Manton: Visual Design, Unity Developer

Giorgio Cortiana, Sound Design and Audio Programming.

Phil Liford, Sound Design and Audio Programming.

Illustration: Skye Liu Tianzi



Between Us, 2019. Magic leap, sound and visuals for augmented reality, and subpack, dimensions variable.

Jane Grant, Jay Auburn, Coral Manton

Jane Grant's artworks explore scientific mythologies concepts ranging from neuroscience, black holes and the multiverse. Her artworks engage the phenomenological aspects of these systems in order to create 'other worlds'. Her work engages directly with the invisible, the unfathomable, the distant and the miniscule, developing site based artworks that allow participants to inhabit these other worlds, often in acts of co-creation. Her artworks focus on the interdisciplinary with special interest in habitation, immersion and non-human phenomenon. Jane sometimes works collaboratively creating award-winning works such as *The Fragmented Orchestra*, a sonic artwork based on neuronal firing patterns which won the PRSF Award for New Music and a PrixArs award and *Plasticity* which was premiered at the BFI, onedotzero festival and Google Campus, London. She has exhibited work at the National Portrait Gallery London, The Roundhouse, FACT Liverpool and others.

More recently, she exhibited *Fathom*, a huge artwork that immerses participants in an underwater sonic environment and her sonic artwork *This Excited Surface* sited in camera obscuras.

<http://www.janegrant.org/>

OLIVER GRIEM

divine mercy

For several years I was living just a few 100 meters away from the Yongsan US-army base. The army base covers about 2.6 square kilometers and is located near the Han river right in the middle of Seoul. The helicopters going back and forth between the Yongsan garrison and other US-army bases where a daily routine. Every time tensions got complicated between North- and South-Korea, the fear that war could brake out also was a part of every day live.

In the Yongsan army base facebook-feed I came across an advertisement that announced the screening of a documentary called "the original image of *divine mercy*" at Yongsan army base. The documentary deals with a painting that originates from the visions of catholic saint Maria Kowalska, it shows Jesus with red and white light rays emerging from his heart. The image for the facebook announcement however didn't show the original painting, but showed an US soldier in combat gear on the ground looking at a Chinook transport helicopter that hovers in front of an orange sunset. That advertisement gave a main inspiration for creating this work.

My work shows an imagined part of the Yongsan garrison. Some soldiers are enjoying a bbq meal, others are sitting in front of their computers dreaming, children in halloween costumes are running around for trick & treat. There is a part of the Korean neighborhood, where a Korean right wing protester build his tent on the street waving a Korean & American flag. Above all a chinook helicopter hovers in the air. A guy in halloween costume with gas-mask leaning out the side-door. Most of the soldiers on the ground are astonished and staring at the hovering helicopter, one of them is opening his arms in expectation of a holy miracle.



divine mercy, 2019. Installation & multi channel video.

Oliver Griem

Oliver Griem is a media artist who lives and works in South Korea. He is currently teaching moving-image and interactive-media at Hongik University in Seoul. In the beginning of the 90's, while working as video editor for documentary, music-video and television he studied media-design at the Academy of Media Arts in Cologne (KHM). Through his graduate work at the KHM, a documentary feature called 'Parallel Worlds - observations in South Korea', he got interested in South Korean culture and moved there in 1995. Then he began to also work on electronic scenography for theatre and dance performances and multi channel video installations. After 2000, he started to work with max/msp/jitter and over the years he produced several interactive works and immersive installations that use sound, video and light. An archive of his work can be seen at the website below.

<http://www.fischkalb.com>

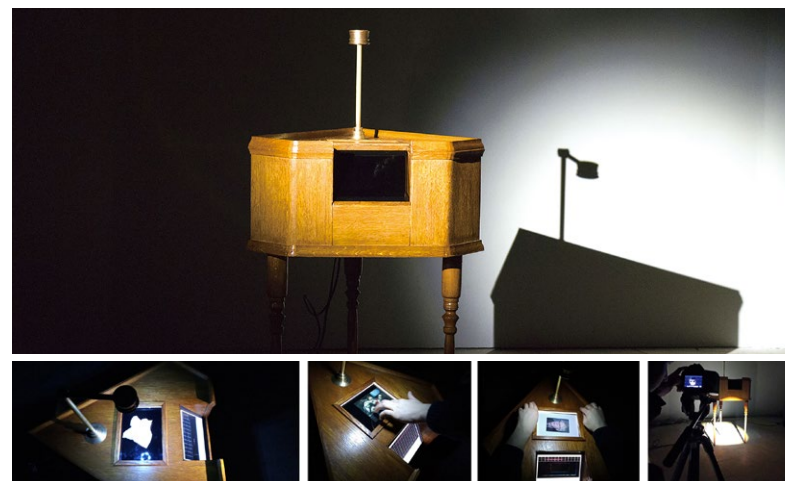
VLADLENA GROMOVA, ARTEM PARAMONOV

Cryptographer

Cryptographer supplements to small things and images a sound dimension. The instrument combines the form of 19th-century instruments, the sound of the piano, the traditional European musical theory, code and "basic" process of human visual analyzer working. The camera captures a picture or a thing, which is placed on the instrument cover, and the instrument offers a sound interpretation of the image according to the algorithm.

The algorithm of *Cryptographer* is based on two hypotheses. The first one is proposed by the American artist Katherine Lubar, who applies the established in the 19th-century principles of consonance and dissonance to color «intervals». According to her, analogous tone relations are formed between twelve semitones of a music scale and twelve parts of the Johannes Itten's color circle. For instance, red and yellow colors constitute a major 3rd so far as a distance between colors includes four semitones. To determine a sound frequency we added an operation that allows finding certain notes according to the association of high frequency sounds to the light tones and low frequency sounds to the dark tone. The quantity of pixels in a color interval correlates to the duration of one sound.

The second hypothesis proposes the existence of a sequence in a process of image perception by a human visual analyzer. Professor and Russian inventor Nicolay Blinov attempted to build a universal rank. A presumed sequence of elements in an image perception was defined as a result of his first experiments: 1. Horizontal straight; 2. Vertical straight; 3. Volume; 4. Symmetry; 5. Periodicity; 6. Inclined straight line; 7. Angle, triangle, square; 8. Circle; 9. Outline, etc. This sequence was included in the algorithm but simplified to the set of "basic" principles which are not related to complex intellectual activities, and determined in *Cryptographer's* algorithm the order of reading the image elements in the main musical part.



Cryptographer, 2018, interactive sound object.

Vladlena Gromova, Artem Paramonov

Vladlena Gromova and Artem Paramonov are interdisciplinary Moscow-based artists, the founders of the Laboratory of Interactive Art and Design VALab. The laboratory is a collaboration platform for artists, designers, engineers, and programmers. The participants of VALab consider ART as a way of cognition: a way of exploring a variable reality, a tool of searching non-obvious connections, and a means to research yourself. Vladlena Gromova and Artem Paramonov are participants of art & science exhibitions and festivals including Science Art Fest in Perm (2019), the permanent exhibition of Science Art center "SIRIUS" in Sochi (since 2016), the permanent exhibition of Polytechnic Museum in Moscow (since 2014), Science Art Fest in Moscow (2011); the exhibition of History of Russian videoart, volume 3 in Moscow (2011); the 3rd Moscow Biennale of contemporary art (2009); Vis Vienna Independent Short (2009); also Vladlena Gromova is the Winner of Kandinsky prize - "The Young Artists of 2007".

<https://www.valab.info/>

JOSH GUMIELA, DAVE RYAN

dreamBot

That personal assistant you carry in your pocket is obsessed with understanding you. What role will the unconscious play in the way machines learn about and understand the human world?

Machine learning technologies presuppose that machines are able, through innumerable trials, to recognize patterns beyond human perception or comprehension. As these technologies are being deployed by commercial and political interests for the unprecedented targeting of the human psyche, it seems to be a good time to be raising questions about the technologies that we have come to take for granted. How does the machine parse human language every time you speak to it, for example, or type a search query in the form of a question? As we have conceded the term 'learning' to the computer, it also seems to be a good time to dig into technology's epistemological project. What if these technologies, for unknown or undisclosed reasons, began mining the dark reaches of the human unconscious?



dreamBot, 2018.
Arduino, computer, digital fabrication, glass bottles, Max,
PN532 RFID controller board, Python, RFID chips, sound.

Josh Gumiel

Josh Gumiel is a sound artist currently teaching Digital Media Arts at Hamline University. His work explores themes of time and displacement through generative sound, performance, installation, and kinetic sculpture. Gumiel has performed at Nashville's Centennial Black Box Theatre and his sound design work has screened at Ethnografilm, Paris. His recent exhibitions include the New Adventures in Sound Art Deep Wireless Festival and Currents New Media Festival.

joshgumiel.net

Dave Ryan

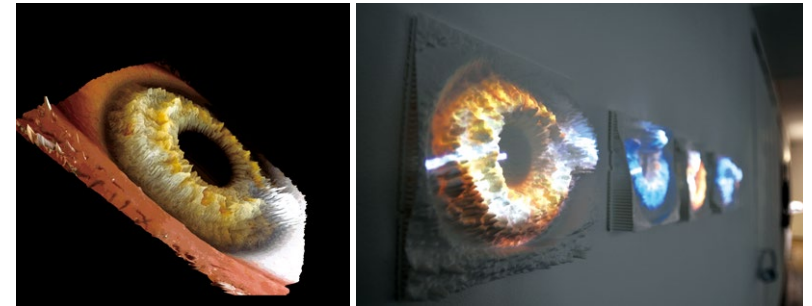
Dave Ryan received an MFA from Ohio University and has been making new media artworks for more than 20 years. Recent interactive works have been featured at Minneapolis Institute of Art, Nelson-Atkins Museum, and Currents New Media Festival. He currently teaches Digital Media Arts at Hamline University.

thigmo.org

YOON CHUNG HAN

Eyes

Eyes is an interactive biometric data art that transforms human's Iris data into musical sound and 3D animated image. This artwork is created as a series of biometric data artworks. The idea is to allow the audience to explore their own identities through unique visual and sound generated by their iris patterns based on iris recognition and image processing techniques. Selected iris images are printed in 3D sculptures, and it replays the sound generated from the iris data and projects 3D converted image images. There is an interactive art installation that audience members can capture their iris data and experience 3D animated eye image with a unique sound in real time. This research-based artwork has an experimental system generating distinct sounds for each different iris data using visual features such as colors, patterns, brightness and size of the iris. It has potentials to lead the new way of interpreting complicated dataset with the audiovisual output. More importantly, aesthetically beautiful, mesmerizing and a bit uncanny valley-effected artwork can create personalized art experience and multimodal interaction. Multi-sensory interpretations of the iris data art can lead a new opportunity to reveal users' narratives and create their own "sonic signature", which will be able to trigger a new way of "intersections" in the fields of art and science. Using camera sensing technologies, 3D printing and audiovisual experience, this artwork allows the audience to experience how arts and biometric science can create a new aesthetic.



In collaboration with Praful Surve, *Eyes*, 2018.
Customized camera interface, projections, 3D
printed sculptures, dimensions variable (Interactive art installation),
220x150x50(cm) each (3D printed sculptures).

Yoon Chung Han

Yoon C Han is an interactive media artist and award-winning interaction designer. Over the past ten years, she has created a wide range of interactive audiovisual art installations, data visualization, sonification, and musical interface design. Her works have been presented in many international exhibitions, conferences and academic journals such as ACM SIGGRAPH Art gallery, Japan Media Arts Festival, Media City Seoul, ZKM, NIME, ISEA, ACM Multimedia, ACM CHI, IEEE Vis, and Leonardo Journal.

She earned her bachelor and the first Master degree at the Seoul National University, and her second Master degree at Design | Media Arts, University of California, Los Angeles. She was a visiting researcher/data visualization specialist at SENSEable City Lab, MIT in Cambridge, MA. She holds a PhD. in Media Arts and Technology at the University of California, Santa Barbara. She is currently an assistant professor in the department of design in the San Jose State University.

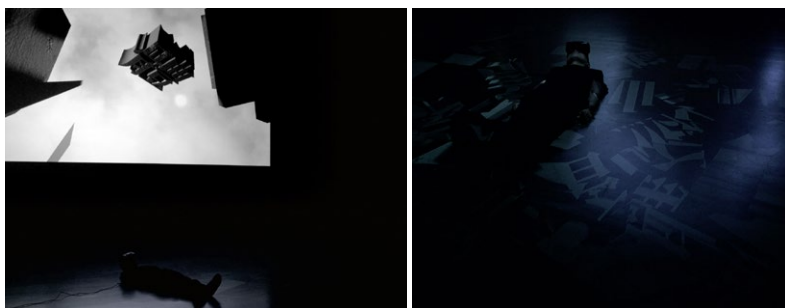
yoonchunghan.com

YUK-YIU IP

BOOK OF A HUNDRED GHOSTS

In the beginning was the Word, and the Word was with God, and the Word was God (John 1:1)

BOOK OF A HUNDRED GHOSTS is a virtual reality installation, a Chinese parable staged in the form of a virtual tableau. It reimagines the history of an ancient land as a book of falling words and crushing signs, inciting awe, fear, pain and carnal pleasure.



BOOK OF A HUNDRED GHOSTS, 2018, black & white color, stereo, VR.

Yuk-Yiu Ip

IP Yuk-Yiu is a media artist, art educator, and independent curator. His works, ranging from experimental films, live performances, media installations to video games, have been showcased extensively at international venues and festivals, including European Media Art Festival, New York Film Festival (views from the avant-garde), the Image Festival, FILE Festival, VideoBrasil, Transmediale, NTT InterCommunication Center [ICC] and WRO media art Biennale. He is the founder of the art.ware project, an independent curatorial initiative focusing on the promotion of new media art in Hong Kong. IP has over fifteen years of curatorial experience in film, video and media art. Currently, he is an Associate Professor at the School of Creative Media, City University of Hong Kong. His recent works explore hybrid creative forms that are informed by cinema, video games, and media art practices.

CACHED COLLECTIVE (VYTAUTAS JANKAUSKAS,
JON FLINT, FELIPE DE SOUZA, ALINE MARTINEZ,
JOANA MATEUS, CLÉMENT BOUTTIER, RYAN DZELZKALNS)

Cached

Cached is a personalised interactive experience that engages with the repercussions of our individual online presence. Our online personality is *cached* and used to create a digital model of each of us to learn as much as possible. The *cached* experience offers a glimpse of your digital self, revealing how the outline of your online activity is quantified, interpreted, and profiled by contemporary social media algorithms.

Upon entering the room, the spectator is left alone with a glowing tablet, prompting to log in. Once they have connected, a mirror lights up and greets the spectator by their name. The following experience takes the form of personalised audiovisual storytelling, to illustrate just how your activities online contribute to the way in which machines see you.

Based on a textual analysis of your social media posts, *Cached* reveals your character traits, interests and consumer preferences. Using IBM Watson, the installation generates a psychological profile that describes your personality, behaviors, and predilections. It illustrates how machines are learning to perceive you as a social creature and the assumptions they make about you. At the end of the experience, all personal data is erased, and the visitor receives a unique printed receipt containing a summary of the analysis. It is the only record of their data, which can be shared, kept secret, or destroyed at their convenience.

The interpretation of this sort might not be as accurate as direct data on Clicks, GPS points or biometrics. Nevertheless, the very idea that we are perceived as social beings rather than quantitative datasets raises the data privacy discourse to a new level. *Cached* is a user-friendly wake-up call; the experience invites you to critically think about the reflection of your personal online behavior casts.

CACHED COLLECTIVE (VYTAUTAS JANKAUSKAS, JON FLINT, FELIPE DE SOUZA, ALINE MARTINEZ, JOANA MATEUS, CLÉMENT BOUTTIER, RYAN DZELZKALNS)
Cached



Cached, 2018.
Arduino uno, Intel NUC PC, LCD screen, mirror, speaker, thermal printer,
770x480x100 (mm).

Cached Collective (Vytautas Jankauskas, Jon Flint, Felipe de Souza, Aline Martinez, Joana Mateus, Clement Bouttier, Ryan Dzelzkalns)

The Cached Collective is an international group of creatives of diverse backgrounds, who are dedicated to exploring how technology influences our individual lived realities. Because of the impenetrable way that modern technology functions, the Cached Collective strives to design impactful experiences that can be easily understood by a wide audience. The Cached Collective makes the intangible tangible. The Cached Collective creates impactful experiences that delve into data, algorithmic complexity, and obscure infrastructure, especially focusing on how these affect the individual.

The Cached Collective first met during a summer residency in the South of France, the Hive. Each of us brings distinct expertise to our collaborations that we leverage to create unique, multidisciplinary experiences. This broad base of specialties—from engineering to fashion design, from poetry to programming—allows us to approach our topics with a unique eye.

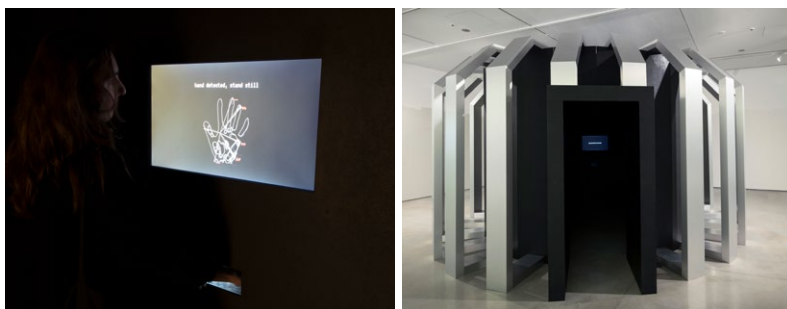
PRZEMYSŁAW JASIELSKI

Oracle

Oracle is a palm-reading machine foretelling the future of the viewer. In a perverse manner the installation brings an experience of a myth of oracle, which in an enigmatic way can predict the future. The work recalls subconscious cultural traditions such as chiromancy and ancient Greek oracle, whose foretell is difficult to verify.

After scanning the viewer's papillary lines, the machine tells his or her fortune. The whole installation is a programmed machine that randomly reveals its personality – sometimes the prophecies tease the viewer directly (presenting messages like "how about a date tonight" or "you have such beautiful eyes" from time to time). This is yet another strange and contradictory experience since the viewer tends to adopt a meek and pious stance, in expectation of a scientific vision. Instead, what the viewer has is another aporia of rationality: the machine is demanded to legitimise scientifically an ancient human superstition. Nor is there much sense in the fact that the word 'oracle' has entered the colloquial language to mean an unquestioned authority, connoisseur or expert in a particular field.

The work plays with the concept of artificial intelligence and its aim to create machines with human characteristics, with an ironic take on the confidence we place in modern technology. This is yet another author's experiment with the emotionality of machines, or rather the emotionality roused in a human due to contact with a machine. Since a mechanical device tends to be perceived as impartial, people are inclined to take its pronouncements more seriously than they would those of a street fortune teller. Thus, the artwork encourages reflection on trust in technology and our dependence on it, as well as the fear of its domination.



Oracle, 2017.
Arduino, computer, digital camera, electronic components,
LCD monitor, dimensions variable.

Przemysław Jasielski

Przemysław Jasielski (b.1970) is an artist, researcher, experimenter based in Poland combining art with science and technology. Member of HAT Research Center. He creates installations, objects, drawings and photographs. In the creative process he approaches work with the attitude of an engineer, adapting the precise planning and scientific research, with the main focus on the conceptual content. His works confront the actual present reality with its transformation to allow the viewer to observe it in a new, fresh way, they usually contain a specific, critical sense of humour.

Jasielski took part in several exhibitions – among others, one man shows such as Paper Bridge at Tokyo Wonder Site (Tokyo, Japan, 2012), Analog Immigration at CSU Galleries (Cleveland OH, USA, 2013), and group shows - L'arte differente: MOCAK al MAXXI at MAXXI (Rome, Italy, 2016), Draft Systems at WRO Media Art Biennale 2017 (Wrocław, Poland, 2017), Nonsense Technologies at MOCAK (Krakow, Poland, 2017).

EUNSU KANG, DONALD CRAIG, BARNABAS PO CZOS,
CHUN-LIANG LI, SONGWEI GE, AUSTIN DILL, MANZIL ZAHEER

Aural Fauna: Illuminato

"HARMONIUM – The only known form of life on the planet mercury.

The harmonium is a cave-dweller.

A more gracious creature would be hard to imagine.

- A Child's Cyclopedia of Wonders and Things to Do."

[Kurt Vonnegut, Jr., The Sirens of Titan]

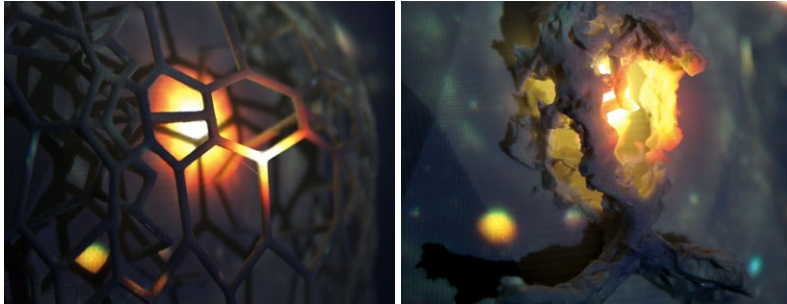
The *Aural Fauna: Illuminato* project presents an unknown form of organism, aural fauna, that reacts to the visitor's sound and touch. According to The Sirens of Titan, Harmoniums eat the song of the planet Mercury. They are translucent but the yellow light from the cave wall turns into vivid aquamarine through their body. Inspired by the harmonium, the aural fauna is a family of creatures that becomes "alive" when there is a sound or touch fed into them. The fauna also sing a song in harmony to the visitor's sound to express their acceptance of the visitor's presence.

The fauna's bodies and sounds are generated using Machine Learning. The creatures' bodies appear as 3D-printed sculptural objects or virtual form in the video projection. The unique form of each entity is designed by creative AI developed by the artist team. Their sound is generated in real-time in response to the participant's touch.

The tablet interface on a music stand and the microphone in front of the swarm is the terminal for the visitor to interact with these creatures. The visitor touches the tablet interface's screen or sings to it then the aural fauna responds in lights and sounds.

This project presents a utopian vision of the world where different species, possibly even machines, interact with each other with no fear and thus no rejection or hatred driven by the fear. The human visitor and the aural fauna create a harmony together.

EUNSU KANG, DONALD CRAIG, BARNABAS PO CZOS,
CHUN-LIANG LI, SONGWEI GE, AUSTIN DILL, MANZIL ZAHEER
Aural Fauna: Illuminato



Aural Fauna: Illuminato, 2019. 3D printed objects, 4 channel loud speakers, machine learning algorithms (add,pdd) developed by the artist team, microphone, real-time sound generation system using wave gan algorithm and interactive audiovisual system developed by the artist team, touchpad interface, video projection.

Eunsu Kang, Donald Craig, Barnabas Poczoz, Chun-Liang Li, Songwei Ge, Austin Dill, Manzil Zaheer

Eunsu Kang creates interactive audiovisual installations and AI artworks. Her research is focused on developing creative AI and artistic expressions by Machine Learning algorithms. She received her PhD in Digital Arts and Experimental Media(DXARTS) from the University of Washington(UW). She is currently a Visiting Professor of Art and Machine Learning at Carnegie Mellon University(CMU).

Donald Craig is a computer music composer and a software developer, who makes visual music. He received his Doctor of Musical Arts in Composition from the UW.

Austin Dill is a Masters student in CMU Machine Learning department.

Songwei Ge is a Masters student in CMU Computational Biology Department.

Chun-Liang Li is a PhD candidate at the Machine Learning Department of CMU.

Barnabas Poczoz is an Associate Professor of Machine Learning at CMU. He has been collaborating with researchers from neuroscience, bioinformatics, cosmology, robotics, civil engineering, material science, chemistry, and art.

HYUN JU KIM (EX-MEDIA)

Robot Symbiosis - ANT 2019

The installation explores the symbiotic relationship between the human body and the non-human mechanism in contemporary techno-society. Mobile robots, sculptures with projected body images and immersive sounds construct a new body form, the dynamic hybrid of the organic and the inorganic throughout the gallery. Viewers are invited to be a part of this synthesized body form by walking through sculptures and interacting with robots with different personality and behavior while controlling the audiovisuals.

The *Robot Symbiosis* series starts with thinking about the state of the human body that is expanded and dispersed by media and technology. The work consists of 6-8 pieces of plaster sculpture on which the images of the body are projected and the robots roam between them. The audience contemplates the image of the body that is expanded and dispersed or moves among the robots and the imagery of the body to finally complete the image of the technically sympathetic body.

The work shows that the human body and the machines are interconnected to form an actor-network. A human body projected on to plaster forms gets the quality of thingness, while robots become more active agents. The artist intended to give viewers a moment to think over the issue of thinness and the non-human in relation to human and body in the time of non-human turn.



Robot Symbiosis – ANT 2019, 2019, Robotic art installation with motors, plaster, robots with IC, sensors, video projection, dimensions variable.

Hyun Ju Kim (ex-media)

Hyun Ju Kim (ex-media) lives and works in Seoul, exhibiting various digital experimental films, interactive installation and robotic art nationally and internationally. Her computer interactive installations and performance projects deal with posthuman conditions in the techno-cultural society, exploring the notion of identities in such an environment with ubiquitous digital technologies. In her recent works, she has been creating artistic vocabularies to deal with the issue of the body in the techno-society and the ontological and epistemological relations of human, machine, algorithm and things in the time of 'non-human turn'. Previously worked as assistant professor of art at the University of Massachusetts Lowell, Kim is currently associate professor in convergent media at Seoul Media Institute of Technology (SMIT) and the director of Expanded Media Studio, a visual & media arts research group at SMIT. Graduated from POSTECH, Kim studied computer art at the department of Transmedia in the Syracuse University.

<http://www.ex-media.org>

Glass Mutations III

The work *Glass Mutations III* contemplates the biological phenomenon of primordial cell mitosis – the beginning of life. The process of mitosis occurs when cells split and build organisms that are more complex than the single cell organism. *Glass mutation III* translates this evolution into a geometric and material complex interplay between the traditional craft of glass and the contemporary craft of 3D modeling a printing.

Formally, instead of imitating the symmetrical, binary mitosis, always splitting from one cell into two, *Glass Mutation III*, is a construct of two sets of individually merged glass volumes, comprised each of a three-fold split. In biological terms, this mitosis would not be able to occur with three cells involved on a regular basis. Similar to cancer, where certain cells are able to split into more than two daughter cells, the work diverges traditional notions of evolution and enters the territory of mutation.

In material and crafting context, on the one hand, the brief moments to shape the glass in its temperature-induced plasticity contrast the enormous longevity of the resulting annealed glass object. On the other, digital 3D design is a timeless process. Binary digital data is without a time component – without a moment of plasticity and without the opposite – decay or withering. 3D printed artifact, a reified object, is fragile and has a moderate half-life of less than 25 years before the UV receptive resins and polymers are starting to break down.

In the analog, each working step leaves traces and is a unique combination of viscosity and force – impossible to repeat. While the digital embodies unlimited history-based modeling steps – enabling the sliding forward and backward in the making process – a process of flux rather than concrete design steps. The binary condition of the work results in the establishment of a hybrid – a Digital Craftsmanship.



Glass Mutations III, 2018. Glass, 3d print polymer using selective laser sintering.

Tobias Klein

Tobias Klein works in the fields of architecture, art, design and interactive media installation. Trained as an Architect, his work generates a syncretism of contemporary CAD/CAM technologies with the site and culturally specific design narratives, intuitive non-linear design processes, and historical cultural references.

His works are exhibited internationally at the London Science Museum, the V&A, the Venice Architectural Biennale, the Science Gallery (Melbourne), the container (Tokyo), the Bellevue Arts Museum, Museum of Moscow and Vancouver and in the permanent collection of China's first 3D Print Museum in Shanghai, the Museum of Glass in Tacoma (USA) and the Antwerp Fashion Museum (MoMu). He lectures and publishes internationally, recently winning SIGGRAPH 2018's Best Art Paper Award for his research on the translation from traditional to digital Craftsmanship using 3D printing and glass making.

He lives with his family in Hong Kong and works as an assistant professor at the School of Creative Media, City University of Hong Kong.

<https://www.kleintobias.com>

KNOX+WATANABE

Omikuji

An AI robot tells your fortune.

Omikuji are short personal fortunes obtained at Japanese temples and shrines. Exhibition visitors are invited to play the artists' 'Belief Machine'. You can receive *omikuji* in the form of a personal mini sound-artwork, made by the robot and delivered directly to your phone!

Omikuji began as a live-stream event taking place between Japan's National Museum of Emerging Science and Innovation (Miraikan) and major international art precincts. It is part of Knox + Watanabe's art-science experiments Alter versus Deep Belief.

Alter is an android robot with an experimental AI system that is stimulated by sensor input. It is created by Ikegami Lab and Ishiguro Lab. Alter can sense, learn, and sing. It uses a self-organising neural network to classify its surroundings. Such AI strategies include deep belief networks, through which machines determine certain inputs to be believable. Alter is beginning to believe things about the world.

Knox+Watanabe make art-science projects exploring sensory and computational perception and conviction in robots and artificial lifeforms. We observe how a nascent robot learns and embodies its 'beliefs'. If the goal of artificial neural networks is for machines to discern phenomena in a humanlike way, Alter is outputting its discernment of sensory data via its machine body; by this performativity, its belief and behaviour evolve.

Belief systems are maximally contentious in our globalised world, and are important to both the inter-harmony and the preservation of culture/s. We create artworks to uncover and express the layers of Alter's budding belief system, in their naïve mutability and contingency, even their idiosyncrasy.

People may be prompted to ask: How are we transmitting our beliefs to and through machines? How sure are we in our beliefs? How soft are they, and how hard?

Acknowledgements

Technical (belief machine): Boris Morris Bagattini, Lindsay Webb
Robot: Takashi Ikegami, Hiroshi Ishiguro, Itsuki Doi, Kohei Ogawa
Thanks: Yukio Yanagawa, Jenna Lee

Omikuji was commissioned by Goethe Institut China for the international exhibition <A Better Version of You>. It has been supported by Japan's National Museum of Emerging Science and Innovation (Miraikan), Waseda University through Japan Science and Technology Agency (JST CREST), and Japan Society for the Promotion of Science.



Omikuji, 2017. AI, electronic 'belief machine', interactive experiment, robot, sound.

Knox+Watanabe

Elena Knox is a performance/media artist and scholar. Her artworks stage enactments of persona, gender and presence (sonzai kan) in technoscience and communications media. Recent shows include: Algorithmic Art: Shuffling Space and Time at Hong Kong City Hall; Synthetic Mediat at Taipei Expo Park; and Beijing Media Art Biennale. In 2018 she presented her solo show *The Female is Future* at Gallery Hashimoto, Tokyo.

Katsumi Watanabe is a scientist focusing on perception, cognition and action. His research methods encompass interdisciplinary approaches to cognitive science, and real-life applications of knowledge. Watanabe collaborates closely with AIST (Cognition and Action Research Group, HSBE, Japan), CREST (Japan Science and Technology Agency), and Caltech (Shimojo Lab, USA). He has a PhD in computation and neural systems from the California Institute of Technology, and is Professor at the Department of Intermedia Art and Science, Waseda University, Tokyo.

elenaknox.com

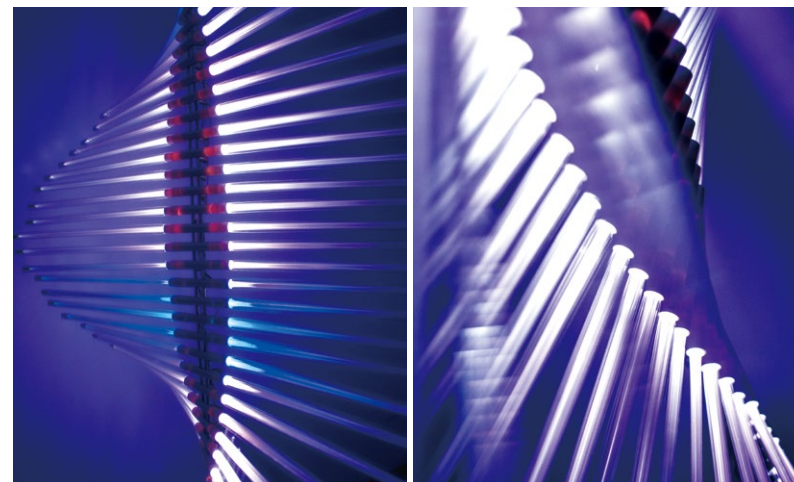
YIANNIS KRANIDIOTIS

CYMA {Fos}

Cyma {Fos} (from Greek: κύμα, meaning “wave” and φως meaning “light”) is a real-time data-driven kinetic light and sound sculpture highly inspired by natural repeatability and wave movement. An array of light acrylic bars, connected only with a metal wire passed from the center, is hanged from the ceiling and reaches the floor. The bottom bar is rotating periodically and sets the whole sculpture in motion. The motion of the bottom bar is creating a wave that physically spreads from one bar to the other. Real-time data of the solar wind are defining the motion of the wave. The whole sculpture is waving without any mechanical force (except the bottom bar), in the natural fundamental frequency and in higher modes called harmonics in a hypnotic and mesmerizing way.

The movement of the sculpture is driven in real time by live data of the solar wind. The strength of the wave movement (amplitude of the modulation) is controlled by the solar wind speed and the mode of waves (fundamental or harmonics) is controlled by the north-south direction of the interplanetary magnetic field (Bz). A screen placed near the sculpture projects the data and movement visualization.

While the sculpture is moving, the horizontal bars light in various colors. The position, speed, amplitude and other properties of the wave motion are affecting the light patterns of the sculpture. At the same time, the sound is following a similar approach. There are 58 sinusoidal audio oscillators, each for every light bar, with different frequencies (from 50 to 150 Hz). The position of each bar is changing the volume of the oscillator. Additional sounds have been added to the final soundscape.



Cyma {Fos}, 2017. Acrylic, Arduino, data driven kinetic light & sound sculpture, leds, motor, Raspberry Pi, screen, speakers & custom software, 100x300x100(cm).

Yiannis Kranidiotis

Yiannis Kranidiotis is an artist whose work explores the relationship between science and art using mainly light, motion and sound to create spaces and experiences where all coexist and interact. He is interested in physical phenomena like the harmonic oscillation, the natural repeatability, and the wave movement and also in exploring and transforming scientific data, like the new exoplanet discoveries or the solar wind properties. Many of his works include motion and interaction where others include data processing and sonification methods. This requires a cross-disciplinary work with sound, visual arts, coding, electronics, and physics. He has a BS in Physics from University of Patras and M.Sc. in Optics from Essex University.

His work has been presented in BOZAR, Maintenant, SPECTRA, ADAF, and many websites and magazines have published articles about his work including “Google Cultural Institute”, “The Creators Project”, “Arduino.org”, “Gizmodo”, “Open Culture”, “Hyperallergic”, “Bigthink” and “Konstvärlden”.

www.kranidiotis.gr

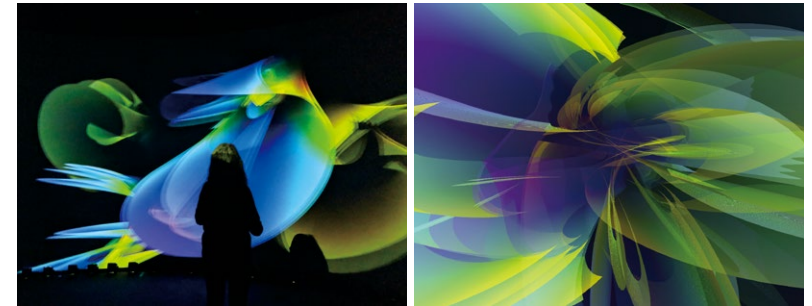
JOANN KUCHERA-MORIN, GUSTAVO RINCON,
KON HYONG KIM, ANDRÈS CABRERA

ETHERIAL - Quantum Form from the Virtual to the Material

The nature and behavior of matter and energy on the atomic or subatomic level, quantum physics, lends to its ethereal nature, gossamer wings, those substances that are immutable however untouchable. To touch the untouchable, to understand and know what is real but cannot be seen and to experience it; to truly experience immateriality as substance, form, and shape that is dynamic, transformative and truly alive, constantly changing but continually unchanged, the vibration of waveforms intermingling as one form, one shape one spirit, into a myriad of forms.

Etherial will bring the quantum form into the material, through virtual reality, spatial augmented reality and material form. The work will consist of both virtual reality and spatial augmented, a completely immersive VR space that will allow viewers to interact with the virtual world of quantum mechanics in real time through a physically rendered sculpture that will be tracked with gestural sensors. *Etherial* can also be interactively viewed un-embodied through VR headsets. Two controllers into a completely immersive VR space that will allow performers to sculpt quantum mechanics in real time in total synchrony with one another and the virtual environment that they control.

In keeping with the theme of "LUX", the quantum, revealed, the hydrogen-like atom combinations feature light-emitting wave function combinations that move toward the science of the phenomenon, while the quantum, suggests the ethereal nature of spirit in the form of light, ETHERIAL/IMMUTABLE - to touch the untouchable.



ETHERIAL - Quantum Form from the Virtual to the Material, 2018. Virtual Reality, Computers, 3D glasses, HTC VIVE, stereo projectors, stereo speakers, dimensions variable.

JoAnn Kuchera-Morin, Gustavo Rincon, Kon Hyong Kim, Andrés Cabrera

Lead Artist - Composer, Dr. JoAnn Kuchera-Morin, creator of *Etherial*, is Director and Chief Scientist of the AlloSphere Research Facility and Professor of Media Arts and Technology and Music, in the California NanoSystems Institute at the University of California, Santa Barbara (UCSB). Her research focuses on creative computational systems, content, and facilities design. Her 35 years of experience in digital media research led to the creation of a multi-million dollar sponsored research program for the University of California—the Digital Media Innovation Program. She was Chief Scientist of the Program from 1998 to 2003. The culmination of her creativity and research is the AlloSphere, a 30-foot diameter, 3-story high metal cylinder inside an echo-free cube, designed for immersive/interactive scientific/artistic investigation of multi-dimensional data sets.

<http://www.allosphere.ucsb.edu/>

JOANN KUCHERA-MORIN, GUSTAVO RINCON,
KON HYONG KIM, ANDRÉS CABRERA

ETHERIAL -

Quantum Form from the Virtual to the Material

Collaborators

Gustavo Rincon – Media Artist, Sculptor, Graphics Immersive Artist, Creator of the material-rendered sculpture: Gustavo Alfonso Rincon is educated as an architect, visual artist and currently is a PhD student in the Graduate Program in the Media Arts and Technology (MAT) at UCSB, and a member of the AlloSphere Research Group. He holds Masters Degrees in Architecture/Urban Design from UCLA as well as a Masters in Fine Arts from the California Institute of the Arts.

<http://w2.mat.ucsb.edu/grincon>

Kon Hyong Kim – Graphics Researcher/Artist, Calibration, Spatial Augmented Reality (SAR) Research, Creator of the SAR Installation Environment. Kon Hyong Kim is currently a PhD student in the MAT and a member of the AlloSphere Research Group. Kim's research focuses on the analysis and application of modern graphics rendering and calibration techniques and the integration of SAR and VR technologies.

<http://www.allosphere.ucsb.edu/html/people.html>

Andrés Cabrera – Distributed Multimedia Software Design, AlloSphere Media Systems Engineer, AlloSphere Research Facility, University of California Santa Barbara, PhD in Music Technology, Queen's University Belfast, Belfast, Ireland, Cabrera's expertise includes 3D spatial audio and multimedia systems design.

<http://www.allosphere.ucsb.edu/html/people.html>

RYOICHI KUROKAWA

unfold.alt

unfold.alt is a single screen version of *unfold* which is originally developed as an installation. It contains 10 phases presented in reverse chronological order of stellar formation. In the original installation version they are arranged in chronological order as: Interstellar medium, Molecular cloud, Massive star impact, Filament formation, Pre-stellar core, Protostar formation, Nuclear fusion and magnetic field, Supernova, Gravitational collapse, Neutronstar. Inspired by the latest discoveries in the field of astrophysics, *unfold.alt* seeks to translate the phenomena surrounding the formation of stars into sounds and images.

Ryoichi Kurokawa is concerned with the synaesthetic, merging audible and visual materials, in the service of an art/science project inspired by recent discoveries. These findings have been made by astrophysicists at CEA-Irfu, based on data produced by the satellites of the European Space Agency and NASA and more specifically by the Herschel space telescope. The telescope's observations of far infrared radiation have revealed some of the conditions of star birth and the history of the life of galaxies, over the course of 10 billion years. In addition to this data -which allows us to trace the cosmological history of star formation, especially the filamentary structure of molecular clouds where stars are born- the artist also based his logic on numerical simulations intended to model the universe and its structures, produced by astrophysicists at CEA-Irfu, with the help of supercomputers. The project, created under the supervision of astrophysicist (and researcher at CEA-Irfu) Vincent Minier, also enables the viewer to go beyond research and scientific discovery, in order to question the representation and publication of the data collected.

Concept, Direction, Composition, Programming, Design: Ryoichi Kurokawa

Programming: Hiroshi Matoba

Producer: Nicolas Wierinck

Scientific Consultation:

Vincent Minier/CEA-Irfu, Paris-Saclay

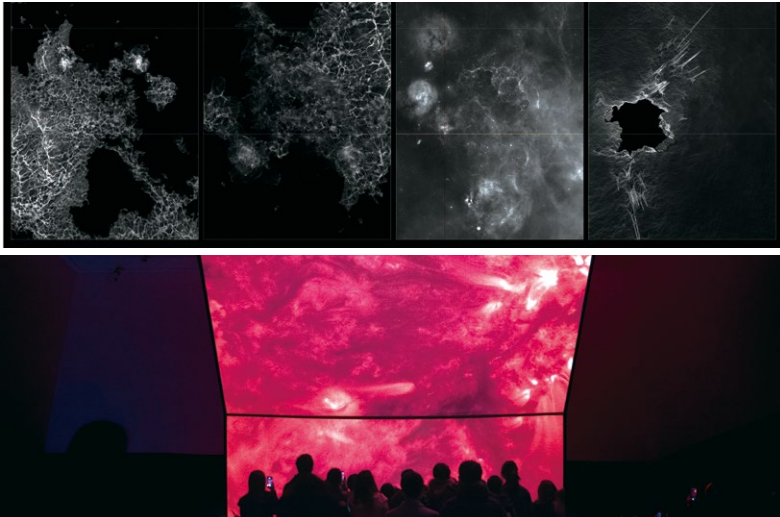
Scientific Dataset:

CEA (Herschel HOBYS, COAST, Frederic Bounaud, Sacha Brun, Pascal Tremblin, Patrick Hennebelle, Remi Hosseini-Kazeroni), ESA, NASA, BLAST Experiment, SuperCOSMOS H-alpha Survey

Co-commissioned by

FACT (Foundation for Art and Creative Technology), Stereolux and University of Salford Art Collection Co-produced by FACT (Foundation for Art and Creative Technology), Stereolux/Scopitone, University of Salford Art Collection, Arcadi and DICReAM

RYOICHI KUROKAWA
unfold.alt



unfold.alt, 2016.

Audiovisual installation, 4K Video, Two channel Sound, Single Channel, 04'00", Ed. 6+2AP.

With support from

CEA-Irfu, Paris-Saclay (Alternative Energies and Atomic Energy Commission/Institute of Research into the Fundamental Laws of the Universe)

Produced by Studio RYOICHI KUROKAWA

Ryoichi Kurokawa

Born in 1978, Japanese artist Ryoichi Kurokawa, who lives and works in Berlin, Germany, is a true poet of the transformative cinema, lyrically transfiguring the analogue representations of perceived nature into digital streams of vertiginous imagery and emotion. The architecturally crafted precision of his sensitively synched fragmentary images placed side by side on our retina, tends to displace the persistence of blurred memory under the effect of boundless luminosity. Some of Kurokawa's significant solo and group exhibitions and performances include objectum, Takuro Someya Contemporary Art (Japan 2018), Coder le Monde, Centre Pompidou (France 2018), The Dream Of Forms, Palais de Tokyo (France 2017), unfold, FACT (England 2016), Ordered Disorder, Espacio Fundacion Telefonica (Peru 2015), Turbulences, Espace Culturel Louis Vuitton (France 2012), One of a Thousand Ways to Defeat Entropy - The 54th Venice Biennale (Italy 2011), Transmediale, Haus der Kulturen der Welt (Germany 2010), and Synthesis, Tate Modern (England 2007).

KAREN LANCEL, HERMEN MAAT

Shared Senses: Intimacy Data Symphony

How does an Artificial Emotional (AE) kiss feel? Can AI/AE support an intimate kiss?

Artificial Intelligence (AI) increasingly shapes human empathic interaction. AI systems applied to Brain-Computer Interfaces (BCI) for mining and interpreting biofeedback data of social behavior, focus on automatization, categorization, patterns, and prediction. Design for sharing intimate, empathic relations, however, demands a new Artificially Emotional (AE) design approach. In interdisciplinary collaboration (art, design, technology, science, society), art-science duo Lancel/Maat fundamentally rethink AI/AE concepts and ethical design of mirroring empathy (Freedberg & Gallese 2007) in future neural networks. In live experiments and dialogue with public participants, biofeedback-data are interpreted in new ways, building on artistic and scientific insights, visual data-patterns, data-sonification, shared participants interaction - leading to video-works, prints, publications (Lancel et al. 2019).

The poetic ritual and performance-installation *Kissing Data* proposes an AE/BCI mediated multi-sensory syntheses of intimate touch, essential to empathy, well-being, and social resilience. People are invited as Kissers or Spectators to experience a shared kiss. While kissing, Kissers' brainwaves are measured with Multi-BCI E.E.G. headsets. Real-time, their streaming E.E.G.-data-visualizations encircle them in a floor projection. Simultaneously, the Spectators' brainwaves are measured (their neurons mirroring the activity of intimate kissing movements, resonating in their imagination). Both Kissers' and Spectators' data co-create an immersive visual, reflexive data scape, translated to an algorithm for a soundscape: a *Kissing Data Symphony*. Printed data-visualizations are exhibited as *Portraits of a Kiss*.

Participants can share kissing or caressing each others' faces. The artists thank Mondriaan Fund; Delft University of Technology; STEIM Amsterdam/ Tijs Ham (sound); Waag Society Amsterdam 'Hack the Brain' Horizon2020 European Union Programme; RIXC-Riga; TASML artists-residency Tsinghua University Beijing; TU Twente; Universities of Amsterdam, Vienna; TNO/NWO Netherlands Scientific Research; Baltan Laboratories, Fourtress, Holst Center and Phillips Eindhoven; Eagle Science Amsterdam; EMAP-EMARE Creative-Europe Programme.



Shared Senses: Intimacy Data Symphony, 2019.
interactive performance, EEG headsets, projector, computers, speakers.

Karen Lancel, Hermen Maat

Art-science duo Lancel/Maat (Karen Lancel, Hermen Maat, www.lancelmaat.nl) are considered pioneers exploring embodied presence, privacy, empathy, and trust, in post-human bio(techno)logical entanglement with (non-)human others. They radically re-orchestrate automated control technologies, bio-feedback and social-sensory perception, to create 'Trust-Systems', for intimate meeting experiences and for public dialogue on resilient, AI/AE social ecocultures. In host, immersive performance-installations ('shared neuro-feedback systems', 'reflexive data-scapes'), audience interact through face-recognition, brain-computer, smart-textile technologies - portrayed in video-works and data-prints. Shows: ZKM, Venice Biennale 2015; Rijksmuseum Amsterdam; Stedelijk Museum Amsterdam; Ars Electronica; NABI Seoul; 2nd TASIE Millennium Museum Beijing, Transmediale Berlin; WaagSociety Amsterdam; ISEA2004-2011-2016; Shanghai World-Expo2010. Residencies/fellowships grants awarded by Mondriaan Foundation, Banff Center, V2_Institute, TASML Tsinghua University, NWO-Netherlands, EMAP-EMARE Creative-Europe Programme. Lancel/Maat lecture, publish, teach internationally (CHI, ArtsIT, Leonardo), conducting PhD-research at TU Delft 'Participatory-Systems-Initiative' and at Hanze-University Groningen, where Lancel previously headed the MFA media-art program. Works are included in Digital-Canon LIMA and ZKM collections.

www.lancelmaat.nl

TOMAS LAURENZO

Memoirs of the Blind

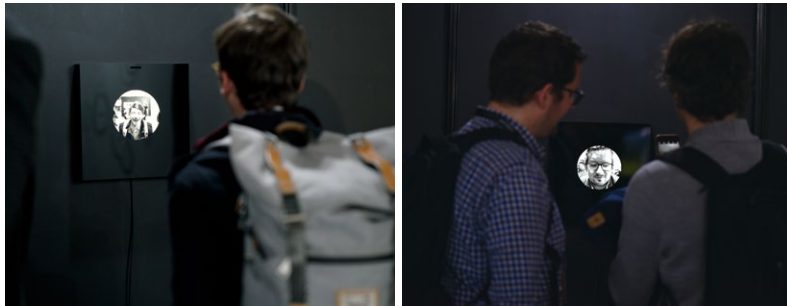
Memoirs of the Blind is an interactive installation, consisting of an acrylic box containing a screen showing a desaturated photograph of a face with its eyes closed. When the interactor blinks, the installation detects it and takes a photo at the exact time of the blinking. Once the new face is obtained, it is processed and the installation substitutes the displayed face with the new one.

The artwork becomes a fleeting testimony of its visitors, interacting with it, but not seeing it. The piece captures a moment where the visitor becomes at the same time subject and object of the artwork.

Memoirs of the Blind reflects on the power asymmetries that technology crystallizes, providing a contemplative reflection on the aesthetics of our relationship with it, while simultaneously showcasing the advancements in computer vision that allow for supra-human abilities. In effect, the piece highlights the differences between what Paul Virilio called "metabolic speed" - the speed of the living being-and "technological speed", the artificial speed of machines.

Emile Devereaux commented that Nam June Paik's work, like Derrida's "extend the framework of the symbolic and destabilize spatial locations through demonstrating the postal principle" (how a letter may not arrive at its destination). This piece, whose title is inspired on Derrida's book "*Memoirs of the blind*: the self-portrait and other ruins", artistically appropriate this principle, proposing a poetic dimension of the power choreography in human interaction.

In addition, the installation explores our relationship with automated surveillance, subverting the subject-object relationship between itself and its visitors, while exploring the aesthetics of such subversion.



Memoirs of the Blind, 2018
Apple iPad, custom software, laser-cut acrylic box, interactive installation.

TOMAS LAURENZO

Tomás Laurenzo, PhD. is an artist, computer scientist, and academic working with physical and digital media, interested in data representation, music, interaction, and politics.

With a hybrid background, his research spans across different practices and interests, including artificial intelligence, HCI, physical computing, and virtual reality.

His artistic production is also diverse, including installation, interactive art, music, live cinema, and digital lutherie. His artworks and performances have been shown internationally with exhibitions in Africa, the Americas, Asia, Europe, and Oceania.

Since 2014, he is an Assistant Professor at the School of Creative Media of the City University of Hong Kong.

Laurenzo has also performed artistic and academic activities in several institutions including The Broad Institute of Harvard and MIT, Microsoft Research, Carnegie Mellon University, Brunel University, INRIA, and the University of the Republic, among others.

Mother

Mother is a series of generative sculptures that explore synesthetic connections between language and form by analyzing hand gestures that represent the participants' interpretations of unfamiliar spoken words. The gestures of the participants were captured in 3D using a Kinect, interpreted with openFrameworks, and printed with a rapid prototyping machine. In contrast to the unrecorded spoken language, which is ephemeral, the language that is printed three-dimensionally becomes embodied in a physical form. In this work, the human translator is replaced by a computer. The concept of translation is thus stretched, expanded, and re-contextualized, providing a flexible way to see and experience language through a work of art.

INMI LEE, KYLE MCDONALD
Mother



Mother, 2012, OpenFrameworks, Xbox Kinect, video, 3D printer, dimensions variable.

Kyle McDonald

Kyle McDonald is an artist working with code. He creates interactive and immersive audiovisual installations, performances, and new tools for creative exploration. He uses techniques from computer vision, machine learning, networking, and computing to create unusual experiences. His work is commissioned by and shown at exhibitions and festivals around the world, including NTT ICC, Ars Electronica, Sonar/OFFF, Eyebeam, Anyang Public Art Project, Cinekid, CLICK Festival, NODE Festival, and many others.

Inmi Lee

Inmi Lee draws from existing sociopolitical conditions, particularly surrounding language and speech and creates speculative narratives that reveal our latent social desires. The research-based fictions critique the limitations of existing solutions of social problems while expanding the imaginary around these issues. She has presented her work at Anren Biennale in China, SIGGRAPH, Digital Art Biennale in Seoul, Boston Cyberarts Festival, International Performance Art Festival in Beijing, and in Madrid Abierto, Spain.

MARC LEE

10.000 Moving Cities - Same but Different, AR (Augmented Reality)

Are we living in a globalized world that is becoming increasingly homogeneous? Languages, plant and animal species are continuously decreasing. Supermarkets, buildings and cities look more and more alike. Places are emerging, which could be anywhere in the world without a real local identity. Technological progress is accelerating this process. Fast means of transport and communication such as airplanes, satellites and the Internet enable ever faster and apparently more comprehensive access to information. *10.000 Moving Cities* poses the question of what the ever-growing similarity and homogeneity mean.

With the Augmented Reality App *10.000 Moving Cities - Same but Different* every place becomes a city. High towers rise into the sky. One moves between the imaginary buildings via smartphone and tablet and participates in the digital communication streams and social movements of our time by means of inserted Social Media Posts. The buildings can be destroyed and rebuilt by the users. But beware! Every-one sees what the other is doing from different perspectives. The more buildings disappear, the more creatures appear.

In the multiuser version, users can simultaneously experience an identical virtual city consisting of posts from social media networks. Interactions in the virtual city, such as the destroying of building blocks, are also visible on all connected devices.

Marc Lee has created four different versions of the *10.000 Moving Cities*. At ISEA you can experience the AR version. There is also a VR version, a mobile version and a version with real cubes. All four versions are similar in content, but made with very different technologies.

Visitors can use their own Android or iOS tablets or mobile phones. The apps are downloadable from Play Store (Google) and App Store (Apple) for free.

<http://marclee.io/ar>

Credits: Marc Lee in collaboration with the Intelligent Sensor-Actuator-Systems Laboratory (ISAS) at the Karlsruhe Institute of Technology (KIT)

MARC LEE

10.000 Moving Cities - Same but Different, AR (Augmented Reality)



10.000 Moving Cities - Same but Different, AR (Augmented Reality), 2018.
AR multiplayer game, mobile app.

Marc Lee

Marc Lee's works, which focus on real-time processed, computer programmed audio-visual installations, have been shown in major Museums and new media art exhibitions including ZKM Karlsruhe, New Museum New York, Transmediale Berlin, Ars Electronica Linz, Seoul International Media Art Biennale, Inaugural Exhibition National Museum of Modern and Contemporary Art (MMCA) Seoul.

<http://marclee.io/en/about/>

NANCY LEE, KIRAN BHUMBER

Telepresence

Telepresence is an 8 minute, 8-channel sound VR live performance. The performance takes place in a physical space with an 8.2 octophonic sound system, 4 amps, and a live trumpet performer. Eight audience members are seated in rotating chairs in the center of the sound system, each wearing an Oculus Go, as the performer performs around them. Additional audience members can sit around the outskirts of the sound system and watch the performance take place without the Oculus Go. The 8 Oculus Go's are networked to a central server via WIFI, so the audience experiences the same virtual environment. *Telepresence* can be performed once every 30-minutes, 4-5 times a day.



Telepresence, 2018. Virtual Reality headsets, headphones, computer, monitor.

Nancy Lee, Kiran Bhumber

Kiran Bhumber is a media artist, composer, musician and educator based in Vancouver, Canada. Kiran constructs interactive installations and performance systems that allow performers and audiences to engage with themes relating to cultural memory, embodiment, and nostalgia. Nancy Lee is an interdisciplinary media artist, filmmaker and electronic music curator. Nancy recently directed a VR 360 video dance film *Tidal Traces* produced by the National Film Board of Canada which has been screened at Mutek, SXSW, and Cannes Film Festival. JP Carter is a Juno award-winning musician from Vancouver, Canada. Carter's singular approach to the trumpet and versatility as an improviser and composer make him a vital contributor to the Vancouver music community.

HYE RIM LEE

Black Rose

My 3D animation deals with the world of virtual relationships using sophisticated computer programs to drive the viewer's thoughts with dazzling 3D digital effects of glossy glass that optimize perspective, texture, and reflection. I explore instinct, fantasy and dream through mythological elements of identity, like a bunny named TOKI, a 3D character that has been my creation and my practice for some time. Through her, I explore cyber feminism and cyber trend between West and East in the challenge of mixing old mythology and new contemporary myth making. TOKI has evolved into the character of the *Black Rose Queen* who is created in a reflective paradise exploring ideas of isolation. TOKI captivates the viewer by balancing the desire for escapism with real desire and personifying this through virtual reality. *Black Rose v1* depicts a dreamscape for a journey of TOKI's shifting identity. TOKI floats and spins on the Flower Ring in the Mushroom Woods trying to escape her trauma from death and lost love and now searching for love and happiness in the diamond rain playing with the clouds of beads and marching pink bunnies. A floating, shiny, glossy glass TOKI becomes a *Black Rose Queen* in Lucid Dream, a never-ending, ever-moving infinite dream, staged in a playful, childlike narrative story alluding to fantasy and symbolism. TOKI is a shape shifter and Princess, Queen and Rose. *Black Rose Queen* is a birth statement for the glory of a Queen who is born in the process of transformation from escaping her tragedy to an infinite dream, but shines beautifully in floating dream and reality mix. *Black Rose* lures the viewer into a zone between the digital surreal and visceral reality.



Black Rose v1, 2016. 3D animation, 4'45" loop, stereo sound.

Hye Rim Lee

Hye Rim Lee is an Auckland based Korean New Zealand artist and a lecturer at Whitecliffe College of Arts and Design. Lee's work has been exhibited with more than 250 exhibitions worldwide in the major solo and group exhibitions at: Kukje Gallery Seoul, Max Lang Gallery New York, Waterfall Mansion & Gallery New York, Gallerie Volker Diehl Berlin, Monte Clark Gallery Vancouver, MoCA Shanghai, Today Art Museum Beijing, MOCA Taipei, Minsheng Art Museum Shanghai, Trondheim Kunstmuseum, Fundacio Joan Miro Barcelona, Wereld Museum Rotterdam, Starkwhite Auckland, San Jose Museum of Art, MMCA Seoul, SeMA Seoul, SOMA Seoul, The National Taiwan Museum of Fine Arts Taipei, Govett Brewster Art Gallery New Plymouth, Adam Art Gallery Wellington, The Gus Fisher Gallery Auckland, numerous collateral exhibitions in the 58th, the 54th and the 53rd Venice Biennale, Incheon Women's Art Biennale Incheon, Animamix Biennale China 2011, Samsung Media Exhibition Daegu 2011, and artfairs including Basel, FIAC, Frieze, Armory Show, Basel Miami, Art HK. Shanghai Contemporary, Art Paris, KIAF. She won the artist residency: Ssamzie Space Seoul and ISCP New York (2007-2018). She was awarded numerous funding from CNZ, NZ Film Commission, and Asia NZ Foundation. She was a Visiting Fellow at AUT in 2013. She is a finalist of Wallace Art Awards (2016). Her works become part of major international art collection and private collections worldwide. Samsung NZ and Hyundai NZ sponsored Hye Rim Lee. TV NZ made a 45-minute documentary about Hye Rim Lee, TOKI Does New York 2008.

hyerimlee.com

HAN LEE

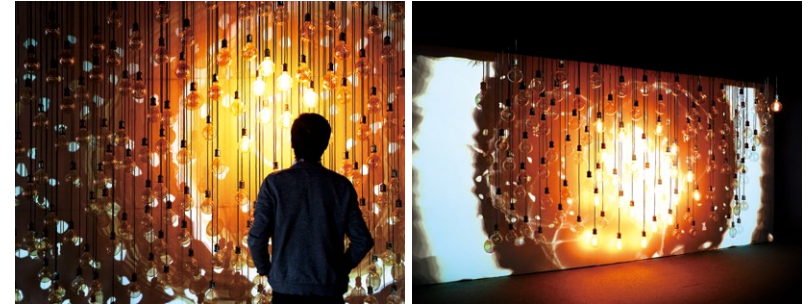
LamX

Light. Joy. Playground.

Starry and emotionally warm lights bloom out and reach to your heart. Light, the first thing of the beginning interacts to your motions. It actively responds to you by bursting with positive energy.

LamX is an interactive light artwork that simulates the light talking to you. Physical light bulbs with digital light waves make a mixed reality and unique environment. It is a delightful dialogue, an aesthetic scene, and a beautiful moment. When redefining the light in the artistic language, Lee was interested in how light spreads out and fills the air when it slows down. With the question "How does light interact when considered a living creature?", *LamX* was given a personality which is shown through the choreography of lighting.

When interacting with *LamX*, the light leads and follows the viewer wherever one goes. It is positive and waiting to play with humans. It calls and invites the viewer to the playground and shelter. Lee often brings rain into his artwork as a sample of immersive sound and dynamic reactions. Rain to him symbolizes the power of life that comes alive by its movement. Rain fills the air emotionally like a light. He borrowed it, the result making the analog emotions of light richer. He uses round and line which are 0 and 1, as primary graphic elements. The binary codes are aligned with wires, light bulbs, and ripples. *LamX* also has two light shows full of emotional scenes and story-telling. It is a 7min-length unique light show that performs at a certain time with motion graphics, lightings, and motivating emotional music that has been composed and performed by Lee.



LamX, 2019. Computer, controllers, edison light bulbs, motion sensor, projectors, dimensions variable.

Han Lee

Han Lee is a New York-based new media artist who captures nature and transforms it into a form of mechanical elements with physical computing and programmed digital arts. He tries to imitate nature by making his artwork come alive and interact with visitors. He is best known for immersive interactive light artwork, *LamX*, that presents the powerful invisible world beyond small light objects. He breaks a limitation of the physical world by expanding with digital technology, a storyline, and music.

He is also a well-known designer, a motion designer, and a musician. Lee Han won various international prestigious awards in the commercial design industry. His artwork has been shown in many places, including New York, Jersey City, Atlanta, Shanghai, Guangzhou, Jerusalem, Haifa, Suwon, Jeju Island, and Seoul. He also has collaborated with major companies across the world and used to serve as a juror of various awards.

www.hanlee.com

TransVision: Exploring the State of the Visual Field in the Age of Extreme Augmentation

Human perception has long been influenced by technological breakthroughs. An intimate mediation of technology lies in between our direct perceptions and the environment we perceive. Through three extreme ideal types of perceptual machines, this project defamiliarizes and questions the habitual ways in which we interpret, operate, and understand the visual world intervened by digital media.

1. Hyper-allergenic Vision Syndrome

The modern society has observed an increase in allergies and intolerances. Hypersensitivities are emerging not only medically but also mentally. Technology has this mutual reinforcement effect that people tend to become less tolerant because they interact even less with people who have different backgrounds and opinions. Digital media as mediator reinforce people's tendency of overreacting through the viral spread of information and amplification of opinions, making us hypersensitive to our social-political environment. Similar to patterns of intolerance to signals that we see with our immune system, we also see with our mental responses to our environment. By creating an artificial allergy to redness, this machine manifests the nonsensical hypersensitivity devised by digital media.

2. Tactile Vision

Vision works well when we have an overview of the total system, but the way we search in digital media is through little steps, from link to link – a tactile experience as we feel the landscape. We can never see it as a whole because it's not a continuous space. Instead, we look through a pinhole and build up everything without an overview. This wearable is the extreme version of us possessing only one sense for one thing. Depriving all other sensory experiences and leaving only one signal channel, this hyper-narrow, focused, and filtered vision is an analog version of the searching behavior on the Internet.

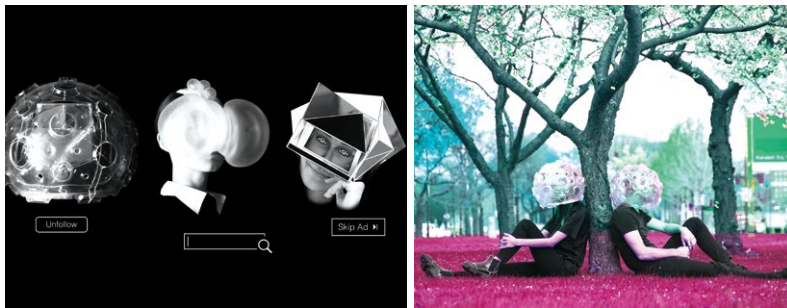
3. Commoditized Vision

The commodification of the visual field requires observers that can rapidly consume visual information. The downside is the extreme overloading of information that has to be packed into the visual field in order to make the most out of every second. The meditative relationship to what we are staring at is no longer possible because everything has an overlay of commercial information trying to extract value from us. The visual field becomes a commodity that has real estate value. By creating the tension between meditative state and consumptive state, this machine contemplates on how augmenting the visual field with new technologies affects our relationship to the world in this particular social-economic context.

JIABAO LI, HONGHAO DENG, PANAGIOTIS MICHALATOS

TransVision:

Exploring the State of the Visual Field
in the Age of Extreme Augmentation



*TransVision: Exploring the State of the Visual Field in the Age of
Extreme Augmentation, 2018.*
electronics, lens, mirror, resin, silicon, dimensions variable.

Jiabao Li

Jiabao Li works at the intersection of emerging technology, art and design. Her work opens questions about technology's influence on human perception, identity, and emotion. Her research-based projects range from wearables, projections, drones, installations to scientific experiments. She holds a Master of Design in Technology degree with Distinction from Harvard GSD. Jiabao's work has been featured in Domus, TechCrunch, Yahoo, CCTV, Yanko Design.

Her work has been shown in Milan and Dubai Design Week, ISEA, CHI, SIGGRAPH, and PRIMER. She is the winner of the Fast Company Award, iF Design Award, Future Cities Award, and ISWC Design Award.

Honghao Deng

Honghao Deng is a computational designer. He holds a Master of Design in Technology with Distinction at Harvard GSD and was a researcher at City Science Group, MIT Media Lab. Recognition gained in the design and interaction community includes Golden A' Design Award, iF Design Award, Future Cities Award. His work has been covered by Domus, CCTV, ArchDaily, Arab News, the National and Metropolis Magazine.

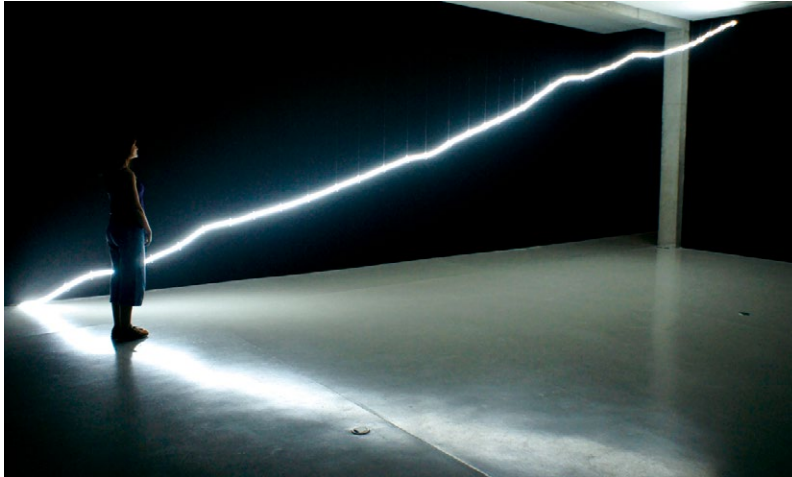
SOLIMÁN LÓPEZ

Limbology

Limbology explores a geolocation experiment in the stratosphere performed with a beacon attached to a probe balloon.

The balloon is released in an open space, where it begins its ascent at the mercy of air currents and with an uncertain destination. Floating in the sky, the balloon seems to be nowhere (therefore, in limbo) but at the same time, its position is fixed with precision thanks to the GPS beacon. As it rises, the beacon's capacity to transmit the data decreases until it reaches a height where it loses connection and subsequently, due to the decrease in air pressure, the balloon expands until it bursts and starts its vertiginous decline. The data of the position of the beacon during the journey are translated into a sinuous line that rises and stops abruptly. The artist visualizes this route with a neon tube suspended from the ceiling and a video that captures the trip of the balloon. Consciously realized as a failed experiment, the action shows the limits of technology while reflecting on how we conceive space as something that can be mastered by means of measurements and maps.

Text by Paul Waelder.



Limbology, 2018, LED neon light, sedal, video, light installation, dimensions variable.

Solimán López

Solimán López (b.1981, Spain) has a BA in Art History and an Art and Communication Master, is a media artist, researcher, Harddiskmuseum founder and director of the I+D+i Department in ESAT Valencia.

His work has been shown in Venezuela (I Bienal de Arte Emergente), Cuba (Festival de Camagüey), Nicaragua (CCE), México (CCE), El Salvador (CCE), Argentina (MACBA - Buenos Aires, MAC - Bahía Blanca, Palacio Ferreyra - Córdoba, Timoteo Navarro - Tucumán), Suecia (SwitzerlandArtSpace), Pasadena and Chicaco (MIA Festival), Portugal (Au pie de la Montagne Show) o Grecia (Create an Accident) and art centers or museums such as CAC de Málaga, IVAM Valencia, Matadero Madrid, CCCC (Valencia), Centro Cibeles (Madrid), I-CAS (Sevilla), Arts Santa Monica (Barcelona), Etopia (Zaragoza), La Lonja and Cigarreras Alicante, CAB in Burgos, Oi Futuro Rio de Janeiro, or art fairs such as ARCO, JustMad or ArtMadrid in España or Chronus Art Center, Shanghai, CEART Madrid, EP7 Paris.

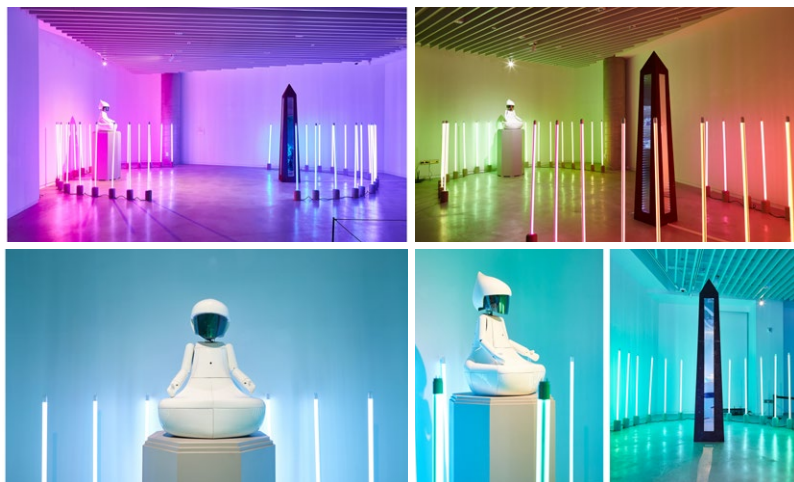
LOVOT LAB

BUDDHA I + STAND I + The monument of robot ethics

With A.I being a huge societal issue, efforts to define and create a standard of robot ethics and A.I ethics are seen worldwide. In 2007, for the first time globally, South Korea attempted to enact the Robot Ethics Charter to establish the ethical and technical limitation the robot industry or the robot itself should aim for, responsibilities of the robot manufacturer, and morals involving the creation, destruction, and usage of robots. However, only its draft was announced without its formulation. Currently, where there is massive development in A.I, which functions as the robot's brain, the contents of the unestablished charter poses many implications for us.

"BUDDHA I sits In front of The monument of robot ethics"

Robot in Buddha figure is surrounded by white fluorescent light that creates futuristic atmosphere. Seated on the pyramid-shaped structure, this artificial intelligence robot explores on the participants. The robot observes the participant's face through machine learning, accumulating data and analyzing one's face. Participants will hear a corresponding message as a result of the analysis. Artificial intelligence, a major issue in the new industrial revolution, called the Fourth Industrial Revolution, is not a distant future as media art has been created through various expression since the 1960s and faster along with the development of technology. This new technology is expected to change the quality and pattern of life as it is introduced and replaced in various areas of society. Even artificial intelligence robot can predict one's fate and fortune tell on the future. In addition, it aims to expand the category of recognition of artificial intelligence by expressing in an artistic and philosophical way and as a being that is more favorable than a human being based on the modified theory of the Uncanny Valley by Japanese roboticist Masahiro Mori.

*BUDDHA I, 2017.*

Cam, customized software, servo motor,
stainless steel, wireless LED controller, 3D printed PLA, 50x50x70(cm).

STAND I, 2017.

Concrete, customized software, customized T8 LED tube,
wireless LED controller, 11x11x133(cm).
Interactive light connected with *BUDDHA I*.

The monument of robot ethics, 2017.

Customized software, LED controller, LED strip, infinity mirror, steal,
40x40x220(cm).

LOVOT LAB

LOVOT LAB is a media art collective formed by Shin Wonbaek, whose major concern is electricity and other invisible energy forms, and Hong Hyuns, who explores the theme of machines and life, using electronic circuits and computer programming. As LOVOT LAB team, they employ electronic apparatus and digital technology to create installations, often consisting of a geometrical array of LED pipe lights, that touch on a variety of themes. Some of their works interact with the audience and show how human facial expressions and bodily movements can be translated into ones and zeroes, or more specifically, what it means to see human activities expressed in binary code.

www.lovot.co

KIMBERLY LYLE

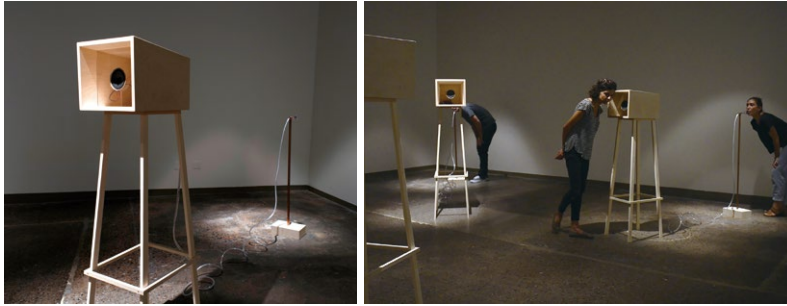
After Words

After Words is an interactive sound installation in which the viewer's participation causes basic units of speech to puncture the space, interrupting and overlapping yet remaining untied to any specific language. Inspired by early failed speech synthesizers from the 1700s that could emit syllables, consonants, and vowels, these structures house small circuit boards which trigger audio files at random to play with language's most basic building blocks. Each sound gestures towards a desire for the language but forecloses the possibility of meaning - questioning logic, embracing nonsense, and untethering the voice from language.

Each structure is subtly different in shape and size to preclude a singular, authoritative tone. As multiple participants activate the sculptures simultaneously, the dimensions of the objects and their arrangement in space choreograph the movement of bodies. The act of blowing into the stands trigger sounds to be emitted by the connected structures and encourages the viewer to feel the continuum between breath, sound, and language. By engaging the viewer physically, language becomes tied to the body. Sculpturally, the components of the structures remain deliberately exposed to the viewer, revealing its hybrid materiality and dissolving the boundary between human and machine. Each box holds a finite number of speech sounds, inevitably resulting in fragmented and failed attempts at communicating a clear message. This brings attention to the limits within linguistic structures while asking what might be communicated solely through tone and intonation.

By using these structures to rearrange sounds of language, I'm exposing its capacity for failure and questioning the logic behind systems of knowledge that are often invisible yet deeply integrated into our everyday lives. It is my hope that by reducing language to its most fundamental parts, their sounds start to make sense by themselves - another kind of sense than words do.

KIMBERLY LYLE
After Words



After Words, 2019. Acrylic, Arduino Uno, Birch wood, copper, MP3 shield, plastic tubing, sound sensor, speaker, 2.5x2x1.8(m).

Kimberly Lyle

Kimberly Lyle is an interdisciplinary artist and educator whose current practice questions our relationship to systems of language, learning, and technology. Her recent work utilizes sound, sculpture, and interactive electronics, often encouraging the viewer to engage with their body physically. Through research, she incorporates ideas from multiple fields of knowledge including literary theory, art history, computer science, and the social sciences. Many of her projects stem from a desire for another kind of community beyond the conventions of discourse. One that begins to blur the boundaries that exist between languages, between human and machine, and between each other.

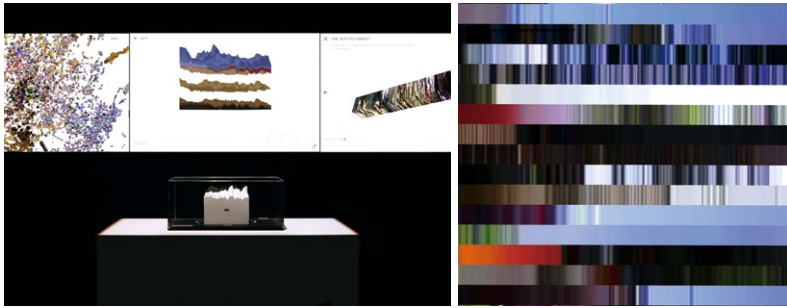
www.kimberlyle.net

MARÍA MOLINA PEIRÓ

One Year Life Strata

During one year María Molina Peiró carried a wearable camera taking a photo every 30 seconds. The enormous collection of photos collected by the camera are shown in an online archive that instead of “remembering” creates a creative amnesia of her year’s digital memory.

One Year Life Strata proposes a visual metaphor of forgetting by transforming the digital images into what is likely the ultimate memory trace that will remain from us: The geological record. The project, in a sort of digital geology, mines the data from the strata and invites to investigate one year of María Molina Peiro’s life through an AI vision system which doesn’t concerned about the personal memories include on those photos but in the collection of patterns and numbers they contain.



One Year Life Strata, 2017. 3D print, code, computer, screens, speakers, mouse, wearable camera, dimensions variable.

María Molina Peiró

María Molina Peiró is a Spanish filmmaker and audiovisual artist, with a background in fine arts. She works in an open format, mixing film, experimental animation and new media. Her films and installations often unfold layered realities that connect humans, technology and nature. She is particularly interested in memory systems (from geology to digital memory) and the relation between cinema and science. Her current research focuses on humanity's constant struggle with its temporal and spatial limitations, and how this struggle has driven civilisation and technology to change our relation with nature, time and our understanding of life itself.

María Molina Peiró has presented in film festivals and exhibitions internationally: International Film Festival Rotterdam IFFR, Rencontres Internationales, Haus der Kulturen der Welt, International Film Festival Oberhausen, Louvre Museum, EYE Film Museum, ISEA Korea, Indie Lisboa International Film Festival, London Science Museum, MACBA, VIS Vienna Shorts, Hong-Gah Museum (Taipei), MATADERO (Madrid), Taiwan Video Art Biennale or Goshorts, amongst many others. María holds a BA from University of the Arts, Sevilla and graduated Cum Laude from the Master of Film at the Netherlands Film Academy in Amsterdam.

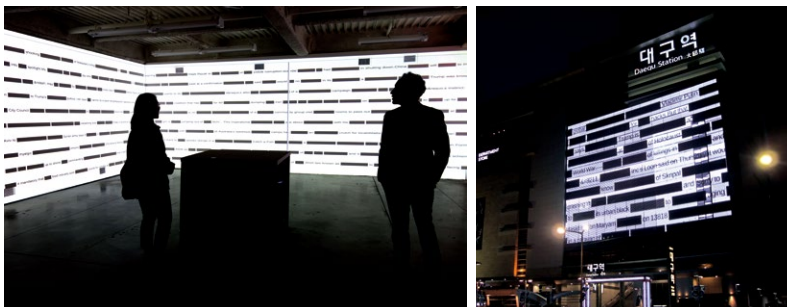
PATRICK MONTE, BRIAN QUESTA

Anomy, for U.S. News

Anomy, for U.S. News is a generative audiovisual artwork constructed with C# and Supercollider code to redact words containing the letter "e" from news streams across the United States in real time. Streams of text and black redaction boxes are programmed to circulate around viewers and generate notes in a musical score that neither repeats nor ends. Reminiscent of both piano rolls and classified documents, the work is intended as a diverse musical work and a thought-provoking visual record navigating mass media, censorship, and language in contemporary society.

The term "Anomy" was popularized in Emile Durkheim's 1897 sociological study of the social roots of suicide and is commonly defined as a condition characterized by a breakdown in social values and norms. The multivalent qualities of contemporary media experience produce such breakdowns in language, truth, and meaning, as typified by disinformation campaigns and the cultural emergence of "fake news." Inspired by constrained writing and concrete poetry such as Georges Perec's "La Disparition," we use the lipogram as an interpretation-form, emphasizing issues of subjectivity and control as well as conventions of style and language in news media. Centering itself around the loss of "e" both in text and sound, *Anomy, for U.S. News* seeks to induce viewers to contemplate new linguistic structures in a condition of absence.

PATRICK MONTE, BRIAN QUESTA
Anomy, for U.S. News



Anomy, for U.S. News, 2018.
Media Installation with RSS and XML feeds, C# code, Supercollider code,
video projection, and sound, dimensions variable.

Patrick Monte, Brian Questa

Patrick Monte (b.1989) is an American intermedia artist based in NYC and Berlin. Brian Questa (b.1988) is an American composer, media artist, and multi-instrumentalist based in Graz, Austria. Together, they have worked as a collaborative duo since 2012, producing installations, performances, and experimental music internationally. They have held artist residencies at Bridge Gallery in New York City (2012) and Liebig 12 in Berlin (2014). In 2014, their 12-channel sound work *Circular Smells* was featured during the presentation of Urban Solar Audio Plant for C60 Collaboratorium in Berlin. In 2018, their media artwork *Anomy, for U.S. News* received an "Official Jury Nomination" at the 21st Japan Media Arts Festival and was a feature installation for the 2018 International Computer Music Conference in Daegu, South Korea. In 2019, their media artwork *Anomy, for U.S. and Mexican News* premiered at Centro de Cultura Digital in Mexico City as part of Encuentro 2019.

<http://xupstar.com/>

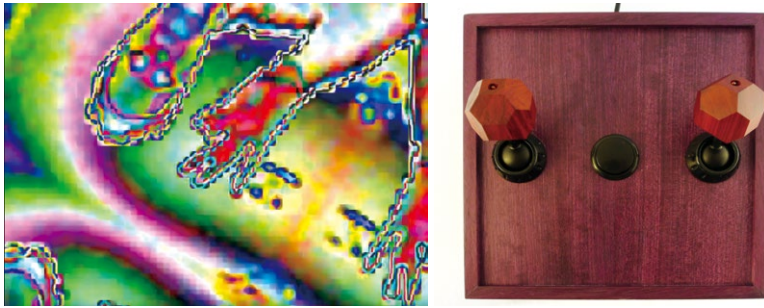
MATTHEW MOSHER

Secrets of the Dark

Secrets of the Dark manifests both audio and visual noise in harmony with each other. Participants can manipulate visual effects on a projected live video stream by using the custom dual joystick interface in this artwork. The system rewards large hand gestures with increased prismatic video distortion. At the same time, these tangible inputs also drive an FM synthesizer that compliments the visual noise with scrubby audio. From a distance, the projections and sounds draw people in, often enticed by seeing abstract representations of themselves. At this range, many people can engage with the work simultaneously, while at a more intimate scale, one person can play the interface for the gathered audience. By combining these elements the installation allows people to transform the world around them into one of colorful kaleidoscopic light through expressive movement.

The interface is born of a hacked GameTrak controller embedded in a purple-heart wooden box. Exotic woods were used to mirror colors found at the extreme end of the digital video filters. The interface leverages craftsmanship, traditional methods, and warm materials not often found in digital projects. This materiality both invites people in and juxtaposes the high tech with tangible forms.

The projections stem from a live video feed of the surrounding area. In its neutral state, they are grayscale with a flame effect. Upon manipulation of the interface, the visuals spring to life. The left joystick controls video rotation along the XY plane and zoom on the Z-axis. The right joystick controls horizontal and vertical pixelation on the XY plane and downsampling on the Z-axis. The Z-axis automatically retract, which provides a nice haptic resistance to the user's input gestures. Combined with FM synthesis, these elements provide the user with a multimodal embodied experience.



Secrets of the Dark, 2018. Computer, GameTrak, Max7 Code, projector, Purple Heart, Red Heart, speakers, USB camera, 300x300x300(cm).

Matthew Mosher

Boston native Matthew Mosher is an intermedia artist, research professor, and Fulbright Scholar who creates embodied experiential systems. He received his BFA in Furniture Design from the Rhode Island School of Design and his MFA in Intermedia from Arizona State University. While in Phoenix, he co-founded the non-profit [nueBOX] residency program for emerging performance and installation artists. Currently, he is an assistant professor of Games and Interactive Media at the University of Central Florida. Mosher exhibits his work across the United States, and internationally in India, China, Finland, and the Netherlands. His research is published in the ACM Computer-Human Interaction, Tangible Embodied Interaction, and New Interfaces for Musical Expression conference proceedings. His artwork bridges the physical and digital worlds by mixing new media, interaction design, computer programming, collaborative practice, and traditional sculpture processes. When taking a break from teaching and research, he enjoys still water kayaking, dispersed camping, and board games.

Additional photographs and video demonstrations are available at:
<http://matthewmosher.us/>

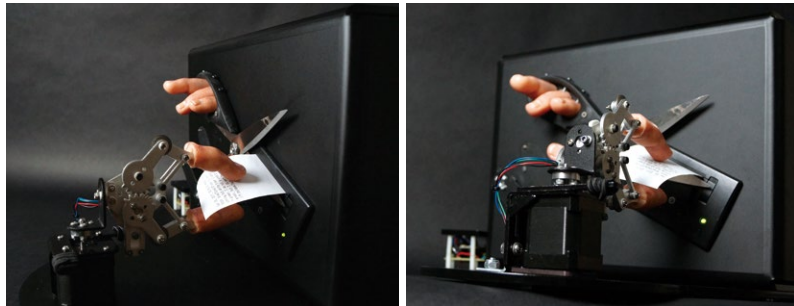
HYE YEON NAM

Invisible Stream

Invisible Stream uses a computational system to evoke understanding and spark a discussion of current racial stereotype issues. It explores the political implications of how freely racial discrimination is expressed on online platforms, where such discrimination can be easily hidden. It not only represents discrimination, but also voices the feelings of the victims and reveals the lack of conversation about this issue.

Invisible Stream receives data from the Twitter online platform, filters by keywords, and prints sentences that include derogatory racial terms on paper from a thermal printer. As sentences are printed, robotic hands with silicon fingers cut the thermal paper, leaving a pile of printouts on ground. As the fallen papers pile higher and higher, the audience can pick up the papers to read, take, or throw away. Amongst the pile of ignorant messages, one may find examples that seek to educate the speakers about the injured feelings and sensitivities of the victims.

Invisible Stream the most important purpose of *Invisible Stream* is to raise awareness and start discussions, not for the audience to remain in frustration. By confronting the audience with a live stream of racism, the installation poses controversial questions about the origins, function, transmission, and lineage of prejudice. Since these robots resemble parts of the human body, yet are controlled by computational and mechanical systems, *Invisible Stream* reveals the different meaningful and reflective layers between human and machine.



Invisible Stream, 2018. Mixed Media, 14x14x8.5(inch).

Hye Yeon Nam

Hye Yeon Nam is a digital media artist working on interactive installations and performance. She foregrounds the complexity of social relationships by making the familiar strange, and interpreting everyday behaviors in performative ways. Hye Yeon's art has been showcased in The Smithsonian National Portrait Gallery in Washington D.C, Times Square, the art gallery Eyebeam and The Tank, the Conflux, the D.U.M.B.O. Art Festival in New York, FILE, SIGGRAPH, CHI, ISEA, E3 Expo, the Lab in San Francisco, and several festivals in China, Istanbul, Ireland, the UK, Germany, Australia, Denmark, and Switzerland. Her work has been broadcast on the Discovery Channel (Canada) and LIVE TV show Good Day Sacramento, published in Leonardo Journal and featured in Wired, We Make Money Not Art, Makezine, Business Insider, Slashdot, Engadget among other publications. She is currently an assistant professor of digital art at Louisiana State University.

www.hynam.org

TIMO NIEMEYER

Value Manifesto

Value Manifesto declares its own commercial value to be art, as the first crypto-multiple* in the history of art. *Value Manifesto* is accessible to everyone via the internet and can be traded via its own marketplace without intermediaries and collusion. The price of the editions is determined by the *Value Manifesto*'s Blockchain based web platform on which bids are accepted for the acquisition of a single edition. Each crypto-multiple of a limited edition of 250 units is represented by an ERC-271 token on the Ethereum Blockchain. The value (defined in Swiss Francs) can be seen on the *Value Manifesto* bidding platform and on all 250 manufactured *Value Manifesto* IoT decryptor displays.

The reduction of the present artistic concept to its market value is a provocative statement in the ages of a hyper-commercialized, multi-billion dollar art market. In the case of the *Value Manifesto*, the prices are not created by galleries, auction houses and collector circles, but by real and unfiltered market request. In its existence in a purely digital form as a crypto-token, it introduces the philosophy of the technically reproduced multiple to the Zeitgeist of the digital age. The time has come to experience the moment of Blockchain Enlightenment in the art market and question the market authorities and their non-transparent business approach of the past. The principle of this project stands for the moment of enlightenment in the art market. As a continuous and long-term experiment, the findings of *Value Manifesto* shall be used to demonstrate the application of Blockchain technologies in the art market.

*Multiple: a technically produced art edition



Value Manifesto, 2015 - 2019.
Decryptor, IoT circuit board, metal, nixie tubes (RIZ568M),
perspex, 580x135x180(mm). Edition of 250.

Timo Niemeyer

Timo Niemeyer (b.1983, Finland) developed the artistic concept of the Value Manifesto since 2015. Timo is an art historian with a focus on European Avant-Gardes and art market advisor and developed the artistic concept of the Value Manifesto since 2015.

Niemeyer studied Art History, Social Anthropology and Law at the University of Zurich, Switzerland. His vision is a smooth and democratic embedding of cultural and especially artistic heritage in the forthcoming digital age in the context of IR4. NiemeyerTimo developed Value Manifesto as an interdisciplinary art project connecting Avant-Garde theories, state-of-the-art hardware and Bblockchain technology.

Credits

Technical Concept: Dr. Matthias Frank

Hardware: Dalibor Farny: Dr. Matthias Frank (b.1983, Germany) developed the technical concept of Value Manifesto. Dalibor Farny (b.1984, Czechoslovakia) succeeded to bring back nixie tubes back from extinction after six years of researchTrimplement (Platform of Value Manifesto) : - he delivers the hardware. Matthias Gall (b.1979, Germany), Natallia Martchouk (b.1974, Belarus) and Thijs Reus (b.1980, Netherlands) are 3 co-founders of trimplement, who provide Value Manifesto's platform with Ethereum blockchain integration.

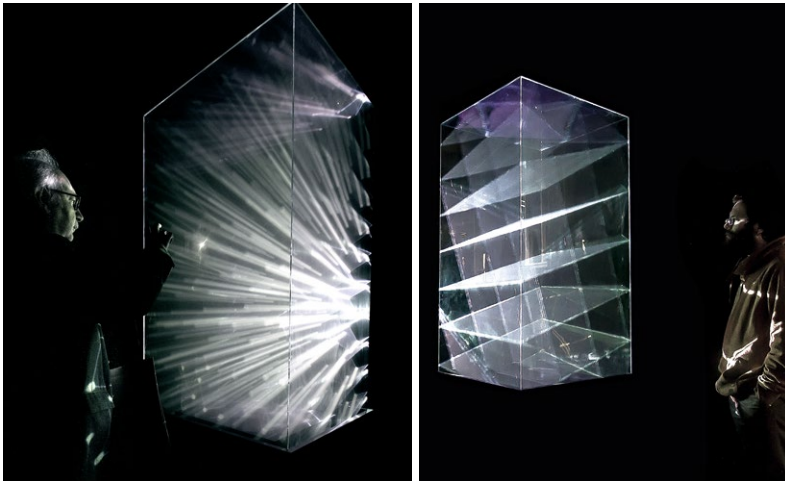
Arium

Arium is an audiovisual holographic installation, formed by the projection of images onto a plexiglas box filled with hazer. Using both hazer and mapping technology, the result is nowhere near a classic mapping, a huge semi-transparent holographic projection creating a 3D effect.

By incarcerating light in a glass container, light waves are manipulated, revealing the various possible forms. This way, the reality we know shatters, and a different kind of reality unveils.

Directly born out of the concept of Lux Aeterna, *Arium* aims to contain the light and transform it into visuals, altering the reality. Physics of light embody hallucinations in the air.

The divine and immortal light change shape yet not the quality, while the forming visuals expand and have a three-dimensional identity. Light escapes but is refund in the optics of the human eye and neurons in the brain. Where light ceases to exist, another entity in the form of the shadow is born. Penumbra carries Umbra whereas Umbra reforce Penumbra to life and light.



Arium, 2016. Haze, light, sound, video, wood, plexiglass.

Nohlab Studio

Nohlab is a studio, focused on producing interdisciplinary experiences around art, design, and technology. It builds a bridge between the digital and the physical reality, examining the relationship of technology with art and design. It produces tools, designs, and stories in which the connection between the human and technology reflects in many different ways.

The works of the studio have been in numerous international festivals & events such as OFFF, TedX, Vivid, Signal, Sonar Istanbul, World Government Summit and received awards from ARS Electronica and Japan Media Arts Festival.

Nohlab designs in a multidisciplinary process in production. Combining many different disciplines and techniques together, it prioritizes simplicity. At the start of every new project, the aim is to solve new problems, to try new techniques and in the end, to produce new perceptions about them. While doing this, Nohlab constantly investigates, tries and examines the ways to remove the borders between humans, space and time.

www.nohlab.com www.instagram.com/nohlab www.vimeo.com/nohlab

JOOYOUNG OH, BYUNGJOO LEE

Artificial Viewer for Appreciation of Interactive Art Surrogates

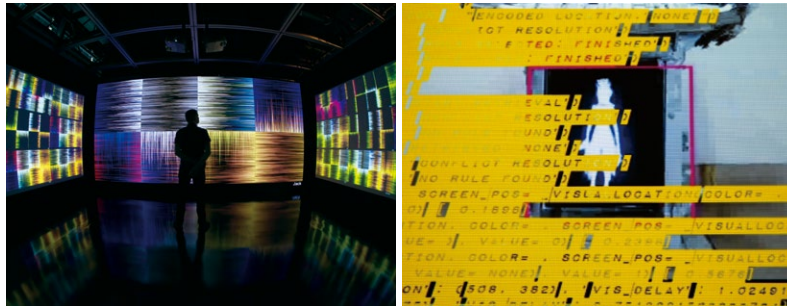
Interactive art is often viewed based on surrogates such as video and text. However, unlike static pieces such as painting, it is difficult to define and record the meaning and product of interactive art as a single spatiotemporal state. In this work, we created a virtual viewer that appreciate the surrogate of interactive art. The viewer, which is implemented using ACT-R architecture, simulates the basic sensory-cognitive processes of humans to watch and interprets the given surrogate in its own way.

This viewer model defines three basic cognitive states and processes the algorithm as listed below :

- 1) Initial appreciation (Camouflage), 2) Artist Solution (Getting the meaning) and 3) Insight (Matching meaning with its own experience).

At the same time, the response of the actual audience is analyzed and marked on each surrogate through an electroencephalogram (EEG) device and Pupil Eye Tracker. Once the actual viewer data is gained, the real viewer's appreciation is projected onto the screen followed by the result of the virtual viewer. Thus, the difference between the actual viewer and the virtual viewer on surrogated images can be seen in detail. The virtual viewer was represented by 23 data sets (23 artworks in <ACC Creators_In_Lab> Exhibition, Gwangju, 2018).

The result of the viewer model has shown that audience appreciation is predictable based on its surrogates, indicating that there is not much difference between the appreciation results of the actual viewer. Especially, when the abstract or personal meaning is included, the understanding degree of agent decreased rapidly, and the speed of appreciation became short. On the other hand, work with more narrative (documentary), resulted in longer appreciation time regardless of the content. Through the installation, the viewer model criticizes how passive and predictable the appreciation of interactive art today is.



Artificial Viewer for Appreciation of Interactive Art Surrogates, 2018.
Arduino nano, code, interactive video installation, Stereopticon(TELEX).

Jooyoung Oh, Byungjoo Lee

Jooyoung Oh is practicing artist and researcher (PhD candidate) working on the development of ACT-R based artificial user. Her work has been developed under two interdisciplinary backgrounds: Visual Communication Design and Engineering(Culture Technology). Her major interest is in revealing scientific propositions and principles of human performance and the logic behind the theory of visual perception. Since 2017, her work has been selected in major exhibitions such as Artience Creation Challenge Winner (ART*SCIENCE COLLIDE, British Council Korea), ACC_Creators_In Lab, and DA VINCI CREATIVE 2019 (Seoul Art Space Geumcheon), as well as participating BCI developer in BR41N.IO Series held at Ars Electronica. Granted Technological support from UKI Korea(g.tech Austria). She has also given a public talk <Collision of Science and Art>, Led by Chiara Ambrissio (UCL, History/ Philosophy of science).

<http://jojooh.com>

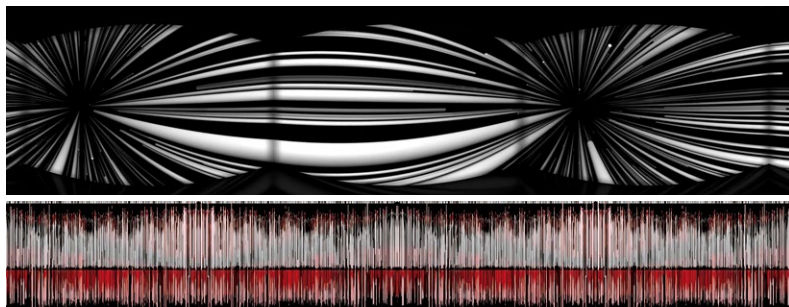
IMMERSIVE

Immersive plays with the Op art concept and minimalism content to produce illusions and illimited perspective. Projection plays with delay and echo in a rhythmic progression of abstract patterns.

It wants to surprise the viewer to get out of his custom point-of-view and question the perceptions of our daily reality and his relation with the environment, leaving the person free to look at the environment around them in altered space.

Through the computing of the sound and music patterns, and with the decomposition of 3D shapes projected in the four walls, the viewer has the sensation and the illusion of being inside them as mixed reality. The 360° format gives the opportunity to share this experience with other people in real space and not virtual. Video contents push physical walls in an illimited perspective. The ascending movement and the use of stroboscopic images give a new feeling of time and the sensation to be fully immersed.

A surrounded sound system accentuates the sensations of infinite space and the soundtrack is inspired by electronic melody derived from pure sinus and digital noises recreating a real electro-acoustic noise orchestra. Video and sound are written in parallel to have a synesthetic coherence and global work.



IMMERSIVE, 2018. 360° Video, 7680x1080(px), 6x6x3(m).

Jeremy Oury, Antoine Briot

Initiated by Antoine Briot and Jeremy Oury, Collective ARCAAN combines audio and visual skills to make singular mapping or digital installation.

They pursue explorations into intermedia forms to create the synaesthetic and minimalist partition with unexpected narrations in various ways (architectural mapping, led screen, immersive installation, full-dome, ...). They focus on research about illusions from geometric distortions of Moiré's effects and works on immersive forms in order to place the viewer at the center of a minimalist virtual universe to disrupt his perception of space. The sound partitions are inspired by abstract textures with several sound layers, radically transformed sounds and electronic samples. The video contents combine different geometric and abstract forms to create distortion and tension's games specific to minimalism.

They won several art prizes in Europe (Jury Prize at FIMG 2015, Public Prize at ICIA 2018).

<https://cargocollective.com/arcaancollective/Immersive>

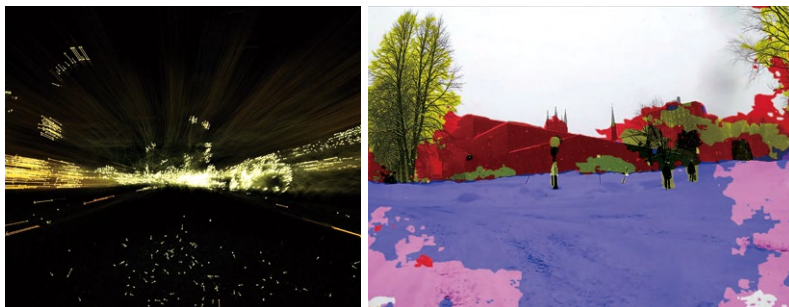
Manœuvres

The *Manœuvres* video series is part of a body of works that François Quevillon has been developing since 2016 based on observing the development of autonomous cars and dash cam compilations. On one hand, several technical, economical, moral and ethical issues are raised by vehicles that maneuver without human intervention. On the other, dash cam videos display accidents or spectacular events that portray roads as places where the unexpected occurs. The works play with the tension that arises when confronting mobile robotics systems with the unpredictable nature of the world.

The *Manœuvres* series consists of six short videos. Perception is blurred as the camera and its microphone are gradually obstructed by snow in *Peripheral Vision*. The *Iterative Roundabout* shows a deep neural network training to decode its surroundings while driving around. The environment slowly reveals itself during this repetitive learning process as the computer vision system tries to identify correctly the road covered with snow. An object detection algorithm identifies and tracks insects while the vehicle is immobilized in *Bug Tracker*. *Lost in the Forest* revisits a 4 and a half hours journey in maze of muddy forest roads. In *The Crossing*, registration points and displacement vectors calculate the future position of objects while a vehicle crosses a bridge. The same optical flow technique gives the impression that the car is contemplating the waves breaking on the shore in *Flow*.

<http://francois-quevillon.com>

<https://vimeo.com/265555553>



Manœuvres, 2017-2018. Video series.

François Quévillon

François Quévillon is an artist from Montréal (Canada) that develops an interdisciplinary practice through installation, sound, images and technologies. His work explores phenomena of the world and perception by the implementation of processes sensitive to their fluctuations and to the interference of contextual elements. He investigates how technology affects or redefines human cognition, culture, the environment, our relationships to space, to time and to one another.

His work has been presented at exhibitions and events dedicated to contemporary art, cinema and digital creation. Among them : Sundance's New Frontier exhibition (Park City), Spaces Under Scrutiny at the Knockdown Center (New York), International Symposium on Electronic Art (Albuquerque, Dubai and Gwangju), Museu da Imagem e do Som, Festival Internacional de Linguagem Eletrônica and Hipersônica (São Paulo), IndieBo (Bogotá), LOOP Barcelona, Plug-In at Contemporary Istanbul, Show Off Paris, Festival de la Imagen (Manizales), European Conference on Computer Vision (Munich), Mois Multi (Québec), NeurIPS, RIDM, Elektra and International Digital Art Biennial (Montréal).

TIARE RIBEAUX, JODY STILLWATER

Cyanovisions: The Transmutation of Light Harvesting Bodies

Cyanovisions: The Transmutation of Light Harvesting Bodies focuses on cyanobacteria, the first light-harvesting organisms on the planet to photosynthesize. Humans generate the pollutants that cause aggregations of toxic cyanobacteria blooms, yet we also create new life forms through synthetic biology, genetic engineering, and artificial life. What would the future look like if humans and cyanobacteria merged membranes, genes, and metabolisms?

Inspired by the recent experiments in CRISPR gene editing technologies, *Cyanovisions* posits potentials for biological hybridity and scientific spiritualities with microbial species that recognize the inextricable relationship of humans to those of other organisms. Though the trajectory for millennia has distanced the human body and consciousness from the chemical processes and organisms that it is composed of, it is eternally linked to forces, processes, and organisms.

Cyanovisions offers potentialities of symbiotically living with both other species and our technologies as extensions of nature. Cyanobacteria are one of the most ancient life forms; they were responsible for first creating oxygen on our planet as the first light-harvesting organisms. Through endosymbiosis they became the chloroplasts that plants use to process sunlight into energy today.

Cyanovisions imagines a future where the light harvesting pigment phycocyanin is engineered into human bodies not only to surpass their limitations but to protect against the toxic conditions that we have induced on the planet. Portrayed in the short film are landscapes of algal blooms and the inner workings of a DIY Biology Lab. Science fact becomes science fiction as lab technicians move from routine experiments into an embodied ritual as part of a speculative experiment. As a cine-poem, this piece meditates on different states of bacteria and water, the transformation of light, and the embodiment of this transmutation. Photobioreactor systems growing cyanobacteria cultures are incorporated into the installation, along with speculative future prostheses of the human body.

TIARE RIBEAUX, JODY STILLWATER

Cyanovisions: The Transmutation of Light Harvesting Bodies



Cyanovisions: The Transmutation of Light Harvesting Bodies, 2019.
Single-Channel Video and Installation, 3D print, air pumps, cyanobacteria cultures, glass, silicone tubing, speakers, dimensions variable.

Tiare Ribeaux

Tiare Ribeaux is a Hawaiian-American new media and interdisciplinary artist, filmmaker and curator based in the Bay Area. She is the Founder and Artistic Director of B4BEL4B Gallery and co-founder of REFRESH Art, Science, and Technology. As an interdisciplinary artist, her work explores the entanglements of human technologies, biology and infrastructures with mythologies, the environment, and microbial/non-human species. She is interested in living systems, deep/dark/media ecologies, rhizomatic networks, speculative futures, multi-species ontologies, and collaborative entanglements. She has shown work both nationally and internationally, including Transmediale, IZOLYATSIA, Akademie Schloss Solitude + ZKM, ISEA Hong Kong, Southern Exposure, and Tokyo Fashion Week. She has worked with Leonardo//ISAST, the de Young Museum, Gray Area Art and Technology, MIT Media Lab, the California Academy of Sciences, Swissnex San Francisco, the Contemporary Jewish Museum, Fort Mason Center for the Arts, and the Oakland Museum of California, among others.

Jody Stillwater

Jody Stillwater is a writer, director & creative technologist from San Francisco. His films + projects are based in dream logic and tactile reality, with a modern/transforming approach to visual semiotics, grounded in realism and classical narrative. He has screened films at Marfa Film Festival, Choreoscope Int'l Dance Film Festival in Barcelona, Denver Film Festival, Bucharest Int'l Dance Film Festival, Copenhagen Fashion Film Festival, and has participated in the Tribeca Film Festival Hacks Lab, the San Francisco Dance Film Festival Co-Lab, and was the featured film artist at APAture 2018. He holds a BA in Film & Digital Media from UC Santa Cruz. As a sound recordist, films he has worked on have screened at Sundance, Edinburgh Film Festival, SXSW, Chicago International, Tribeca and SFIFF. He has made films in the Netherlands, Colombia, Austria, India, Chile, Slovenia, the UK and across the United States.

CLAUDIA ROBLES-ANGEL

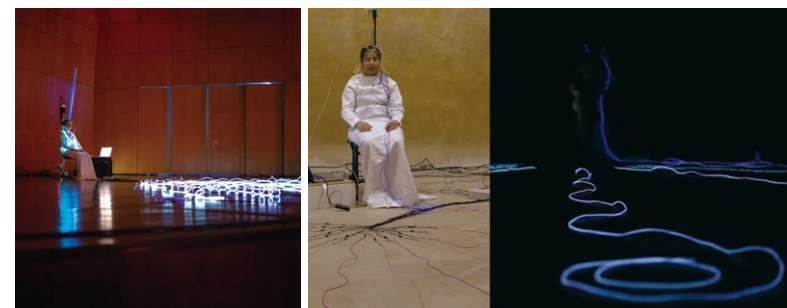
MINDSCAPE

MINDSCAPE is a metaphor of what we are becoming in this digital era. Like most people nowadays, the performer appears isolated and hooked up with a computer, his/her body connected to and surrounded by light wires, creating a distance between the own body and the environment, symbolizing the desire to become a machine or cyborg that attaches artificial technologies to its own structure. The performer appears rigid on the stage, but her inner emotional states give continuously movement and transformation to the audiovisual environment.

In *MINDSCAPE*, the performer interacts with a light structure made by electroluminescent wires and sound via a BCI (Brain-Computer interface), which measures her brain waves, which create and control the light and sonic environment.

The visual environment is created by a light structure made by electroluminescent wires (EL wires). The EL cables glare when applied to an alternating current (AC). Hence, once the AC has been activated, the data of the performer's brain waves from the openEEG interface is utilized in order to turn on/off different cables and in different tempos.

The sound section of the work consists of a surround soundscape which changes depending on the information coming from the performer's brainwave activity.



MINDSCAPE, 2017.

Electroluminescent wires, arduino, immersive sound and openEEG interface.

Claudia Robles-Angel

Claudia Robles-Angel is a new media/digital artist living in Germany and active worldwide. Her work and research cover different aspects of visual and sound art, which extend from audiovisual fixed-media compositions to performances and installations interacting with biomedical signals.

She has been artist-in-residence in several outstanding institutions, for example at the Institute for Music and Acoustics at the ZKM Center (Karlsruhe), KHM (Cologne) and at the Institute for Computer Music and Sound Technologies - ICST ZHdK (Zurich).

Her work is constantly featured in not only media and sound-based festivals/conferences but also in group and solo exhibitions around the globe, for example, the ZKM Center in Karlsruhe; SIGGRAPH Asia in Yokohama, New York City Electroacoustic Music Festival NYCETF, New Interfaces for Musical Expression Conference NIME Oslo; at 55th Venice Biennale Prohelvetia, Audio Art Festival Cracow, at Harvestworks Digital Arts Center New York City, and ISEA Istanbul, Manizales and Durban.

<http://www.claudearobles.de>

LOUIS-PHILIPPE RONDEAU

LIMINAL

Liminal is an interactive installation that seeks to reify the boundary between present and past through a play of projected light. It employs a photographic process called slit-scan to spread out time in space. Its visual aspect stretches out time while spatiality is expressed via its audio component. Appearing as a glowing portal of light, the installation mirrors the interactor, albeit with a temporal distortion. This manipulation of time acts as a visual metaphor – the present constantly replacing the past – which is inexorably shifted into the oblivion of white light. In a sense the artwork emphasizes that light is the past – the twinkle we see in the night sky is but a momentary snapshot of the stars' former appearance. Light is the manifestation of events that have already occurred.

The audio component of the piece enhances the performative aspect of the experience. The intersection of the interactor within the two-dimensional space of the ring generates sound according to her spatial position. The acoustic ambiance (manipulated white noise) originating from the installation is modulated according to her vertical location, and its intensity is correlated to her physical involvement within the portal. The body of the interactor exacerbates the musicality of the work since the installation can be “played” like a musical instrument – a light Theremin in a sense.

Both of these modes of interaction are not stated explicitly to the public. The installation's affordances require experimentation and deduction on the part of the interactor. Its physical appearance (a portal) offers clues about the manner in which it may be approached, while the narrow sliver of present time on the projected image from which emanates the past hints at the mechanism used by slit-scan photography. Likewise, the musicality of the audio component becomes self-evident through trial-and-error. The spontaneous discovery of these means of interaction becomes an important source of gratification for the interactor.



Liminal, 2018.

Acrylic, aluminium, camera, code, computer, leds, projector, speakers, 275x245x10(cm).

Louis-Philippe Rondeau

Louis-Philippe Rondeau is a visual artist and teacher in Montreal, Canada. In his works, Rondeau develops devices that explore self-representation in a playful and unconventional manner. His research-creation approach reveals as much a search for simplicity of design for users, as an interest in the complexity of computer code and the execution of physical objects. While situating his research in the history of serial and sequential photography popularized in the 19th century, Rondeau's works with digital images – unlike analog photography – do not stand for reality.

Drawing upon the novel and sometimes marginal means of self-representation dating back to early photography, his works aim to reintroduce somewhat forgotten processes while benefitting from the sense of agency and immediacy that digital tools can afford us. Mainly revolved around the mirror's modus operandi, his installations compel the viewer to reconsider the conventions employed in the mediation of images, specifically those pertaining to the representation of space and time.

<http://patenteux.com>

JENS SCHINDEL, TIMO DUFNER

XSICHT

Over several weeks, *XSICHT* has been trained to match faces and audio. With a training batch of tens of thousands of frames, the AI has learned to construct a human face from any given audio input. What happens when we abstract the input? This is the question, *XSICHT* tries to answer.

Since it is nothing more than a complex concatenation of intertwined non-linear functions that get amplified or dampened, its complexity is often hard to understand, which is why the intrinsic of an AI is called Hidden Layers or a Blackbox.

XSICHT doubles the unpredictability by feeding it not the voices it was trained on, but music, leading to unexpected results when confronted with various genres or instruments. Harmonic piano music, for example, more often leads to the recreation of female faces, while bassline-driven techno mostly resembles male speakers.

A brief technical overview can be split into data and network architecture.

The former is given to *XSICHT* in form of a 0.2-second-long spectrogram, calculated using the Short Time Fourier Transformation. To enhance the spatial representation of lower frequencies, the spectrogram is logarithmically recalculated to resemble the human sound perception, called a MEL spectrogram.

The latter takes this input and convolutes it down to a 1x1 pixel sized latent space from where the information is used to deconvolute the compressed information. This is called a U-shaped architecture or more common an Image-to-Image GAN network, but here it is used without skip connections between the de- and convolution pipe. During learning, the counterpart of this generator, the discriminator, works in a patch-based manner.

XSICHT gets input from a live dialog between Synthesizers and acoustic instruments produced by Timo Dufner, a voice or prerecorded sounds that harmonize with the visualization.



XSICHT, 2018. Ambient music, artificial intelligence, audio reactive, neural network, interactive installation.

Jens Schindel

Jens Schindel is a computer scientist based in Tübingen, Germany, born in Karlsruhe in 1991. He studied Media Informatics with a strong focus on Visual Computing, Computer Vision and Computer Graphics and later Machine Learning, respectively Neural Networks. In all his studies, the focus always lays on visually appealing content generation, driven by the beauty of mathematical concepts. After experimenting around with generative visualizations, he quickly changed focus on real-time audio-reactive projections in an interdisciplinary context.

<https://www.facebook.com/tschnz>

Timo Dufner

Timo Dufner is a musician, visual artist and in the field of media and information technology. As a VJ, he performs as an AudioVideo Live Act while he is also part of various production teams in electronic music. The main focus of his work lies in the exploitation of software failures, so-called glitches, real-time processing, live coding, machine learning/AI as well as the direct interaction of sound and image.

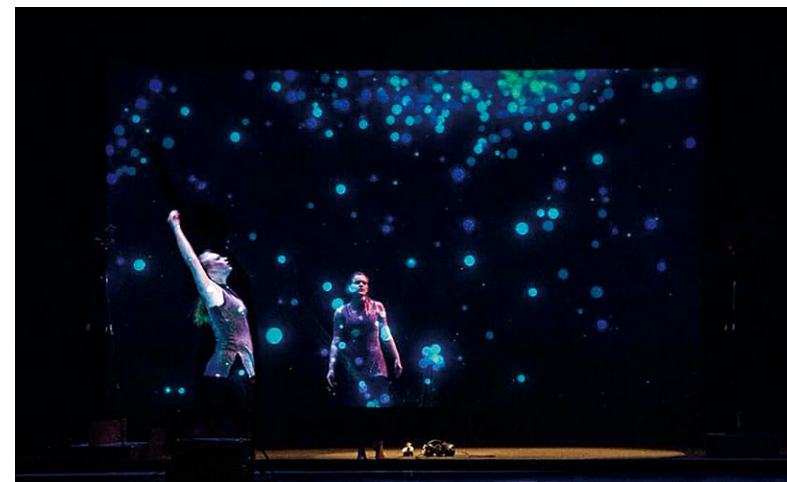
<https://timodufner.com/>

JINSIL HWARYOUNG SEO, MICHAEL BRUNER,
AUSTIN PAYNE, NATHAN AYRES

Upwell: Performative Immersion

People unconsciously long to be immersed in nature that provides shelter and comfort. Through activities like camping, hiking, and swimming, people can relax and be immersed in nature. However, nature has two sides: virtue and vice, life and death. While seeking comfort in the forest or beach, a person may feel fearful about the possibility that a wild animal may appear and attack. Even though the ocean is very pretty but a person may have fears of drowning in the ocean. All of these fears may prevent people from fully enjoying and experiencing the beauty of the natural world.

Upwell is an immersive virtual reality environment that provokes the feeling of being underwater but allows embodied interaction within the environment. Undulating characteristics, including tenderness, flux, softness, and buoyancy, all add to the feeling of being underwater. *Upwell* is a refuge from nature that provides playful immersion without vulnerability. A participant with a conventional VR head-mounted display and custom-designed wearable controllers can navigate around a room scale setup and interacts with dynamic visual and sound elements. *Upwell* was originally designed as a dance performance with two dancers. The exhibited version of *Upwell* at ISEA invites a participant to a performance and evokes performative gestures in the virtual reality space. *Upwell* becomes a dance theatre for a single person performance.



Upwell: Performative Immersion, 2018, Virtual Reality, dimensions variable.

Jinsil Hwaryoung Seo, Michael Bruner, Austin Payne, Nathan Ayres

Jinsil Hwaryoung Seo is an interactive artist/researcher focusing on the aesthetics of interactive experiences. Currently, she is an associate professor in the Department of Visualization at the College of Architecture and a faculty fellow in the Institute for Applied Creativity and the Center for Health Systems & Design at Texas A&M University. Seo received a PhD in Interactive Art and Technology from Simon Fraser University in Canada and an MFA in Computer Arts from the School of Visual Arts (SVA). With interdisciplinary, interactive art practice, Seo investigates the intersection between body, nature, and technology. Seo has been fascinated by the aesthetic qualities of human experience, the relationships that emerge through interactions within artworks, the underlying beauty, and pattern inherent in nature. Her current research concentrates on designing for tangible and kinetic aesthetics in the contexts of education and health. Seo has chosen interactive art for her creative practice and research in particular as it encourages immersive and embodied relationships within a work of art and with participants.

TAMARA SHOGAOLU (ADO ATO PICTURES)

Another Dream

Another Dream, a hybrid animated documentary and VR game, brings the gripping, true love story of an Egyptian lesbian couple to life. Faced with a post-revolution backlash against the LGBTQ community, they escape Cairo to seek asylum and acceptance in the Netherlands. An accompanying installation allows audiences to reflect on what they have seen, heard, and felt in VR.

Another Dream is part of *Queer in a Time of Forced Migration*, an animated transmedia series that follows the stories of LGBTQ refugees from Egypt, Sudan, and Saudi Arabia across continents and cultures – from the 2011 Revolutions in the Middle East and North Africa region to the world today.



Another Dream, 2019, HTC Vive, 2D & 3D Virtual Animation, 20-23".

Tamara Shogaolu (Ado Ato Pictures)

Tamara Shogaolu is an international director and immersive artist with a track record in featuring her work at film festivals, galleries, and museums worldwide, such as the Museum of Modern Art in New York and the National Gallery of Indonesia. Shogaolu is an artist interested in pushing herself and others around her outside the boundaries of traditional storytelling. She strives to share stories across mediums, platforms, and virtual and physical spaces in order to promote cross-cultural understanding and challenge preconceptions. She is a 2018 Sundance Institute New Frontier Lab Programs Fellow. She graduated from the University of Southern California's School of Cinematic Arts with an MFA.

TIMO TOOTS

Memopol-3

Memopol-3 is an installation that visualizes the visitors' information field. It's an Orwellian dystopia which is built on the technology of today. The tools of the surveillance economy are abused to create a personal physical surveillance experience. Physical and virtual identities are quantified and processed into a stream of data. After the phases of data collection, the visitor experiences a transcendent reflection of oneself that combines the past and the future, physical and immaterial into an audio-visual ceremony.

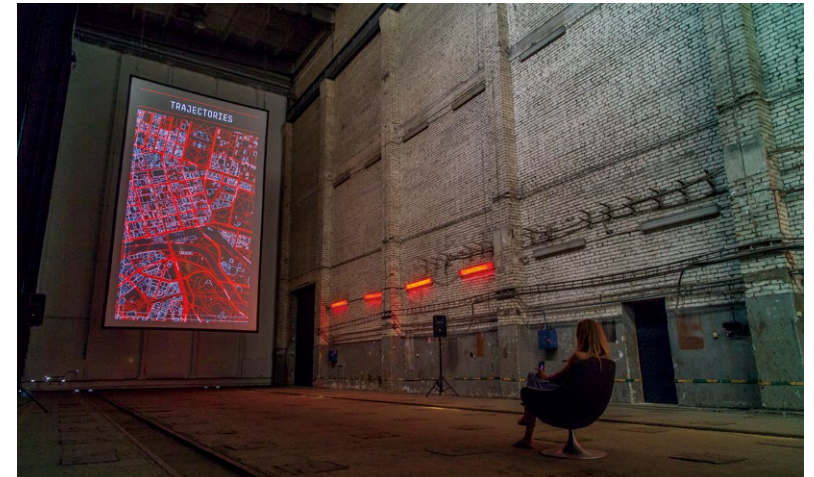
The experience of *Memopol-3* starts with the visitors identifying themselves with passports or ID-cards. The visitor is asked to connect their Android or iPhone smartphone to the system. All private information stored in the smartphone is copied and analyzed by algorithms and neural networks. Contact lists, messages, call histories, WiFi networks, photos, videos, etc are used to create a 10-minute-long animated graph of the visitor's life. The audio-visual piece is presented privately in a separate room. Relationships, daily behaviors, important life events, and photographic memories are viewed from the perspective of a big brother.

The terms and conditions of *Memopol-3*:

1. By using the machine you agree to the collection and processing of your private information.
2. Data will be collected from your smartphone and from the internet.
3. Your data will be visualized in a private room.
4. All private data will be deleted after the visit.
5. People aged under 13 must have parental permission.

Memopol-3 works only with Android phones and iPhones. You need a passport or ID-card to access the installation.

The duration of the experience is around 15-30 minutes and depends on the amount of data stored on the phone.



Memopol-3, 2018, Interactive installation, dimensions variable.

Timo Toots

Timo Toots (b.1982, Estonia) is a new media artist living and working in Estonia. His artistic research concentrates on the relationship between humans and technology. He is addressing the question of privacy in the surveillance society and the role of the individual in the structures of society. His works take the shape of an interactive installation for strong physical experiences. He has exhibited since 2006 around Europe and the US. In 2012 Toots won Ars Electronica Grand Prix for interactive arts with his project *Memopol-2*. His works are in collections of ZKM (Zentrum für Kunst und Medien) and Art Museum of Estonia.

Toots studied computer science at Tartu University and photography at the Estonian Academy of Arts. He is the founder and manager of an art and technology farm, studio and an artist residency called MAAJAAM in the countryside in South of Estonia. MAAJAAM is concentrated on researching, experimenting with and reflecting on the relationships between people, technology and nature.

TATSUO UNEMI, DANIEL BISIG

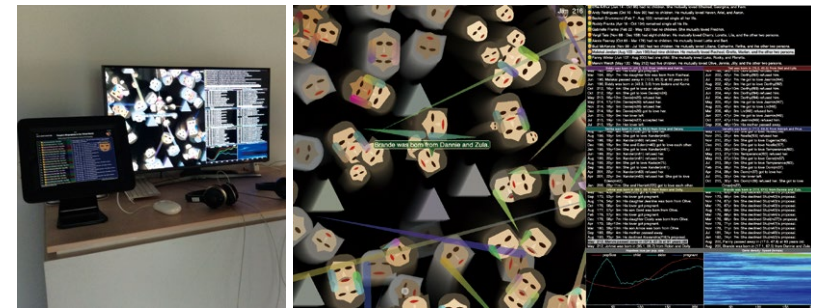
Rapid biography in a society of evolutionary lovers – facial icon version

The work employs an individual-based evolutionary social simulation. In the simulation, virtual people are born, grow up, fall in love, bear babies, age, become separated, and die over the course of multiple generations. Each simulated individual is mortal but its genetic information that is passed on to its offspring can potentially exist eternally. Nevertheless, most hereditary traits are fragile and quickly change through mutation and selection. The evolutionary process running in the simulation often leads to the emergence of multiple geographically separated races. This phenomena can remind us of the fragility of our racial identity.

The simulation is rendered perceivable through dynamically created visuals and sounds. The acoustic content consists of short sentences that are spoken by the computer in accordance with certain events taking place in the live of the simulated individuals or that recapitulate the biographic histories of recently deceased individuals. These spoken texts are combined with a mixture of sounds consisting of whispered proposals, sighs of disappointment, baby cries, and funeral bells. All together, these sounds express the collective atmosphere of the population. The atmosphere might sound like noise but is also represents the harmony of the society.

The computational model of each individual in the simulation is very simple and less intelligent than most contemporary AI systems. Nevertheless, this model is sufficient to evoke in us the impression that the simulated individuals possess intelligence and emotions. As such, it is mainly through our imagination that the simulated behaviors become elements for fictional stories of dramatic life experiences. Therefore, it is also through us, that even the simplest computational entities can achieve enlightenment.

The installation includes two tablet computers that allow visitors to explore the simulation through two types of browsing interfaces. The first interface displays the individual stories of one of the agents that is currently shown on the main installation screen. The full name and the birth and death dates of six agents



Rapid biography in a society of evolutionary lovers – facial icon version, 2017.
media installation.

are listed in a column on the left. By selecting one of these rows, the detailed life events are shown in a column on the right. The second interface allows to exhaustively explore a database containing all the life events of a previously finished simulation run. This database collects approximately 210000 individual live stories over a duration of 3000 simulated years. The interface offers two different views. The first view displays an individual and its parents and lovers. The second view displays a couple and their children. The visitor can touch a graphical depiction of an individual agent to switch to the first mode or he/she can touch a line connecting two agents to switch to the second mode.

Tatsuo Unemi, Daniel Bisig

Tatsuo Unemi was born in Kanazawa, Japan in 1956. After he graduated from Department of Control Engineering, Tokyo Institute of Technology in 1978, he worked in the fields of Artificial Intelligence as a graduate school student, a research associate, and a lecturer. He received a doctor's degree in 1994 from the same university. He has been teaching Computer Science at Soka University since 1992, and working as a professor since 2012. He develops artistic software such as SBArt for visuals and SBEAT for music.

Daniel Bisig was born in Zurich, Switzerland in 1968. In 1998, he received a PhD in Protein Crystallography at the Swiss Federal Institute of Technology. He joined the Artificial Intelligence Laboratory at the University of Zurich in 2001 as a senior researcher. Since 2006, he has a research position at the Institute for Computer Music and Sound Technology, Zurich University of the Arts. He works as an artist in the fields of artificial live and generative art and has realized algorithmic films, interactive installations, and audiovisual performances.

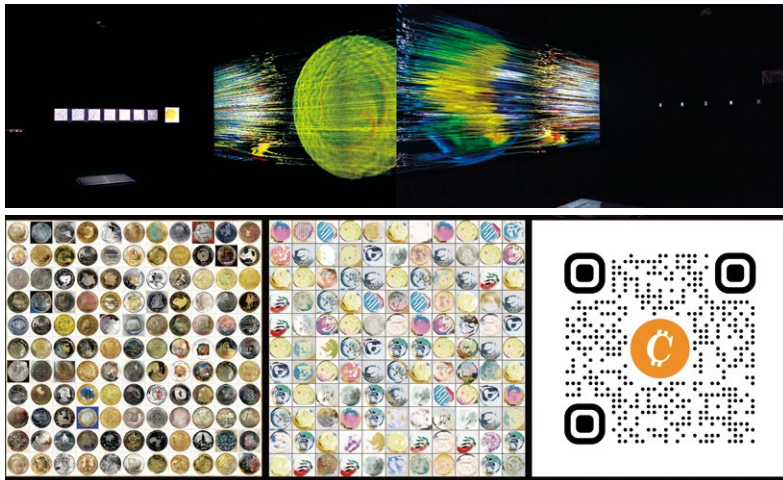
Since 2003, Tatsuo and Daniel have worked together on new-media art projects. They received several awards: Honorary Mention by Vida 9.0 in 2006 for "Flocking Messengers", Excellence Award by 10th Japan Media Art Festival in 2006 for "MediaFlies", Audience Prize by WRO 2011 for "Cycles", the Best Artwork Award by ALIFE 2016 for "Visual Liquidizer", and Excellence Award by 21st Japan Media Art Festival for the first version of "Rapid Biography". They designed interactive stage effects for four contemporary dance projects choreographed by Jiří Kylián in 2008 and 2009.

New Order / Siren Call?

New Order / Siren Call? visualizes the existence of cryptocurrency as the origin of the new order. The cryptocurrency is a new electronic & programmable money based on cryptography and distributed network technology, typified by Bitcoin and Blockchain. The visualization-of-existence means to show everything that exists, including its structure, history, future, and thought. *New Order / Siren Call?* does not have a fixed form and consists of symbolic pieces distributedly.

To Goh, the cryptocurrency is regarded as one of the movements of automation. Goh states that human beings are automating intelligence, labor, and money and the cryptocurrency symbolizes the automation of Trust, calling it "TRUSTLESS".

For Uozumi, TRUSTLESS is a new property that humans acquired for the first time in history. It has a potentiality to shift the human society and species system to the next phase by entrusting trust, as natural property like love, to the algorithm. Considering the meaning of what the algorithm acquires as the natural property, Uozumi believes this new technology is already changing the economic ecosystems rapidly, consequently leading to 'the new order' of the contemporary society. Going further from symbolizing/calling Blockchain- the "inorganic and complicated resource management protocols"- as mere 'Coin', *New Order / Siren Call?* aims to question the 'positive' future fueled with the rationality and will of humanity, perceiving the very technology as 'Siren's voice'.



New Order / Siren Call?, 2016~. Unfixed size, mixed media.

Goh Uozumi

Goh Uozumi aims to intervene in historical paradigm shifts by art, and creates works/systems by algorithm based methodologies with taking other intelligence/existence than human beings into consideration. Since 2014, he worked on the establishment of "TRUSTLESS" which means to entrust trust/belief to the algorithm technically, as an artistic concept. It's an axis of the automation movements such as intelligence, contract, labor, and trust.

New Order/Siren Call? That visualizes the existence of cryptocurrency and 空の国家 - State of Empty that builds nation-state by artificial intelligence were exhibited at ICC in 2016. *Trustless Trust/Mk.God* that generates memories of future artifacts was awarded the DigitalChoc 2015 by Institut Francais etc. *OBSERVER N* that extends theory-of-life reality by decentralized autonomous network system was exhibited at YCAM in 2012, and *F - void sample* that goes across void and perception was awarded the Japan Media Art Festival 2009.

<https://gohuozumi.com>

BILL VORN

Copacabana Machine Sex

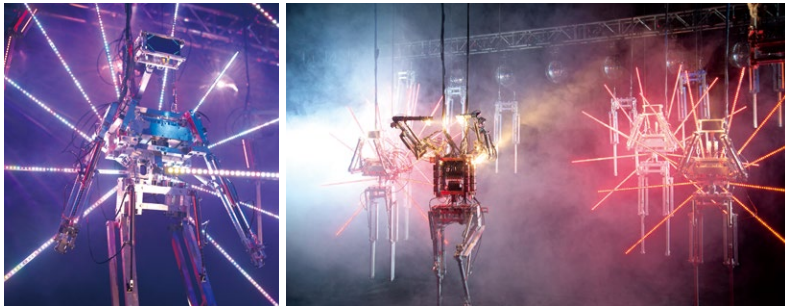
Copacabana Machine Sex is a 30-minute burlesque musical robotic performance involving solely biomorphic machines as actors, musicians and dancers. Our goal is not to replicate a real cabaret, but to conceive a metaphorical extravaganza in response to the question: "what would happen if machines would be on a cabaret stage?" Aesthetically speaking, the set is a strange hybrid mix between the classic Broadway kitsch and the dark industrial look of our previous productions. Like most of our work, it is an exploration of robotic forms and movements through music, sound and light.

The *Copacabana* performance can be described as a mini music hall show, hence its title, as so many nightclubs around the world are named this way. It involves a succession of different musical numbers where machines perform on stage as musicians and dancers. *Copacabana* is comprised of nine robotic entities: one main central character covered with halogen light bulbs, four carnival dancers with LED fans, three frenetic pairs of robotic legs, and one suspended set of six actuated human skulls. The soundtrack is a mix of disco, rap, latino, techno, industrial and ambient music, and all the robot movements and lighting effects are perfectly synchronized to the beat.

The "machine sex" theme is not approached on the literal or strict sense, but in a more subtle manner where machines are obviously not presented as having intercourse with each other but rather involved in a seduction endeavor between themselves and with the viewers. Even though we can refer to this performance as being a "machine burlesque" spectacle, our aim is not to create a deviant or satirical sex show, but to evoke human behaviors in an unusual manner through simple machine actions presented in a familiar music hall / cabaret context.

BILL VORN

Copacabana Machine Sex



Copacabana Machine Sex, 2018.

Robotic Performance, dimensions variable, 30"00.

*Produced with the help of The Canada Council for the Arts

Bill Vorn

Based in Montreal, Bill Vorn is working in the field of Robotic Art since more than twenty-five years. His installation and performance projects involve robotics and motion control, sound, lighting, video and cybernetic processes. He pursues research and creation using Artificial Life and robotic technologies through artistic work based on anthropomorphism, projection and empathy, defining an "Aesthetics of Artificial Behaviors".

He holds a PhD degree in Communication Studies from UQAM (Montreal, 2001) for his thesis on "Artificial Life as Media". He currently teaches Electronic Arts in the Department of Studio Arts at Concordia University (Intermedia program) where he is a full time professor.

Since 1993, his theatrical work with robots and machines has been presented in numerous international events related to Digital, Visual and Media Arts. He was cofounder of the electronic pop music band Rational Youth with Tracy Howe in 1981.

JOHN WONG

RuShi

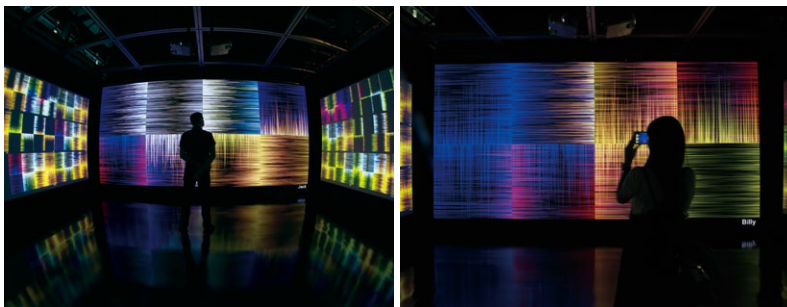
This work is about big data and prediction, fate and superstition, questioning what we really need or want in the age of big data and AI.

RuShi (如是) means "As Is": nothing more or less, but the true colors of something. Every Buddhist scripture starts with these two words to show the scripture has no interpretation by anyone else and totally comes from Buddha.

RuShi is a piece of algorithmic interactive installation art that uses the ancient Chinese fortune-telling algorithm "BaZi" (八字). In English, BaZi means "eight words." BaZi is an application that uses eight words to analyze a person's destiny. Every person's date of birth can be used as data and converted into eight words and the eight words are all translated into five elements (metal/wood/water/fire/earth). The interrelationship of the five elements can predict one's character and happenings throughout his or her whole life, and it has become widely used since China's Song Dynasty.

What if big data and AI are the new superstitions? What if a fortune-teller or data scientist is only a storyteller? We allow ourselves to believe in something that we don't understand, as if we are seeing a fortune-teller and hoping the mysterious algorithm can show us our future and tell us what we should do. Indeed, all of the questions we want to ask the fortune-teller are unconsciously built on fear.

In *RuShi*, I'm using the ancient data analysis application yet taking out all the extra cultural signs and materialistic interpretations, there remains only the "As Is," i.e. the five elements. It goes back to the basic. We can see no prediction of life from this machine, but only time, changes of color and the beauty of different people's balance of life.



RuShi, 2018. Projection(x2), 6x3(m) each.

John Wong

John Wong is a multimedia artist. His work is always questioning the idea of trust, self-identity, modern supersition over the relationship of Chinese traditional cultures & new technology. Algorithmic installation art, *RuShi*, just exhibited at Microwave International New Media Arts Festival 2018. His debut feature, *The Tourist*, was screened in the 27th Hong Kong International Film Festival in 2002. From 1998 to 1999, he was invited by Australia's ARX5 (Artists' Regional Exchange) cultural exchange program for art exchange in Australia, Singapore & Hong Kong. *Siren*, digital installation art, exhibited at the Osage Gallery in 2007.

www.johnwong.asia

XRT

I AM/WERE HERE/THERE #1 & #2

We are living in the age of science fictional world and instability now!

Audience type in their name (* Audience will automatically generate an avatar with their name and time, then exists in virtual Hong Kong. Even the audience quits the experience, the avatar will stay there), then put on their virtual reality goggle to experience the re-created slow self-destructing meta-Hong Kong cityscape, together with all of the other accumulated virtual audience who experienced it in a different time.

They are experimenting with the idea of Hong Kong disappearing cityscape, collective memory, virtual identity, multi-verse and non-linear social interaction by interactive VR technology. And they are using the game engine, to create the immersive real-time experience. Gaming is always positioned as a sub-culture or virtual/ fake reality, in contrast to our so-called "reality" that we live in. But now, everything is gamification. Avatar or idealization has become everyone's daily practice. They social and interact with everything, while at the same time we have isolated ourselves even more in comparing to our parent's time.

Visitors share a similar experience, while they participate and interact together at different time spot. They hear the recorded sound from the location now, but they see and experience the space and time by a reconstructed reality, and their mind will at the same time connect with their own memory and emotion attachment to the particular space & time of the event. Gaming is no more just a sub-culture or an individual experience. There is no clean cut between gaming and reality. We are living in a more complicated social environment now. In the age of digital humanism, social isolation and interaction is a hybrid concept now. There is no more separation between real or fake, reality or virtual reality, everything is a hyper-reality! Everything is an In-between!

XRT

I AM/WERE HERE/THERE #1 & #2



I AM/WERE HERE/THERE #1 & #2, 2018. Computer, projector, touch monitor, VR Headset, 6000x6000x3000(mm).

XRT

XRT means Extended Reality Art.

XRT is a Hong Kong-based technology-driven creative collective. They create art installation and experience by using extended reality, immersive technology, artificial intelligence, and machine learning.

Their work explores or questions the intersection of art at the computing age, immersive and extended reality, over our local & modern Chinese cultures.

I AM/WERE HERE/THERE #1 & #2 exhibits at Microwave International New Media Arts Festival 2018.

<https://www.xrt.world/>

WINNIE YOE, CHENSHAN GAO

Smile, Please

Smile, Please is an interactive installation created in response to societal coercion of emotions and the prevalence of emotion AI.

Several events informed our perspective: Huge global deposit of emotion database collected by companies such as Affectiva. Impact of psychological warfare in tech as revealed by the Facebook and Cambridge Analytica scandal. China's social credit system. Against this backdrop, we created a smile evaluation and training system that uses a muscle sensor and a TENS unit to train participants to become a citizen of the preferred society, where they are guaranteed better future prospects. The only entry requirement is that they smile well enough.

Through an extreme approach, with reference to ideas from psychology and experience design, and devices from graphic design and theatre, we hope to shock our audience into thinking about the control and ownership of our emotions in the current societal and technological landscape.



Smile, Please, 2018.
Arduino, button, digital print, lcd display, monitor polaroid, tens unit.

Winnie Yoe

Winnie Yoe (b.1992, Hong Kong) works at the intersection of art, design, and technology to explore the social implications of technology, especially on topics pertaining boundaries and discomfort. She received her BA in Studio Art from Dartmouth College and is a graduate student at NYU ITP. She was awarded Honorable Mention in the International Sculpture Center Outstanding Student Achievement in Contemporary Sculpture Award and was selected to participate in the Triangle Arts Workshop in New York. She is a recipient of the Tisch School of Arts Scholarship and the Hong Kong Scholarship for Excellence Scheme.

www.winnieyoe.com

Chenshan Gao

Chenshan Gao (b.1996, China) received her Bachelor of Science in Food Science from the University of Illinois at Urbana-Champaign in the United States. Prior to her time at NYU ITP, she has conducted extensive research related to food chemistry and food product development projects both in China and the United States.

www.chenshangao.com

Learning Nature

Is it inevitable that only our largest organizations, with their vast data sets, will decide how we will use AI? What if, instead, we could start small, to work at the scale of the personal, and to engage directly with AI? Could doing so allow us to develop new intuitions and understandings of what the technology is, and what it could enable?

Learning Nature is a set of photographs generated by an Artificial Intelligence (AI), taught with David Young's photographs of upstate flowers using a GAN(Generative Adversarial Network)-an artificial intelligence/machine learning technology. *Learning Nature* started out in the hope of creating a new perspective towards AI and exploring new possibilities through an aesthetic experience. Young states that AI was utilized as a tool in *Learning Nature* in the rural context of upstate New York and the domain of nature where the painting was used to express the relationship between mankind and nature at Hudson River School. The result is a unique interpretation of AI visually drawn out, which not only captures the machine's understanding of the subject but also raises questions on the subject of interpretation and misinterpretation of nature. With *Learning Nature*, it is intended to rethink about what it would mean for an AI today to understand/interpret that same nature, further pointing to the anthropomorphizing of technology, data, and the human "intelligence" in the code.

David Young

David Young has spent his entire career at the leading edge of emerging technologies. His current work explores how beauty and aesthetic experiences can give a fresh start to how we think about new technologies. This work, which uses AI and machine learning, is a return to his roots where he began his career at the height of the 1980's AI boom. David has a masters degree in visual studies from the MIT Media Lab, and a bachelors degree in computer science from UCSC.



Learning Nature (b38,4016,16), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b31,2085,13), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63c,2422,3), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (z12,cr,a), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (z14cr,a), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (z23,cr,a), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63d,2400,19,4,9,13,25,44), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63e,4400,19,4,10,12,44,30), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63d,2400,19,4,9,13,34,18), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63d,2400,19,4,9,13,39,24), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63e,4400,19,4,10,8,41,34), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (z1513,cr,a), 2018. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63f,2000,19,4,9,10,32,11), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63f,2600,19,4,9,10,27,44), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63h,4000,19,4,9,8,16,17), 2019. Archival inkjet print. 30x30(cm). AP.

Learning Nature (b63h,5600,19,4,9,9,23,40), 2019. Archival inkjet print. 30x30(cm). AP.

BRIGITTA ZICS

Pachinko Machine

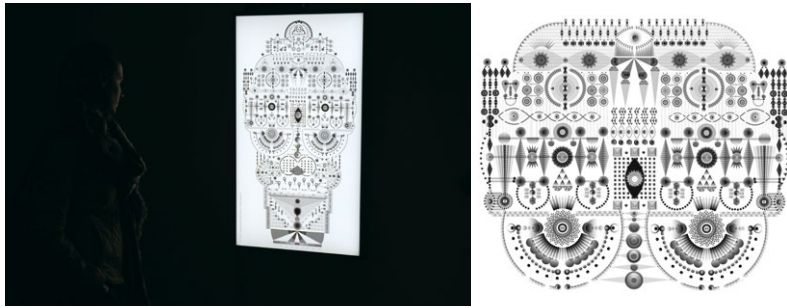
Pachinko Machine is a self-learning algorithmic drawing constructed as a pinball machine. The Machine plays the game a game of pinball itself in an automated setup. During the period of the exhibition the Machine's algorithm optimizes its own performance through machine learning and becomes increasingly good at trying to win the game of pinball. The only barrier to success is beyond the algorithm's control: there is a second intelligence embedded within the machine that aims to obstruct and obfuscate. The work is a battle of algorithms.

The visual part of the work is created in a computer drawing process that uses only cycles and triangles to create complex visual appearances. The drawing process is developed in a systematic manner from the top to the bottom without the artist's comprehension what the final image may look like. The creation of the drawing takes months of drawing, erasing, recreating and fine-tuning. The machine comes full to life when kinetic attributes are assigned to each element.

Pachinko Machine reflects on the current discourses around artificial intelligence and self-thinking system. Machine learning algorithms are poor in simulating human decision-making; they are however rather successful at understanding and playing games created by humans (for example Deep Mind's recently developed algorithms). *Pachinko Machine* takes one step further and humanizes the machine learning process by introducing chance into the game. The battle of these algorithms that aspire to disparate goals aestheticises the process driven by machine learning. Viewers are welcome to make sense of this battle whilst observing the mesmerising patterns of the Pachinko's drawings.

The work aims to represent the walk of life and although we may be able to control some part it, there is always an element of chance that may destruct and encourages us to stray from our original path.

Pachinko Machine was developed in Unity.



Pachinko Machine, 2017.
Code, computer, self-learning algorithmic drawing, vector graphics, 65" screen.

Brigitta zics

Brigitta Zics is an award-winning artist who creates works with visual and material sensitivity that seeks to fashion new experiences. She works on the convergence of art and science and explores mixed-media forms combining various techniques and emerging technologies. Her recent interests embrace experiential art, human perception and art, and the aesthetics of data and algorithms. Her works have been exhibited at Budapest, Berlin, London, Los Angeles, Monaco and Cologne and published at Leonardo Journal (MIT press) and other academic journals (Springer, Taylor & Francis). In 2004 her work was nominated for the International Media Art Award at ZKM, in 2005 she was selected for one of Europe Best Multimedia Artists. She is an Associate Professor at Ravensbourne University of London and Fellow of Royal Society of Arts, UK.

brigittazics.com

INVITED ARTWORK

MAURICE BENAYOUN, TOBIAS KLEIN, NICOLÁS MENDOZA

Value of Values

Value of Values (VoV) is a blockchain-based art project. It aims to find out the real, economic value of human values through EEG (Electroencephalography, and biofeedback). VoV is an extension to the acclaimed Brain Factory project. In both, exhibition visitors (aka Brain workers) give – straight from their brain waves – a three-dimensional shape to abstract concepts, like FREEDOM, PEACE, MONEY, LOVE, POWER.

In VoV, the resulting shapes are brought into the context of an “ethical realism”, an objective representation of the individual and collective hierarchy of values. While Brain Factory deals with a wide range of human abstractions, VoV only gives shape to those that could be considered as human values. The neuro-designed shapes, produced by individual visitors, become named and numbered digital 3D models: FREEDOM 0001, FREEDOM 0002... FREEDOM 000X. Each numbered item is an artwork registered on the Blockchain.

At the end of the process, the Brain Worker, the shaper of the value, becomes the owner of the Blockchain VoV and the owner of the 3D model, the “idea” of the shape. VoVs are convertible into Ethereum, a common crypto currency. The owner can sell or barter the VoV, or even freely use the shape to produce artefacts, artworks, or goods.

During the process, the visitor of the art show has become an artist giving shape to ideas, a curator validating the model according to the abstract concept, a collector preciously keeping the freshly minted token, an art dealer selling or bartering pieces of one's collection of values for more “valuable” ones.

The transaction is the only way to know the objective value of a given value. If the owner of the VOVs PEACE0404 + LOVE0002 decides to barter them for MONEY0088, he or she defines the relative value of all the involved values.

With thousands of similar transactions, we can monitor in real-time the relative value of human values, for one person, a region, a country, a continent. If the median price of MONEY (i.e. the median price of all minted MONEY tokens) is 3 ETH or 1200 USD and the median price of LOVE is 240 USD, we get a clear idea of the relative value of these values. The observation of the trading process

Value of Values



Value of Values, 2019.

3D graphic generator, EEG headband, Blockchain, trading platform, computers, HD screens, massage chairs, projectors, QR ticket printer, touch screen, speakers, dimensions variable.

produces real-time monitoring of human values in their transactional milieu. VoV is at the same time a real currency, a critical metaphor of the art production narrative, and a dynamic reflection on its founding ontology.

Value of Values (VoV) explores the nexus of human creation, the value systems of artistic production, and our insatiable desire for reified representations of human thought.

The result is a Global Art Project based on Critical Fusion, the speculative and convertible merging of Fiction and Reality.

Maurice Benayoun

Maurice Benayoun (MoBen, 莫奔) is a conceptual media artist based in Hong Kong and Paris. Pioneer of new media art, his work has been a continuous attempt to redefine art practice and the place of the artist in Society. Through VR, AR, AI and urban media art, MoBen explores the limits of the promises of advanced media, unveiling their societal impact beyond their technological and aesthetic potential. Creating subtle though spectacular interactive artworks, he has been exhibited in major international museums, biennials and festivals in 24 countries around the World. MoBen received close to 30 awards including 4 Ars Electronica awards (and the coveted Golden Nica). Since 2012, Maurice Benayoun is a professor of Creative Media at City University of Hong Kong.

www.moben.net

Tobias Klein

Tobias Klein works in the fields of Architecture, Art, Design and Interactive Media Installation. His work generates a syncretism of contemporary CAD/CAM technologies with the site and culturally specific design narratives, intuitive non-linear design processes, and historical cultural references. His works are exhibited internationally at the Venice Architecture Biennale, the Antwerp Fashion Museum, the London Science Museum, the V&A, the Bellevue Arts Museum, Museum of Glass, Museum of Moscow and Vancouver. He currently lives in Hong Kong and works as an assistant professor at the School of Creative Media, City University of Hong Kong.

Nicolás Mendoza

Nicolás Mendoza is a Colombian multidisciplinary scholar, architect, artist, researcher and investor. His PhD research explored the structures that support the emergence of non-state currencies, such as blockchain technology, from an anthropological perspective. His research engagement with Bitcoin and therefore with blockchain technology began as early as 2010, serving in the editorial board of Bitcoin Magazine, and co-editing the issue on P2P Currency of the Journal of Peer Production in 2013. His writings have been published in platforms such as Radical Philosophy and Al-Jazeera.

INVITED ARTWORK

LAUREN MCCARTHY

Smarter Home

The *Smarter Home* American Arts Incubator Workshop reimagines smart homes of the future. We all know the feeling of home, of belonging. But some people may not feel this sense of welcome belonging in all public spaces. What if smart architecture could create inclusive spaces for open conversation? In this one month workshop, we explore how art and technology can be used to address the issue of social inclusion. As a group, we make use of machine learning techniques and custom software to create an interactive installation as a prototype of a *Smarter Home*, trying to bring technology into personal space on our own terms. All together it offers a vision of a *smarter home* driven by human lived reality, rather than technological utopia.

Interactive installation with projection, custom software, machine learning, and mixed media.



Smarter Home, 2019. Custom ml software, interactive installation with projection, mixed media, dimensions variable.

*Smarter Home, created by
[Lauren McCarthy (lead), Bang Gae Yang, Choi JeongNang, Do Minju, Jung Ho Jong, Kim Do Won, Kim HyeWon, Lim Taeguen, Lim Yonghyun, Kim Yun Jung, Moon Chang-hwan, Noh JungSuk, Paek Na Won, Park Ki-Tae, Yeom Inhwa, Yun So Jeong], is a project of American Arts IncubatorSM, an initiative of the U.S. Department of State's Bureau of Educational and Cultural Affairs developed in partnership with ZERO1. American Arts Incubator – South Korea 2019 was led by Lauren McCarthy and produced in collaboration with U.S. Embassy Seoul and Gwangju Cultural Foundation.

Lauren McCarthy



Lauren McCarthy is an artist examining social relationships in the midst of surveillance, automation, and algorithmic living. She is the creator of p5.js, an open source programming language with over 1.5 million users, for learning creative expression through code online. She is an Assistant Professor at UCLA Design Media Arts. Lauren's work has been exhibited internationally, at places such as Ars Electronica, Barbican Centre, Fotomuseum Winterthur, SIGGRAPH, Science Gallery Dublin, Seoul Mediacity Biennale, and the Japan Media Arts Festival. She has received major grants, fellowships, and awards from Creative Capital, Sundance Institute, Mozilla Foundation, Knight Foundation, Google, Eyebeam, amongst others.

American Arts Incubator (AAI) is a creative exchange program that utilizes communitydriven digital and new media art projects to instigate dialogue, build communities, bolster local economies, and further social innovation. AAI sends a U.S. artist abroad to collaborate with local communities in each exchange country during a month-long incubator. These creative collaborations transfer skills in art, technology, and entrepreneurship. Through digital and new media art workshops, they facilitate dialogue and explorations of the social challenge. American Arts Incubator is an initiative of the U.S. Department of State's Bureau of Educational and Cultural Affairs developed in partnership with ZERO1.

How Computers Imagine Humans?

In this media artwork, Artificial Intelligence (AI) is used against AI to discover *How Computers Imagine Humans*, using a selected computer visual noise (one computer) and an AI face detector system (another computer). Both systems are running in real-time against each other, using just built-in cameras to communicate. In recent years, face detection technologies have been widely used by artists to create digital art. Face detection provides new forms of interaction and allows digital artifacts to detect the presence of human beings, through video capture and facial detection, in real-time. In this work, an algorithm proposed by Paul Viola and Michael Jones, is explored to generate imagined faces from visual randomness. Unusual use of the facial detection algorithms intended to do the opposite of what it is supposed to achieve: instead of trying to locate and capture faces, it generates facial images 'imagined' by a computer through the exploration of hypothetical possibilities. This work focuses on a particular point: we humans have created methods and instructions so that computers can easily detect ourselves, and, in this case, this knowledge is used to generate abstract pictorial face results. More than what it offers in terms of visualization of what is behind algorithms, this work, as it is presented, with two machines interacting with each other without a wired or wireless connection, demonstrates the 'knowledge' we, humans, try to implement into machines to detect ourselves – awareness about these technologies and their effects (positive or negative) on our society. The result is a ghost-human face, made by mathematics and probabilities, appearing very slowly as the algorithms work over time.



How Computers Imagine Humans?, 2017.
Code, iMac, projectors, speakers, dimensions variable.

João Martinho Moura

João Martinho Moura is a researcher and media artist born in Portugal. His interests lie in digital art, intelligent interfaces, digital music, and computational aesthetics. Moura has a particular interest in real-time visualization, art & science, and interactive digital artifacts. For the past decade, he has been adopting new ways to represent the body in digital media, creating interactive audiovisual artifacts, mostly represented by monochromatic visual abstractions and minimalist lines. Moura has presented his work and research in a variety of art venues and conferences worldwide and has collaborated in art/science works for INL (International Iberian Nanotechnology Laboratory), ESA (European Space Agency) and the European Commission STARTS (Arts and Science) initiative. Moura is a member of the Braga Media Arts, UNESCO Creative Cities Network and has received in Lisbon, the National Multimedia Art & Culture Award, for his contributions in the field of the media arts in Portugal. His work was included in Processing Curated Collection (USA, 2008), Selected Works Ars Electronica Animation Festival (Linz, 2012), the SLSA Society for Literature, Science, and the Arts (USA, 2013), the NATO Arts Program (Brussels, 2019).

In the Gray

While humans are dreaming, the physical human body exists, but does not 'exist' in our perception. Human consciousness constantly moves back and forth between the boundary. During this process, we experience surreal and random senses in the virtual space called a dream, and it symbolizes an aspect of unpredictable possibilities of humanity.

In the Gray is a Virtual Reality film that probes into the relationship between error and humanity in human dreams so that artificial intelligence can perfectly mimic mankind. The title 'Gray' symbolizes a variable area that cannot easily be dealt with in a world where black and white are clear-cut and that there are numerous random layers that exist between clarity and obscurity. This work depicts a conversation of artificial intelligence and a dreaming human being in the beginning, and it unravels the contemplation on 'humanness' that is illustrated through error and incompleteness in virtual reality.

*This artwork was created by the support of ZER01NE.



In the Gray, 2018.
Virtual Reality and Video Installation, computer, Oculus Rift,
projector, speaker, dimensions variable, 6'00.

Roomtone

Roomtone is an artist collective that uses VR for game development, sound design and media art creation. Jeon Jinkyung and Kim Dongwook, the two artist of the group, create media-based experiences through virtual reality, especially when game and music emerge in digital space. They are seeking to present the possibilities and direction of their own artistic language through the game engine which blurs the boundaries of media art and game, and also by the experimental production and storytelling mainly produced with sound.

Selected as the creator for KALEIDOSCOPE (2017) and being invited at the VR LA and NYC Independent Film Festival for the work *Depth of Circle*, Roomtone's artwork has been exhibited at various international and domestic festivals including Seoul International New Media Festival (NeMaf).

INVITED ARTWORK

BRAD DARKSON

Old light (refraction)

The video work *Old light (refraction)* stems from research into different modes of knowledge and the time scales in which they are situated. Inspired by a news article linking scientific discovery and First Nations Australian oral history, this work distils a 1,200km journey taken by a cabbage palm seed some 30,000 years ago into a single minute.

In relation to the human inability to fully understand deep time, First Nations Bunorong/Kulin writer Bruce Pascoe states "sixty-five thousand years is forever". This year's theme for ISEA Lux Aeterna resonates with the concept of linkages between deep time and the present moment, as found in *Old light (refraction)*. The work encompasses notions of solid and fluid, of static and motion, intimating the multiple ways knowledge is dispersed across space and time. By projecting onto large public spaces interstate and internationally, a temporal shadow of the work is briefly transposed onto the wall and witnessed in a fleeting moment in the bystander's life.



Old light (refraction), 2017. 60", HD Video. 1920x1080(mm).

Brad Darkson



Brad Darkson is a South Australia based artist, working across various media including paint, resin, sound, sculpture and installation. His current practice explores themes such as identity, ritualised human behaviour, memory, pilgrimage and technology. He has a Master of Fine Art and Design and background in music production, resulting in an amalgamation of visuals and audio in his portfolio. Conceptually, strong ties to both his Anglo-Australian and Narungga First Nations heritage often inform Darkson's work.

<https://www.bradharkin.com/>

The Visibility of Blackness

The Visibility of Blackness (2018) is a performance of the remembering of BE-ing by Amala Groom; of the past, present and future. In iterating and existing single channel work, *The Invisibility of Blackness* (2014) the artist moving from the present into the past, now in unison incanting on the left; the future moves into the present moving into the past and on the right; the past moves into the present moving into the future.

The contrast between the two works is in the nature of what the artist accounts as both the invisibility and now inhering, the visibility of the Aboriginal experience as what is visible to some is not always visible to others as we tend to only 'see' out of the lens of our own 'experience'.

The progression across the iteration not only manifests in uniting the western linear notions of time with the Aboriginal aspect of its indivisibility for the artist this is personal; a reflection upon 'growing up', of maturing into her cultural remembering, moving from the desire to have her external sovereignty recognized by Colonial Project to embodying the knowingness that her self-sovereignty matters most.



The Visibility of Blackness (still), 2018. 1' 30", 4K UHD video with sound. Two channel synchronized.

Amala Groom



Amala Groom is a Wiradjuri conceptual artist whose practice, as the performance of her cultural sovereignty, is informed and driven by First Nations epistemologies, ontologies and methodologies. Her work, a form of passionate activism, presents acute and incisive commentary on contemporary socio-political issues.

Articulated across diverse media, Groom's work often subverts and unsettles western iconographies in order to enunciate Aboriginal stories, experiences and histories, and to interrogate and undermine the legacy of colonialism.

Informed by extensive archival, legislative and first-person research, Groom's work is socially engaged, speaking truth to take a stand against hypocrisy, prejudice, violence and injustice.

Recent shortlisted awards include 2018 Blacktown City Art Prize; Fishers Ghost Art Awards; 27th MIL-PRA AECG Exhibition; Josephine Ulrick and Win Schubert Photography Award 2018, w/ Dale Collier; Woollahra Small Sculpture Prize; Incinerator Art Award; Sunshine Coast Art Prize, w/ Nicole Monks; 65th Blake Prize; 40th Alice Prize and the Wyndham Art Prize.

Recent awards include the Mayors Choice Award, MIL-PRA AECG Exhibition the Southlands Emerging Art Award (2018) and the NSW Local Artists Award: King & Wood Mallesons Contemporary ATSI Art Prize, w/ Nicole Monks (2018).

Groom's current institutional commissions include 'The Union', The National 2019: New Australian Art, Carriageworks, curated by Daniel Mudie Cunningham; 'Don't Fence Me In' w/Dale Collier, Penrith Regional Gallery and the Lewers Bequest, curated by Lee-Ann Hall; 'how do you feel now?' w/Nicole Monks, Vitalstatistix/TARNANTHI curated by Nici Cumpston & Emma Webb; 'Body Clock' w/Nicole Monks, Connie Anthes & Rebecca Gallo, LIVEWORKS, Performance Space/Carriageworks, curated by Jeff Khan and 'UNIFORMITY' w/ Dale Collier, Cementa Festival of Contemporary Art, curated by Dr Andrew Frost.

Groom is a Director on the National Association for Visual Arts Board. Her work is held in the collections of Casula Powerhouse Arts Centre, Blacktown City Art Collection and private collections.

<http://amalagroom.com/>

INVITED ARTWORK
RAYMOND ZADA

At Face Value

To take something *at face value* is to believe the way the thing appears is the way it really is. *At Face Value* challenges some people's narrow views of what an Aboriginal person looks like. As the faces morph, viewers are asked to shift their paradigms and accept, at face value, that the person they're looking at is Aboriginal. In an international context, the dominant culture in most countries attempts to define aspects of who their first nations peoples are; and it's often reinforced through stereotyped images. In Australia, this is primarily done through tourism advertising.

In reality, First nations peoples and cultures are far more diverse and sophisticated than is convenient for the dominant culture to acknowledge. *At Face Value* is a series of 25 portraits of family and friends.



At Face Value (stills), 2017. 2' 33", HD video.

Raymond Zada



Raymond Zada is an Adelaide-based visual artist working primarily with photography, video, and digital design. He's also an award-winning radio broadcaster with 13 years' experience in production, presentation, and technical operation.

In 2013, Raymond won the New Media category of the 30th Telstra National Aboriginal & Torres Strait Islander Art Award for his piece, *Sorry*. *Sorry* examines the complexities of Australian history and the disconnect between language and reality.

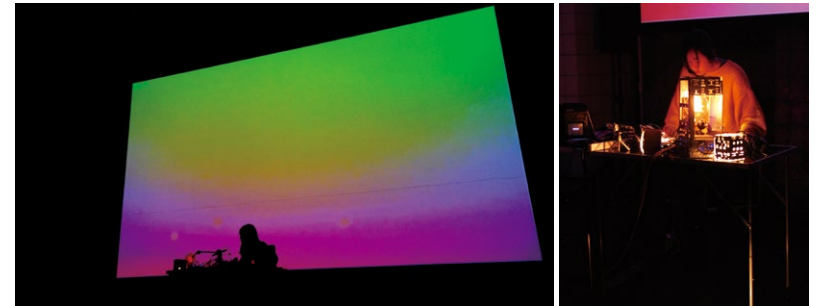
In 2012, Raymond won the Works on Paper category of the 29th Telstra National Aboriginal & Torres Strait Islander Art Award for his piece, *racebook*. An edition of 10, *racebook* has been acquired by several public galleries in Australia and overseas as well as private collections. In 2010, Raymond was a writer, producer and performer in *OutBlak Adventures*. The show toured regional South Australia and explored themes of family and sexuality. This confronting, educational and emotionally engaging production won a Ruby Award for Community Impact Under \$100,000.

Born in Adelaide in 1971, Raymond grew up in Port Augusta and Marree, South Australia. He is Aboriginal (Barkindji) with Afghan and Scottish heritage.

SABINA HYOJU AHN

Breath

Breath is an interactive light and sound installation/performance, operated by human breath. As a wind instrument, this work has been developed to control sound and light with human breathing, made of DIY circuits and e-wastes. *Breath* uses amorphous energy from the human body and transforms it into different shapes: breathe to light and sound, vitalizing an inorganic object and shaping the narrative. This is contrary action to turn off lights (candle), however, this can be interpreted as a vitalizing inorganic object. Human breathing is transformed into light and sound and the respiration is visualized by dimming bulbs. An individual's breathing activates the machine from a nonliving object and involves functioning. The piece has been made of electronic junks such as old telephone's microphone and old PC's metal frame to illustrate life from death and to allude a transformable relationship between human/natural elements and machines. To show the interactivity in real-time, moreover, the piece has been developed to a performative instrument that can be performed with live sound by my mouth and glitch like a sound from the software. The progress has started from simple method and mathematics in code and switching between on and off to dimming by the intensity of my breath and combining acoustic and electronic sound.



Breath, 2015~2018.

Sabina Hyoju Ahn

Sabina Hyoju Ahn is an artist who works with various medium, sound and organic matters. Her research area is involved with finding hidden rules and patterns in natural elements and translating it into different shapes of perceptual experiences.

She has broadened her artistic spectrum in South Korea and Europe and studied in Computational Arts MA in the UK and ArtScience Mmus in the Netherlands. Currently, she is a PhD candidate in Tangible Music Lab at Kunstuniversität Linz in Austria.

Her works have been shown in various places including Píksel festival (NO), Transmediale Vorspiel (DE), Mediamatic (NL), Athens Digital Arts Festival (GR), AMRO (AT), Lab 30 (DE), Art Center Nabi (KR), ACT Festival (KR), Daechung Chungjoo City Museum of Art, V2 (NL) and she has been awarded NIME (New Interface for Musical Expression 2017) Best Sound Performance.

MALITZIN CORTES, IVAN ABREU

CODING IN ATYPICAL PLACES

The live act *CODING IN ATYPICAL PLACES* implements concepts of the organization of the sound time in music to the cinematographic image, using the same logic when programming rhythmic patterns or the transversality of layers or instruments, to order in a non-linear or compositional way the moving image. For this we developed the Live Cinema Coding Engine for Tidal & Processing, a pseudo-protocol mounted on OSC connection that includes a dictionary of words and its corresponding syntax which allows creating analogous behaviors to the music for the video.

This same cinematographic approach comes from an extensive musical concept that, beyond being limited to a genre, reviews from the algorithmic possibilities and the manipulation of the live coding various moods and styles.



Abreu Ivan, Cortes Malitzin

Abreu Ivan explores the veracity and instrumental capacity of science and technology in art contexts, and the possible poetic and/or political value of the findings that emerge from these crossings, as a consequence through processes like visualization, interaction design, industrial design, software and web development, engineering and electronics, expanding the possibilities of drawing, graphics, digital media, photography, sound art, video, sculpture, and architectural and urban installation.

Cortes Malitzin is an architect, researcher, experimental musician, and audiovisual artist, adopts transdisciplinary and technology in contemporary multimedia practices, her work is developed between live coding, expanded cinema, installation, 3D animation, generative art, sound design, experimental music, and art sound. Her work is in labels like Voragine (MX) and SNU (MX).

ALEXIS LANGEVIN-TÉTRAULT

Interférences (String Network)

Interférence (String Network) is a 20 minutes audiovisual performance that explores the possibilities of the embodiment of an electroacoustic work in real time through gestural interaction with a unique device. On stage, an audio-reactive play of light unfolds gradually: Alexis Langevin-Tétrault builds a network of strings with which he interacts to create a sound universe between the industrial noise, electronica, and acousmatic music. Through the staging of corporality and the dialectical relationship between the human and the machine, *Interférences (String Network)* presents an allegory of the globalized and interconnected modern world in which the individual seeks to derive meaning from his experience and attempts to preserve its freedom of action. Composer and musician from the post-rock, acousmatic and electronic scenes, Alexis Langevin-Tétrault proposes a singular brutalist universe and infuses a dynamic of live music to a musical genre rarely incarnated by performance.

This project was made possible by the support of Château Éphémère - Fabrique sonore et numérique (FR), Université de Montréal (CA), the Social Sciences and Humanities Research Council of Canada (CA), Fonds de Recherche Science et Culture du Québec (CA), Exhibitronic Festival (FR) and Centre national de création musicale Césaré (FR).



Alexis Langevin-Tétrault Concept, device manufacturing, audio and lights programming, composition and performance. / Lucas Paris Help with lights design and manufacturing. / Nicolas Bernier Advice on artistic direction. / Anne Thériault Advice on dramaturgy.

Alexis Langevin-Tétrault

As a composer and stage artist, Alexis Langevin-Tétrault has contributed to a variety of electronic and electroacoustic music projects under the guises of Falaises, DATANOISE, QUADr, ILEA, BetaFeed, Alexei Kawolski and Recepteurz.

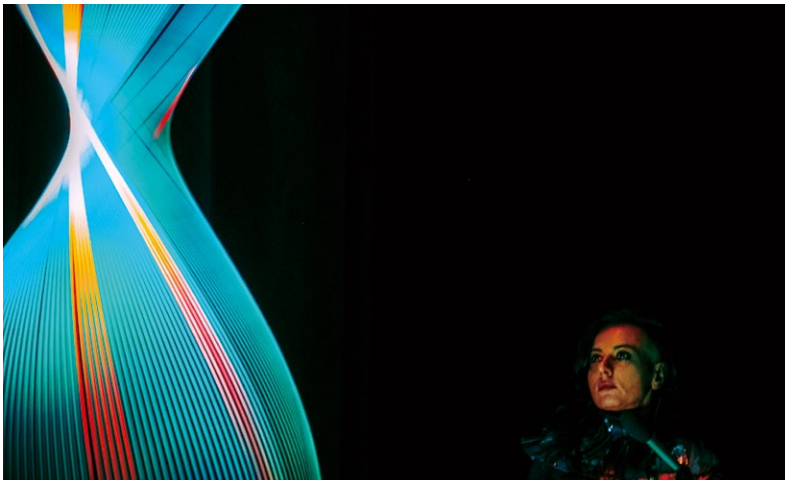
His actual work is characterized by the design of audiovisual devices, physical performance, scenographic and dramaturgic work, the critical and thorough use of digital audio technologies, exploration of sound timbre and also conceptual and social reflection. He is completing a master degree in digital composition with composer Nicolas Bernier at Montreal University.

His work has been presented internationally in more than a hundred events such as Ars Electronica (AT), Transart (IT), ADAF (GR), MUTEK Barcelona (ESP), Intonal (SWE), NEXT (SVK), Électrons Libres Scopitone (FR), MUTEK Montreal (CA), BIAN-Elektra (CA), Akousma (CA), Transient (FR), Visions of the future (USA), ISEA (CA), Mois Multi (CA), Sines & Squares (UK) and Espace du son (BE).

MICHELA PELUSIO

SpaceTime Helix

SpaceTime Helix is an audiovisual performance with an optoacoustic instrument by Michela Pelusio, forming a large helicoid up to the ceiling. The helix surface is bright and transparent, with waves running over it, disappearing into the future, more and more distant in space-time. The translucent standing wave climbs and arcs towards the ceiling as minimal sounds harmonize with its flux. Quantum physics meets audiovisual experimentation in this performance, exploring helical symmetries and infinity, frequencies and geometry, sonic visions and perceptions. The hardware and software of the helix were developed and custom-designed by Michela, allowing for precise control and interaction with light, sound, and touch.



Michela Pelusio

Italian artist Michela Pelusio creates immersive, audiovisual installation and performance. Her research explores human perception, art, science, and technology.

She performs and exhibits worldwide at spaces such as BOZAR Centre of Fine Arts Brussels, MAX-PLANCK INSTITUTE OF ASTROPHYSICS, Munich, all MUTEK festivals, CHRONIQUES Biennale des imaginaires numeriques, GMEM Centre National de Création Musicale in Marseille, TODAYSART festival in Den Haag, ELECTRONS LIBRES at Stereolux in Nantes, MIRAikan The National Museum of Emerging Science and Innovation in Tokyo, LEXUS HYBRID ART Exhibition in Moscow, among many others.

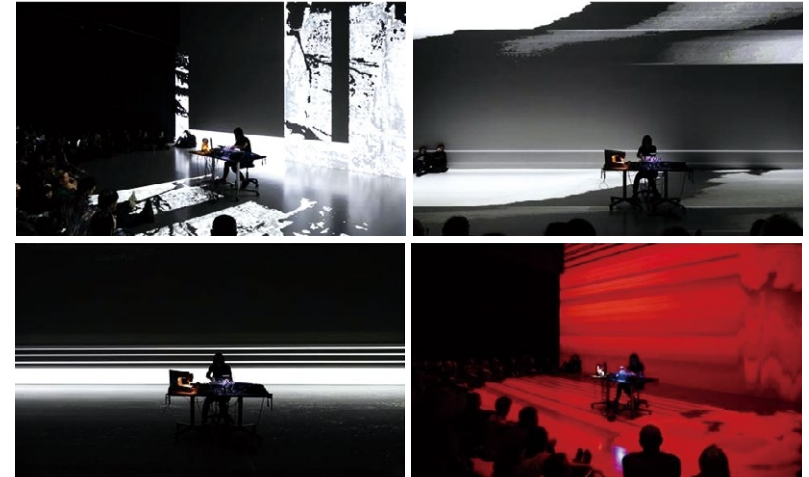
In 2000, Michela Pelusio graduated at the Sculpture department of the Academy of Fine Art of Carrara. In 2006 she received an MA degree from the ArtScience Interfaculty and a Master of Music degree from the Royal Conservatory of Den Haag in The Netherlands. In 2006 she became a teacher at the ArtScience Interfaculty in Den Haag, teaching courses "Synesthetics" with Frans Evers, and "Genius Loci" with Robert Pravda and Horst Rickels. In 2012 she founded ResidenceSEA - Sensing your Environment through Art in Heraklion a residency for international artists who engage in a dialogue between art and science. She is currently based in Athens, Greece.

www.michelapelusio.org

MONICA VLAD

Lost, but not lost forever

Lost, but not lost forever is a sound performance that uses old media devices to create new soundscapes. The set-up is made from few cassette players that are continuously playing changeable cassette tape loops; radios are also added to play random AM/FM frequencies and create a depth to the sound. A sewing machine is the central piece with piezo microphones positioned on its surface to detect the vibrations and transform them in audible waves, also an adjacent rhythm is created using the metal needle perforating the surface. A light sensor from a S I G N U M device is used to create the principal beat and the bass. A small PCB (printed circuit board) is the last one to be added and used to close the performance. The title *Lost, but not lost forever* is a tribute to old media that doesn't exist anymore (or dead media) but we still remember their existence. Also puts the question "What's the life expectancy of a media?". Of course, depends from type to type, but at the end, somehow, they all die. Or "Is there a media that never died?". "What's the new media that is going to conquer the world?".



Monica Vlad

Monica Vlad changes the functionality of old media devices and everyday objects to create new sounds. She combines the astonishing sound textures and seemingly endless possibilities of the noise genre with sounds from opposite genres such as classical music to create a "paradox soundscape." Her live performances are different each time, but always intense, dramatic and powerful.

For her visuals, Monica creates new mediums of projection that together with the sound, compose a totally new immersive exposure to "reality". For her light installations, she works with solid light that can easily be perceived. The viewer is invited to directly engage and experience with the sculptural characteristics of light. The installations carry performative and participatory qualities: while walking through space, the viewer morphs into the landscape which disrupts the autonomy of the exhibition space and imposes its own spatial and temporal identity.

LEE LEE NAM, ROBOLINK & PABLO AIR, GONGMYOUNG,
ART CENTER NABI

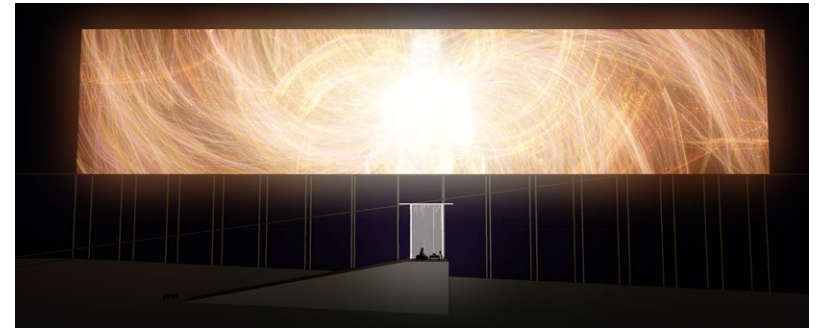
Drunken Drone

The opening performance *Drunken Drone* (2019) is a drama based upon a Korean folk story wherein a woman waiting for her husband to come from the workplace, sets aside some food in a bamboo forest and the demons turned it into a drink. It highlights the intimate relationship between humans and machines by giving personality to a drone as a personal medium that enjoys nature and understands other's feelings.

Highly advanced modern technology reflects the human will and provokes revolution which influences human consciousness and brings about a paradigm shift in our lives. The demons in the form of a *drunken drone* sympathize with the woman who is experiencing difficult times in life and comfort her by turning the hidden rice into alcohol.

The hidden 'rice' symbolizes the sorrow and joy we as human beings experience in a lifelong journey and at the same time the internal conflicts and various social traumas. 'Rice' is set as the first cause of all conflicts, and as a means for survival. The digital demon as a *drunken drone* emerges from the outside and comes as a light which comforts human beings as they confront the limitations which they can never overcome by themselves because they are beyond their limits.

Beyond the characteristics of the existing media, drones exist as a personal medium that understands human beings more than the human themselves and creates a connection between humans and machines that can only be achieved through the drink, which is interpreted as a light, which sublimates the pain and affection felt by humans in light of the modern civilized society.



Drunken Drone, 2019. Media Performance (LED, Drone). 13'00.

Lee Lee Nam

Born in Damyang of Jeonnam province, Lee Lee Nam graduated from Chosun University in Korea with an undergraduate degree in sculpture and a doctorate degree in Fine Arts. He also completed a PhD program in Media Art at the Graduate School of Communication and Arts of Yonsei University. In his digital reinterpretation of classical masterpieces that reveal nature's wonders and life's aura, he attempts to breathe new meaning and vitality into each pixel of an image.

He also seeks to communicate with the public in a close manner with his stories in the works and to communicate various messages such as life value and happiness. His work is also famous for "five minutes' aesthetics," which stops a piece from being published for more than five minutes.



Drunken Drone

With more than eight hundred exhibitions, both solo and group in countries like Belgium, China, Qatar, New York, Singapore and Paris under his belt, Lee continues to expand his horizons globally. His signature works include "Parkyeon Waterfall," what Geomjae Jeongseon called "a rhapsody that flows from the heavens" and "Cartoon-folding screen" which shows many faces of modern civilization inside a classical painting through the display of interaction among cartoon characters, seasonal transformations, icons and symbols of art, society and war. At the 2016 Busan Biennale, he was the first Korean artist to present a virtual reality artwork using Google's Tilt Brush technology.

2018, Lee was put on exhibit at the Inter-Korean Summit folding screen and Gwangju Biennale opening ceremony of the Directing.

Among others and his works are included in the collections of Incheon International Airport, National Library of Korea, United Nations headquarters in New York, and numerous prominent museums such as the Asian Art Museum of San Francisco, the Suning Art Museum and the Zebrstraat Museum in Belgium.

Credit

Stage Management Jae Man Song

Stage Lighting Jun Kwon Kim

Photography Tae Seung Oh

Robolink & Pablo Air

Robolink and Pablo Air are South Korean drone companies that sell drone service & products in art, service, and education through indoor and outdoor cluster flight technology.

Robolink won the 2019 CES Best Innovation Award and makes robots and drones for education and service, and Pablo Air is Korea No. 1 company in outdoor cluster flights and received investment in SM Entertainment this year. Robolink and Pablo Air are Drone Service Partners.

GongMyoung

GongMyoung is a Korean performing arts group, established in 1997, well-known for its modern reinterpretations of the classical Korean music and is also recognized as one of the most inspiring drumming collective performers of Korea today. The four members, Sun-Il Kang, Seung-Won Park, Kyoung-Keun Song, and Yong-Ju Lim, all come from the background in traditional Korean music and are the very creators of their own bamboo instrument named after the group, GongMyoung. No boundaries exist in between different Genres in the world of GongMyoung, for they have branched out into the worlds of plays, musicals, dance, and as far as the realm of cinema.

Credit

Music GongMyoung / Sun Il Kang, Seung Won Park, Kyong Keun Song, Young Ju Lim

Gayageum Ji Hyun Lee

Performer Su Ji Jang

Modular Ji Hye Woo

Violin Soo Hyun Jang

Pansori Eun Hye Jung

Art Center Nabi

Art Center Nabi is a media art museum aiming to act as an intermediary that fuses up-to-date technology, humanity, and arts. Since its foundation in 2000, Art Center Nabi has been active in generating and supporting interaction between art and technology, also incubating a vital scene in which artists and engineers could both gear up for the development of technology.

Working across various technologies such as Blockchain, Data Science, Artificial Intelligence and Robotics, previous exhibitions include 'Unzipping CODE' (2004), 'Media Art Festival, P.Art.y' (2007), 'Incheon International Digital Art Festival' (INDAF) (2010), 'All Artists' (2012), 'Robot Party' (2015), 'Why Future Still Needs Us: AI and Humanity' (2016) and 'Neotopia: Data and Humanity' (2017).

JAYOUNG CHUNG

Fiat Lux

Fiat Lux is an interdisciplinary performance creating a narrative of another start of a light at the closing ceremony of ISEA2019 which sheds light upon the theme Lux Aeterna (Eternal Light). The paradoxical relation between light and darkness is shown through the corollary generation of shadow from the creation of light. After the solar eclipse with which the light is temporarily concealed, the resurrection of light begins.



Fiat Lux, 2019. Live Performance with Projection Mapping, 15'00.

Credit

Director/Video Jayoung Chung
Stage Management Geun Tae Park
Stage Lighting Junkwon Kim
Music Sangmin Park
Performer Banya lee, Seokyoung Kook, Miso Lee
Daegeum Hwangchul Lim
Percussion Jiyoung Lim
Production Assistant Junyeop Kim
Video Mapping Assistant Hyejin Park, Sujin Lee

Jayoung Chung

Although Jayoung Chung majored in visual arts, she learned to play three Korean traditional instruments in her childhood, so her body remembers those unique sounds as well as the physical motions involved in creating them. She incorporates the music she composes and performs with sounds of nature to create her visuals via the technology of sound processing programs she has personally developed. Throughout her work, there is harmony between traditional arts and contemporary technology.

She has been awarded residencies at Asia Culture Center, Eyebeam, Bemis Center for Contemporary Arts, ZK/U in Berlin, Watermill Center which is run by Robert Wilson, Yaddo fellowship, Edrard Albee, Swing Space at the Lower Manhattan Cultural Council (LMCC) in 2012, Culturehub in 2011, an organization that values cross-cultural artistic collaboration, I-Park Foundation and AHL residency in 2011. She received an MPS from ITP at the Tisch School of Arts in New York University in 2010.

TACIT GROUP

Analytical, Hun-Min-Jung- Ak (Korean Letter) Morse ㄱung ㄱung (Morse Kung Kung)

Analytical (2018)

The major characteristic of Tacit Group's work is not just creating a video that fits well with the music, but the visuals and music correspond with each other. For this event, the group presents *Analytical*, a piece that unfolds the music and visuals together. On this piece, Tacit Group transfers sounds into graphics through an analysis called 'Fast Fourier Transform'. Then they create a basis waveform using this graphic's figure. The first step of this piece is the Tacit Group's execution on stage. Then the sound visualizes as graphics, which becomes its own sound, real-time. In the end the loop of graphics and sounds transforming to each other, is improvised as an audio-visual performance.

Hun-Min- Jung- Ak (Korean Letter) (2018)

Hangeul is the only letter in the world that the people who created it, the date of proclamation, and the principles of creation are exactly identified, and is registered as UNESCO Memory of the World. The piece which got the major motif from vowels and consonants of Hangeul, *Morese ㄱung ㄱung*, and Tacit Group's representative piece *Hun-min-jung-ak* will be on stage. The combination of consonants and vowels that the players type in builds the music of *Hun-min-jung-ak*, and it is based on the principles of Hangeul creation. The basic rule of Hangeul creation is that the letters are made via horizontal and vertical constructions, and the components of the letters are based on the actual sound of the letter. Tacit Group used these two rules and materialized the piece by computer programming. When a player types in, each component of a letter changes into corresponding sound. Players make abstract shapes by combining consonants and vowels, or talk to the audiences by typing in letters



Analytical, Hun-Min- Jung- Ak, Morse Kung Kung, 2018.
Audiovisual Performance. 30'00.

*Organized and sponsored by Art Center Nabi

with meanings, thus improvising the performance. Being able to communicate with the audiences via Hangeul, which also is the main music and video itself for the performance.

Morse ㄱung ㄱung(Morse Kung Kung) (2018)

This piece is also based upon Hangeul, the Korean alphabet. Like our world, there is no distinct line between determinacy and indeterminacy in the world of sounds. *Morse ㄱung ㄱung* visualizes/sonifies this ambiguity with a whole new rule of connecting principles of morse code and Korean alphabet. When a performer types in a Korean letter to a computer, it changes into sound with specific rhythm. This rule seems natural at first. But if taken with a closer look, the performer's contingency of unpredictable text writing is involved. Hence, it brings life into the world of sounds where determinacy and indeterminacy clashes.

TACIT GROUP

Analytical, Hun-Min- Jung-Ak (Korean letter)

Morse ðung ðung (Morse Kung Kung)

Tacit Group, Seoul

A media arts performance group formed in 2008, sharing their vision of generating the 21st century's new arts. Mostly inspired by digital technology, conducts numerous projects such as multimedia performance, Interactive installation, algorithm arts through computer programming. Although taking after the innovative nature of 20th century's art, the group refuses to end in experiment and innovation. Develop projects from discovering artistic territory from day to day analog/digital ingredients. Recognized for their intuitive recreation and unique quality. For this performance, they've prepared pieces inspired by familiar everyday materials such as a game of Tetris, or IM(Instant Messaging). Tacit group enables the audience to enjoy and immerse into the world of contemporary music, which generally is conceived as 'difficult', through its unique world view.

Tacit Group's first solo performance was held at the summer of 2009 at Doosan Art Centre. They started gaining global reputation since 2011. Invited for the opening stage of the 45th Aarhus Festuge at Denmark, and successfully finished their US tour including shows at Museum of Contemporary Art in Chicago and Lincoln Center in New York at the winter of 2012.

The group's 3rd solo performance was at the National Museum of Modern and Contemporary Art in Korea as its opening celebration show in 2013. In 2015, they successfully finished the European tour at France and Belgium and were also invited at NYU Abu Dhabi to perform. They visited France and Russia in 2017 to participate Festival Coree d'Ici at Montpellier and Plums Festival at Moscow. They were recently invited to Spain for the opening stage of the 1st Matadero Festival de Música Electrónica Asiática.

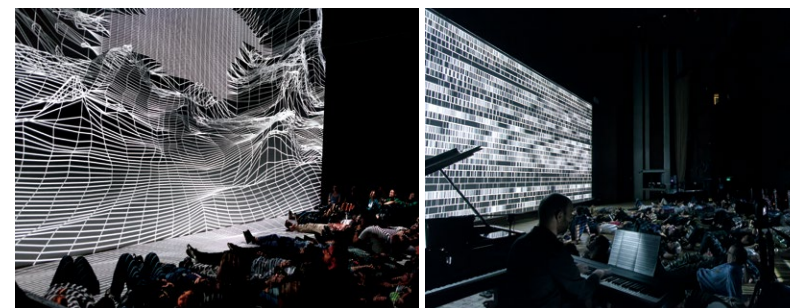
Website: <http://www.tacit.kr/>

NOHLAB & NOS VISUALS WITH UDI BONEN

DEEP SPACE MUSIC

NOS is an ever-changing performance built on the real-time interaction between audio and visual elements via NOS Visual Engine. In ISEA2019, pianist Udi Bonen will join Nos Visuals at the Art Center Nabi for another unique experience, based on 2012's Deep Space Music in Ars Electronica.

The contemporary compositions ranging from Prokofiev, Cage, Ligeti, Messiaen, Feldman and Glass to Shostakovich will be turned into an audiovisual experience by NOS. NOS software will make real-time sound analysis as part of its visual calculations during the performance, creating a hybrid perception. Nohlab's instant intervention with the visual turns the process of visual creation into a performance itself. Minimal geometric forms of NOS acting jointly with the contemporary compositions will open new doors to interlocking areas in audience's perception, inviting them to almost a synesthesia-like experience, unique to that moment alone.



Deep Space Music, 2019.
Realtime Visual Performance. 32'00.
*Organized and sponsored by Art Center Nabi

NOS Visuals

NOS Visuals is a collaborative platform formed by the multidisciplinary studio Nohlab (Candaş Şişman and Deniz Kader) and creative coder Osman Koç, that aims a holistic perception for sound and visuals. NOS Visuals uses NOS Engine, a custom real-time visualization tool enabling audio input directly affect the visuals, and simultaneously functioning as an instrument that opens up the visual creation process to artistic intervention.

www.nosvisuals.com / www.instagram.com/nos_visuals

Nohlab – Art Direction and Performance

Nohlab is a multidisciplinary studio, focusing on producing interdisciplinary experiences around art, design and technology. It builds a bridge between the digital and the physical reality, while examining the relationship of technology with art and design.

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

Osman Koç – Creative Coding and Performance

Osman Koç, is a San Francisco based creative technologist/artist, whose main research focus is on experimenting different physical interaction methods for installations, spaces and stages.

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

Udi Bonen - Pianist

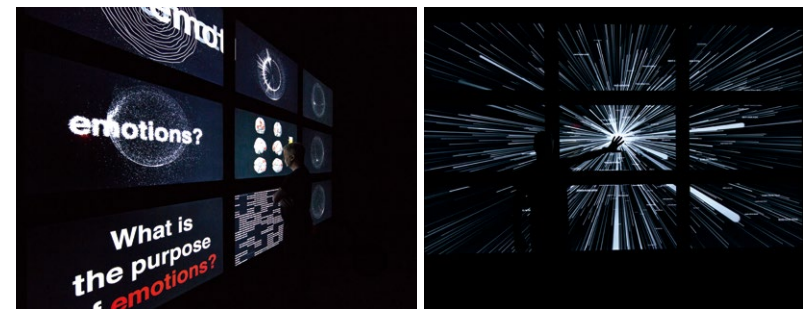
Udi is a graduate of the “Buchman-Mehata” school of music in Tel-Aviv, and the postgraduate program for experimental music and sound art at “Musrara” in Jerusalem. He has performed at festivals and venues in Berlin, Paris, Banff Canada, New York, and Newcastle.

PURFORM

ENIGMA

The performance *Enigma* depicts forms of visual and sound information transcoding. Amongst the themes explored, the artists worked around the thought of mathematician Alan Turing through the exploration of issues related to artificial intelligence, deep learning, and digital identity. The creators also focused on the parallel drawn by Turing between the cryptographer and the physician, who attempts to decrypt the universe in which we live.

The inclusion of a human-machine dialogue, inspired by a series of experiences conducted at Google in the area of deep learning, gives us a glimpse at the challenge machines will face in their learning and decrypting of human thought. Finally, we could not ignore one of the great repercussions of the development of cybernetics by taking up the text of a famous monologue by physicist Robert Oppenheimer on the consequences of research on the atom.



Enigma, 2019.

Stereo sound, single channel live video, computers, controllers, TouchDesigner software. Audiovisual Performance. 35'00.

*Organized by Art Center Nabi, sponsored by Government of Quebec Seoul, Korea

Credit

Visuals Yan Breuleux

Music Alain Thibault

Touch Designer Programmer Rémi Lapierre

Yan Breuleux

Yan Breuleux is a professor at NAD-UQAC (École des arts numériques, de l'animation et du design in Montreal). He's also a researcher and practitioner in the field of visual music for immersive display. For twenty years, he has collaborated with musicians and composers to create multi-screen, panoramic, architectural projection and Fulldome pieces. Since 1998, in the PURFORM duo with the composer Alain Thibault, he created strong sensorial A/V performances.

ybx.ca

Alain Thibault

Curator and artistic director in the fields of digital arts, electronic music and sound art, Alain Thibault is also the founder of two major events in Montreal, ELEKTRA - an annual festival showcasing performances in digital art since 1999, and the BIAN, International Digital Art Biennale, oriented towards exhibitions, installations and public art since 2012. As an electronic music composer, he has collaborated with visual artists, among them Yan Breuleux (PURFORM Duo). Their works have been presented throughout the local and international scene in several contexts, namely contemporary music and digital art events in North-America (Canada, USA, Mexico), Europe (France, Italy, UK, Netherlands, Germany, Spain, Belgium) and Asia (Japan, South-Korea, Taiwan).

alainthibault.com

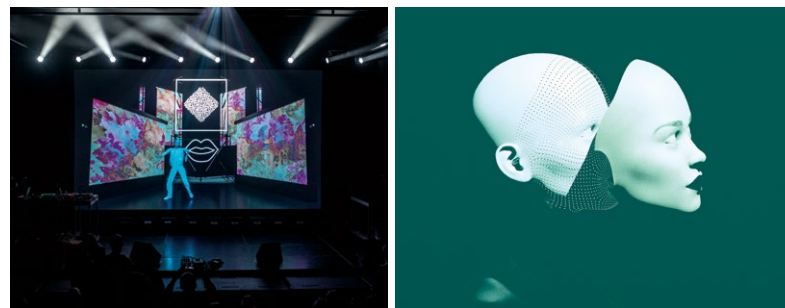
MYRIAM BLEAU, LA TURBO AVEDON

ETERNITY BE KIND

LaTurbo Avedon performs Myriam Bleau's music in a multiplatform audiovisual performance.

Eternity Be Kind exposes the codified spaces of performance and hints at a different future for personal and musical representation.

Navigating between hyper pop, mythical symbolism and baroque hints, the artists propose a multilayered experience of collective mise en abyme.



Eternity Be Kind, 2019. Audiovisual Performance. 30'00.

*Organized by Art Center Nabi, sponsored by Government of Quebec Seoul, Korea

Credit

Conception Myriam Bleau, LaTurbo Avedon

Composition Myriam Bleau

Performance LaTurbo Avedon

Web application development Conan Lai

Choreography Jossua Collin

Production Myriam Bleau + Recto-Verso (Quebec City)

Myriam Bleau

Myriam Bleau is a composer, digital artist and performer based in Montreal. She creates audiovisual systems that go beyond the screen, such as sound installations and performance specific musical interfaces. Her hybrid electronic practice investigates music performance as a codified cultural manifestation and recontextualizes pop culture elements and music history tropes. Her work has been recognized and presented internationally: Prix Ars Electronica (AT), Myriam Bleau is a composer, digital artist and performer based in Montreal. She creates audiovisual systems that go beyond the screen, such as sound installations and performance specific musical interfaces. Her hybrid electronic practice investigates music performance as a codified cultural manifestation and recontextualizes pop culture elements and music history tropes. Her work has been recognized and presented internationally: Prix Ars Electronica (AT), Sónar (ES) and Sónar Hong Kong, Sonic Arts Award (IT), ELEKTRA (QC-CA), Transmediale (DE), ACT (KR), Laboral + Lev (ES), Scopitone (FR), to name a few.

LaTurbo Avedon

LaTurbo Avedon is an avatar and artist originating in virtual space. Their work emphasizes the practice of nonphysical identity and authorship. Many of the works can be described as research into dimensions, deconstructions exploring topics of virtual authorship and the physicality of the Internet. They curate and design Panther Modern, a file-based exhibition space that encourages artists to create site-specific installations for the internet.

LaTurbo's process of character creation continues through gaming, performance and installations. Their work has appeared internationally, including TRANSFER Gallery (New York), Transmediale (Berlin), Haus der elektronischen Künste (Basel), The Whitney Museum (New York), HMKV (Dortmund), Barbican Center (London), and Galeries Lafayette (Paris).

turboavedon.com

MARCUS NEUSTETTER

Searching Darkness

In a search for the dark corners of lit cities we find ourselves searching the spaces between the rigidity of the organized systems and the city grids. We look for the respite from the connected, surveilled and illuminated spaces in an attempt to find and celebrate darkness and silence. Part of this search is to experience these found spaces, attempt to capture them in image and sound, acknowledge their juxtaposition to their surrounding activity, map them onto the city grid and publish these findings.

This performative workshop and performance installation is in line with a trajectory of the artist's 10 years of light interventions and community engagement projects questioning the meaning of darkness and silence in the context of South Africa, across Africa and Europe. The play of darkness and light is one that is not only easily accessible to participants and audiences, but can be read as highly critical of social conditions and behavior, the power of politics and propaganda, and evidence of control and surveillance.



Marcus Neustetter

Marcus Neustetter - Born 1976 in Johannesburg he earned his Master's Degree in Fine Arts in 2001 from the University of the Witwatersrand. As an artist and cultural activist, Neustetter's consistent focus in his art practice has been on the intersections of art, science and technology. His projects range from multimedia to site-specific, public and socially engaged interventions and installation in Africa, Europe and South and North America. He is the co-director of The Trinity Session innovating in public art, socially engaged practice, and art-business development strategies and projects since 2000. Marcus Neustetter was the artistic director of ISEA2018 Durban, South Africa.

In collaboration with Ji-Eun Lee

Ji-Eun Lee is a dance professor at Radford University (USA). She has received multiple awards with Choreography such as third prize from Euro-Scene solo tanz competition in Germany, Authorial award from International Choreography Competition in the Czech Republic and Art Expo in Italy et al. Lee has presented and performed more than 23 countries and her recent choreographic commissions include Prague Chamber Ballet, Ecuador National Dance Company and Japan International Ballet Company.

Caroline Beard

Caroline Beard is originally from Virginia, USA and received a BFA in Dance from Radford University Magna Cum Laude. Her choreography has been presented in Virginia and North Carolina and she has recently accepted the position as an apprentice for the Virginia National Ballet.

Zoe Couloumbis

Zoe Couloumbis graduated from Radford University with a Bachelor of Science in Dance. Couloumbis has performed at the American College Dance Association Conference and at the NASA Langley 100th Centennial; she has presented her choreography at the Incheon Contemporary Dance Festival in South Korea.

Monica Tirado

Monica Tirado was born in San Juan, Puerto Rico and now resides in Radford, Virginia where she is pursuing a BFA in Dance. Monica is a ballet instructor and apprentice with Roanoke Ballet Theatre.

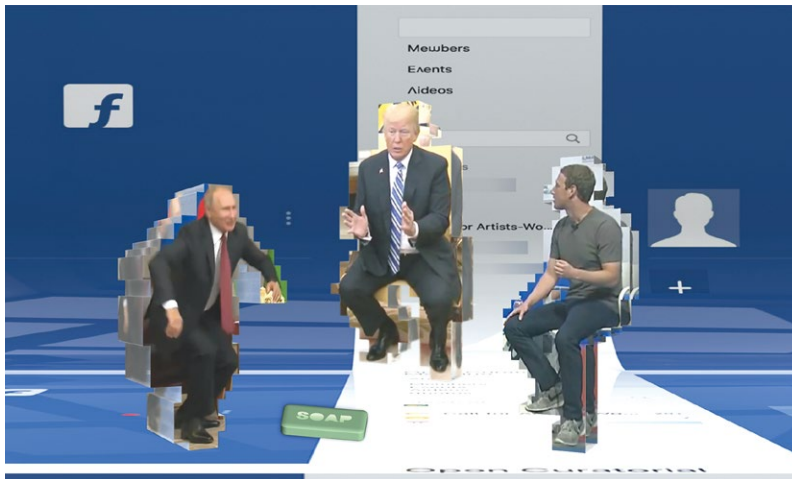
Sebrena Williamson

Sebrena Williamson is a Virginia based choreographer and dancer. From 2018 to 2019, Williamson presented her choreography at the American College Dance Association Conference, at the Incheon International Contemporary Dance Festival, and at the Gangnam Gallery in Seoul. Williamson's choreographic focuses include dance theatre and research based choreography.

SANDRA ARAÚJO

U\$AAR

Synopsis of *U\$AAR* is based on social media platforms in which steal™ analytics & algorithmic lifestyle™ are depicted in tiny gifs of laugh. *U\$AAR* focuses on how data is shaping and twisting social and political events.



U\$AAR, 2018. 03'49", 4K video, Single channel edition.

Sandra Araújo

Sandra Araújo is a digital artist that spent endless hours shooting at monsters & strolling through mazes. So, it only felt natural for her to evolve through an experimental & explorative process of the visual culture of video games & popular gif files. Also feeds on social media platforms to engage her animations into the depths of gameplay plots. She still plays old school computer games.

<https://s-ara.net/>

JUNGKI BAEK, HYUNG-GI KIM

Walking alone on a Clear Night

Contemporary artists introduce various works which express the city into music using personal inspiration. However, music made by improvisational inspiration is only a personal impression of the city. It cannot share the unique structure of the city by that. I experimented with music composition method based on objective city structure. And developed a method. I call it "musical sonification". "musical sonification" is not just a city analysis, but a work that can share and enjoy the city. *Walking alone on a Clear Night* is a representative work using "musical sonification". I look forward to enjoying the diverse structure and fashion of Seoul through my works.



Walking alone on a Clear Night, 2013. 7', Musical sonification.

Jungki Baek

Jungki Baek dropped out of the Department of Painting in Hongik University, and graduated from the Department of the Korean National University of Arts and Graduate School of Advanced Imaging Sciences in Chung-Ang University. Having his first private exhibition in 2008, he has had 5 private exhibitions, and participated in multiple team competitions. Jungki Baek was an artist in residence at Hongo Creative Art Center in 2012 and Gyeonggi Creative Center in 2013.

Hyung-Gi Kim

Hyung-Gi Kim is a digital media artist and the professor of the Art & Technology at Chung-Ang University. He was the Chief Director of INDIAF 2009, Tomorrow Festival 2010 and Busan Lighting Festival 2010.

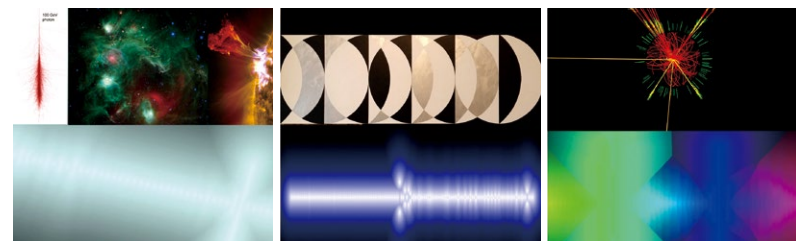
IAN CLOTHIER

Light seen and unseen, Moonlight and Higgs boson inverted

Light seen and unseen was created specifically for ISEA2019 and involved scanning scientific visualizations from various light wavelengths – at nonvisible, UV, visible and infrared wavelengths. Visualizations used were of a photon shower from the Veritas Atmospheric Cherenkov Telescope Array in Arizona; a solar prominence eruption recorded on May 3rd 2013 at UV wavelengths; a Hubble image of the Serpens constellation of the Eagle Nebula giving birth to new stars, at visible light wavelengths; and an image of the nebula NCG2174 at infra-red wave-lengths. These were sonified and animation was generated from the audio.

Moonlight is based on a high resolution image of a painting on the theme of phases of the moon by Māori artist WharehokaSmith. The relationship of the sun, the moon and Earth is of particular interest and concern to indigenous peoples and WharehokaSmith provided an abstract image where the phases are discernible in a way that is also reminiscent of traditional kowhaiwhai (painted rafter decoration) forms. This is the core visual data subjected to algorithmic regimes to create the audio video art work.

Higgs Boson Inverted is an expression of non-light. Perhaps the most significant development in quantum theory in recent times has been the confirmation of the Higgs Boson in a 2013 experiment on the CERN Large Hadron Collider by Cambridge University. Vibrations in the Higgs Field gives rise to the Higgs Boson, which is responsible for the mass of particles. As light is massless, the Higgs Boson plays no role in light so the video audio work resulting from scanning the Cambridge University data visualization of the experiment, was subjected to one further step: the colour inversion of the video where red became green, blue became orange et al – a transformation based on the complementaries of the colour wheel.



Light seen and unseen, Moonlight and Higgs boson inverted, 2019.

Figure 1. Top left left. Gamma rays in a Monte Carlo simulation reconstituting a 100 GeV photon shower recorded Atmospheric Cherenkov Telescope Array.

Figure 2. Top left middle. NCG2174 nebula at infra-red wavelengths - NASA/JPL-Caltech.

Figure 3. Top left right. Solar prominence eruption recorded by NASA on May 3rd 2013 at UV wavelengths.

Figure 4. Left bottom. Frame still from *Light seen and unseen* mp4 video audio.

Figure 5. Top middle. Acrylic on canvas by WharehokaSmith of moon phases.

Figure 6. Bottom middle. Frame still from *Moonlight* mp4 video audio.

Figure 7. Top right. Higgs boson confirmation data visualization from Cambridge University.

Figure 8. Bottom right. Frame still from *Higgs boson inverted* mp4 video audio.

Ian Clothier

Ian Clothier is an electronic artist, curator, Director of Creative Research at Inter create and part time senior academic at WITT New Zealand. A hybrid Polynesian, his DNA traces through Te Wai Pounamu (South Island, New Zealand), Norfolk Island, Pitcairn Island, Tahiti and Polynesian culture to Lapita; while other lines trace back through the Isle of Man, England, the Shetland Islands and Nordic countries.

A long term interest in data and science has led to recently using scientific data as core content for audio-video art works. Scanned data visualizations from bubble chambers, visualizations of the universe and Large Hadron Collider experiments are converted to audio. This is compiled with related audio to make a soundtrack; the soundtrack is then visualized algorithmically. Pion decay was exhibited at Diffrazione Festival Florence in 2016 and Higgs boson confirmation at the University of Hull in 2017. ISEA2019 is his sixth ISEA exhibition.

<http://ianclothier.com>

<http://vimeo.com/ianclothier>

LUCA M. DAMIANI

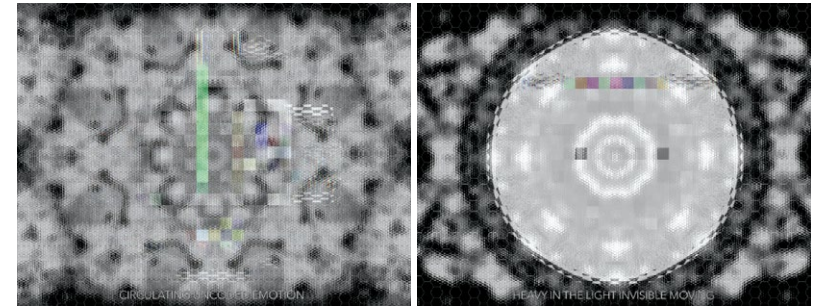
Blocked : Sound Sensitivity

Blocked : Sound Sensitivity plays with the interconnection between neurodiversity and media design, using auto-ethnographic data based on my observation of my acoustic disorder of hyperacusis, as well as inputting parallel insights from my high-functioning neurological condition of Asperger's.

Hyperacusis is an auditory condition in which exposure to everyday sounds is perceived more loud than normal, creating pain, discomfort, vertigo, fatigue, as well as related reactions within anxiety and depression. In this video artwork, He briefly reflect on the relation between surrounding sound that the hyperacusis condition affects, changing the sensorial narrative, making everything more artificial, uncoded, wrongly filtered and channeled disruptively. Part of the hyperacusis condition brings sensorial reactions in relation to sound and also light there is a sense of in-between, of penumbra of sound and noise, as well as distant emotional reactions which feels at time artificial and looked from outside. Not being able to work with sound itself (due to the condition), here he tries to express the feeling visually with computational graphics and text.

The artist is currently following a variety of therapy programmes in relation to the hyperacusis disorder, including cognitive behavioral therapy (CBT). As part of this therapeutic programme, he collects notes on my different levels of moods, reactions, and reflections each day. This creates patterns and data that I also use as part of my auto-ethnographic work; He can then be more analytical and explore artistic interpretations of this data, observing what the sensorial disorder brings up and classify triggers and reactions.

Looking into shaping an ethnographic narrative, here he interprets and reads this data in the form of poems, relating to the emotional human experience in response to the hacked sensorial disorder. And so, to underline this conceptual relationship, he intertwines art and technology in the process of making, abstracting the ethnographic data to create new graphic visualisations of silent hacked sound, layered with a written and spoken poem that is shared with a human emotion and artificial computed identity. This process allows a representation of the specific acoustic neurological exploration, via words and visual pixellated related sound, conceptually visually interpreting and reflecting the disruptive action that hyperacusis creates in the acoustic sense.



Blocked:Sound Sensitivity, 2018.

Luca M. Damiani

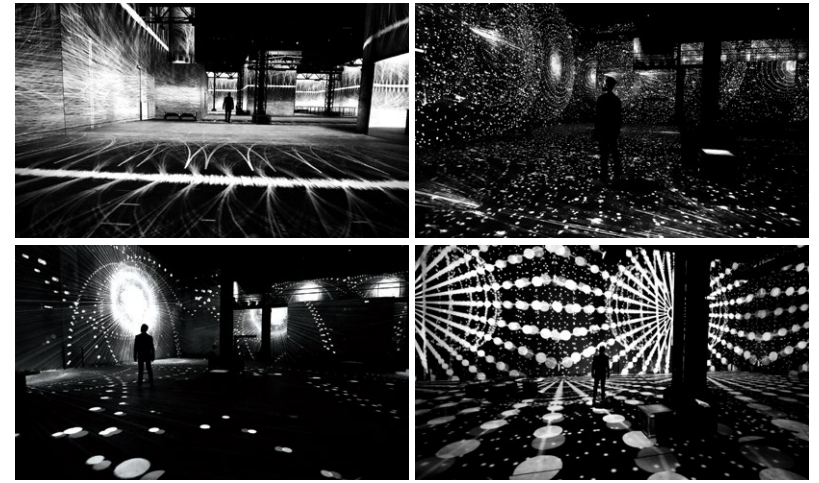
Luca M. Damiani is a Media Design Artist and a Lecturer at London College of Communication (University of the Arts London). Luca practices internationally in the fields of the Arts, Digital Media and Visual Culture. He works and experiments with creative techniques such as digital tech, illustration-animation, photography, coding and mix-media. With a multi-methodological approach, Luca explores artistic processes re-considering the combination of methods. His ongoing research-based practice looks at various areas of applied art and design, with the main focus on technology, digital art and neurodiversity. A published artist-author of several books and papers, his work is actively exhibited and showcased. Luca has collaborated with many institutions, such as: Computer Arts Society, Mozilla Foundation, NESTA, Framestore-VFX, Disney, Amnesty International, BBC, TATE, V&A and Thames & Hudson.

www.lucadamiani-art.com

EYLUL DURANAGAC, FERDI ALICI

Poetic Ai

Poetic Ai is the world's biggest AI exhibition which will last for 6 months. It uses 50K pixels and in total 136 projectors. Since its opening, *Poetic Ai* has experienced 1 million visitors in 7 months. In essence, by using ML and AI algorithms, we created a scientific Poetic Refraction of AI which was meant to learn from millions of lines of theory, articles and books about light, physics, space-time that is written by scientists who change the destiny of the world and write history.



Poetic Ai, 2018. 12', Single channel.
Audio/Direction/Design/Animation Ouchhh (ouchhh.tv)
Sound Design AudioFil

Eylul Duranagac, Ferdi Alici

Ouchhh is a creative new media studio with expertise in AI, data paintings, data sculpture and public art. They integrate art, science, and technology in every work they create. Ouchhh consider ourselves to be a multidisciplinary creative hub focused on mind-driven approach, discovering new technological models, immersive experiences that shape our futuristic perspective. The team consists of varied talent, from AI Artists, engineers, academicians, creative coders, designers, motion graphic and media artists all with one synced vision that knowledge creates an epic public experience. In that terms, Ouchhh explores the boundaries of art by research relationship between architecture, art, science, technology, AI and new media arts. Their works have received multiple accolades and awards in the international arena. They became Istanbul's first new media agency to win Reddot design awards, German Design Award, 10th Annual IDA Awards (The International Design Awards) and ADC Awards (The Art Directors Club), in addition to an Honorable Mention from the City University of Hong Kong.

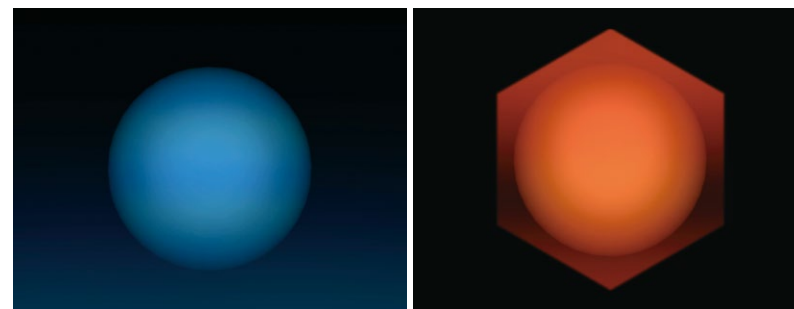
JUSTIN HARVEY

SATURN RETURN

SATURN RETURN is an infinite loop of shaped layers of digital video feedback created using an iPhone, television monitor and Wi-Fi network. The accompanying audio contains low frequency harmonics combining the three competing frequencies comprising the source video feedback loop - 60, 200 & 240 hertz.

In 1855, German chemist August Kekule had visions of the Ouroboros - symbol of the cyclical nature of time - awaking to understand the symmetrical structure of benzene, depicted as a circle enclosed by a hexagon. Benzene is a carcinogenic industrial solvent banned by Apple Inc. from use in the production of the iPhone in 2014, though it is still used in the construction of camera and screen components by subcontractors. In 1981, NASA's Voyager missions discovered a hexagonal cloud formation on Saturn's north pole, more recently monitored by the Cassini-Huygens mission in 2017. The color of the hexagon has changed over time and the cause of this phenomenon is still not understood.

SATURN RETURN is a meditation on the micro and macro forces that shape our lives, from the microsecond delays of wireless video transmission to the orbits of astronomical bodies that were the timekeepers of antiquity. The hexagon enclosing a circle references the smallest building blocks of DNA, the chemical composition of benzene, the second largest planet in our solar system and the basic structure of every snowflake that falls. The title refers to Saturn's return to the same point in the sky it occupied when each of us was born. Astrologers maintain its occurrence signals major transitions in each person's life as Saturn completes its 29-year orbit. The first return is said to mark the transition to adulthood, the second to maturity and the third into wise old age.



SATURN RETURN, 2018. HD video. dimensions variable.

Justin Harvey

Justin is a Sydney based artist working across moving image, sound, immersive installation and 360° virtual environments. His solo works present abstract expressions of interactions between artist and machine, exploring the unintended beauty in the breakdown of the digital moving image. Justin lectures in Media Arts at the University of Technology, Sydney and is a PhD candidate at University of New South Wales, Art & Design. His practice-based research investigates ways in which artists using video feedback as a metaphor for human consciousness contribute to philosophical understandings of time. Justin has exhibited work in solo and curated exhibitions in Sydney, Chicago, Vancouver, Amsterdam and Hong Kong.

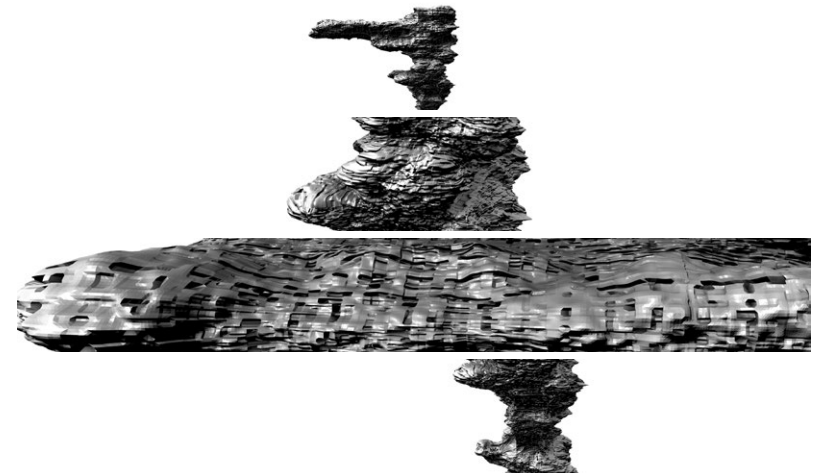
justinharvey.art

PETER NELSON

Data Stones

Data Stones explores the overlap of Chinese and European philosophies offered by data visualisation. A database of every message sent between two people, accumulated through the regular internet usage is transformed into a computer generated rock. These stones are produced procedurally from the mundane dialogue accumulated by the everyday use of instant messaging. I download thousands of messages sent between two people and sort them according to length, date and content (using Latent Dirichlet Allocation). These various means of processing extract patterns and sentiments in what never had any intrinsic order. The stone is treated like a graph, where the statistical patterns my sentiments determines its shape, and becomes an object for contemplation and speculation. *Data Stones* relying on the logic that if a system encoded a stone, then it can always theoretically be decoded. In contemplating these stones, we hope to crystallize our thoughts, and finds ourselves, staring back.

Data Stones is presented as a single-channel video animation of a unique procedurally generated stone, accompanied by a musical composition. The stone is generated from the accumulated conversational data between my sister, and myself and the musical composition is based on the LDA analysis of the dominant topics that have emerged over the years of our relationship, based on what has been recorded by our use of instant message applications.



Data Stones, 2019. Data visualisation animation. Sound by Tom Smith.

Peter Nelson

Peter Nelson is a visual artist and early career academic working at the intersection of landscape theory and computer games. Originally trained in painting and drawing, Nelson currently produces exhibitions across a number of media, from painting and drawing, to animation, 3D printed sculpture and interactive game-based systems. Across these disciplines, he is engaged in a prolonged consideration of the history of landscape images, how they are remediated by technological shifts, and how these shifts absorb and reflect changes in our relationships with the physical environment.

He has been working between Australia and East Asia for the past 10 years, and has undertaken residency projects with Taipei Artist Village (Taipei), Organhaus (Chongqing), Red Gate Gallery (Beijing), Serial Space (Sydney) and the City of Sydney. He has held numerous group and solo exhibitions, including projects with HanArt TZ Gallery (Hong Kong), The National Palace Museum (Taiwan), The Sichuan Fine Art Academy Museum (Chongqing) and the K11 Art Foundation (Hong Kong). He has recently completed a PhD with the School of Creative Media (Hong Kong), researching the historical implications of computer game landscapes.

QIANWEN QU

Confidential Records: Dual Metropolitans

Throughout the past hundred years, Kowloon Walled City in Hong Kong mostly worked as a community that with military and political function, it maximized the ability of improvisation and compatibility, and finally developed into a huge and comprehensive urban system. The issue of governance of the site which had permitted the unfettered development of these few hectares was finally resolved and the decades of growth ended in 1990s.

Scientist Ray Kurzweil defined the acceleration of development of technology as Law of Accelerating Returns. He reckons that technology is growing exponentially that human could make the progress of the entire 20th century with only 20 years in 21 century, and we are here right before the "explosion", what will happen decades later might threaten all human being.

Having conducted extensive research and interviews on the history of the Kowloon Walled City, the artist utilises these old memories and scientific prediction, and reimagines a fantastical Underground Walled City that evolves into the last defence of human being against artificial intelligence. Through the daring escape of a VOKKALO series artificial intelligence, the conflicts was revealed. Huge data flows between these two gigantic memory systems, how the future world would become? What functions will the Underground Kowloon Walled City have, what progress will it have made? What kind of role will it play between artificial intelligence and human being?



Confidential Records: Dual Metropolitans, 2016-2018.
9' 50", Dual-screen audio-visual work.

Qianwen Qu (Vvzela Kook)

Vvzela Kook(b.1990, Hong Kong) is a new media artist who mainly works in audiovisual mediums, including performance, theatre, generative video and drawing. Her audiovisual works combine media with performance; they explore the possibility of coexistence between contemporary performance types, like dance or choreography, and computer-generated new media.

Kook's video works combine technology with her artistic practice to reproduce and convert urban cityscapes into an integrated virtual experience, guiding the audience on a cybernetic journey. The condensed textures in her works connect with multiple sensual levels in our perception and reintroduce the unexplored potential of video as a medium.

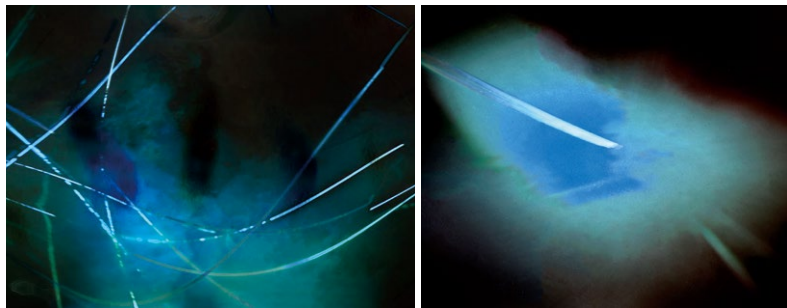
Kook has participated and shown her works in MoCA Taipei (2019), Tai Kwun (2019), Microwave International Media Festival in Hong Kong (2018, 2016), PuSh Performing Art Festival in Vancouver (2017), Centre for Heritage Arts and Textile (2017), and "89+" program (2012) co-curated by Hans Ulrich Obrist and Simon Castets.

vvzela.co

KRISTA STEINKE

Sun Notations

Sun Notations is an experimental video that animates over 50 still pinhole photographs – a work that merges an early primitive process (pinhole photography) with new technology. The original images capture the pathway of the sun rising and setting over time, with exposures that last one day up to an entire year. Light leaks, dirt, dust, fingerprints, even rips in the paper, become part of the visual alchemy, and serve as metaphors for the delicate balance we share with the physical world. Here time and space expand, overlap, and then dissipate as clusters of dust appear like stars, insects fall from the sky, the landscape morphs into abstraction, and the sun traces across the screen like a drawing in motion. Throughout the work, references to creation and destruction call attention to both our immediate present but also to the grim possibility that our planet may not have a “forever”.



Sun Notations, 2016-2018. 16'. dimensions variable.
Audio Matt Steinke / Production Assistants Ashley Lane, Annie Sungkajun

Krista Steinke

Krista Steinke is an artist who works in photography, video, and installation. Her project-based practice explores the human-environmental relationship and photography's unique role in mediating that experience.

Krista has exhibited and screened her work in museums, galleries, and film festivals across the country, as well as internationally. Her works are represented in public and private collections, including the Museum of Fine Arts, Houston, Woodmere Museum in Philadelphia, the Brauer Museum of Art, Atlanta International Airport, Johnson & Johnson Corporation, and Fidelity Investments, among others. She is the recipient of a Pennsylvania Council on the Arts Fellowship, a grant from the Puffin Foundation, an Artist Residency at Light Work, a Promise Award from the Sustainable Arts Foundation, and most notably, a Fellowship in Photography from the Howard Foundation. She has been invited to be a visiting artist at numerous colleges and graduate schools and has participated in several photo festivals and conferences either as an exhibitor, speaker, or curator, including The International Digital Media and Arts Association (iDMAA), Denver Month of Photography, Fotofest, The Invision Photo Festival, and Society for Photographic Education (SPE).

Krista received a BA in Art and the Advanced Humanities from Valparaiso University, a BFA in Studio Art from the School of the Art Institute of Chicago, and a MFA in Photography and Digital Imaging from The Maryland Institute, College of Art. She has lived all over Texas, in New York City, Philadelphia, Baltimore, Seattle, and Chicago, among other places. Currently, she divides her time between Houston and New York state.

SYMPOSIUM ORGANIZERS

GENERAL CHAIR

Soh Yeong Roh
(Director,
Art Center Nabi)

ARTISTIC DIRECTOR

Namhee Park
(Team Leader,
ACT Festival Team, Asia Culture Institute)

ART PROGRAM

CHAIR OF JURIED EXHIBITION
& CURATED EXHIBITION 1
(LUX AETERNA) & CURATED
PERFORMANCE

Hyeln Jeon
(Team Leader, Curatorial Team,
Art Center Nabi)

CURATORS OF
JURIED EXHIBITION

Hee-Eun Kim
(Team member,
Curatorial Team, Art Center Nabi)

Suhun Lee
(Team member,
Curatorial Team, Art Center Nabi)

Yoojin Chung
(Team member,
Curatorial Team, Art Center Nabi)

Heeyoon Choi
(Team member,
Curatorial Team, Art Center Nabi)

Soyoung Lim
(Team member,
Curatorial Team, Art Center Nabi)

Yeajin Cho
(Team member,
Curatorial Team, Art Center Nabi)

Yukyung Chung
(Team member,
Curatorial Team, Art Center Nabi)

Hahlra Kim
(Team member,
Curatorial Team, Art Center Nabi)

CURATORS OF JURIED
EXHIBITION - SCREENING
(MEDIA FACADE)

Hee-Eun Kim
(Team member,
Curatorial Team, Art Center Nabi)

Heeyoon Choi
(Team member,
Curatorial Team, Art Center Nabi)

CURATORS OF
CURATED EXHIBITION 1
(LUX AETERNA)

Suhun Lee
(Team member,
Curatorial Team, Art Center Nabi)

Yeajin Cho
(Team member,
Curatorial Team, Art Center Nabi)

Soyoung Lim
(Team member,
Curatorial Team, Art Center Nabi)

Yukyung Chung
(Team member,
Curatorial Team, Art Center Nabi)

CURATORS OF
CURATED
PERFORMANCE

Hee-Eun Kim
(Team member,
Curatorial Team, Art Center Nabi)

Heeyoon Choi
(Team member,
Curatorial Team, Art Center Nabi)

Yukyung Chung
(Team member,
Curatorial Team, Art Center Nabi)

CHAIR OF CURATED
EXHIBITION 2
(ACT FESTIVAL)

Hyehyun Kim
(Team Member,
ACT Festival Team, Asia Culture Institute)

CHAIRS OF JURIED
PERFORMANCE
& TECHNICAL
MANAGEMENT

NamKyoon Kim
(Team Member,
ACT Festival Team, Asia Culture Institute)

Jeongseok Lee
(Team Member,
ACT Festival Team, Asia Culture Institute)

**CHAIR OF MEDIA ART
CAMP FOR KIDS**

Sangon Wi
(Team Member, ACT Festival Team, Asia Culture Institute)

**CHAIR OF ARTIST
RESIDENCY PROGRAM**

Mihyun Jang
(Team Member, ACT Festival Team, Asia Culture Institute)

ACADEMIC PROGRAM

CHAIR OF ARTIST TALKS

Su Hyun Nam
(Assistant Professor,
Dep. of Transmedia, Syracuse University)

**CHAIRS OF WORKSHOP /
TUTORIAL**

Hyun Ju Kim
(Associate Professor, Dept. of New Media
(Convergence Media),
Seoul Media Institute of Technology)

Byungjoo Lee
(Associate Professor,
Graduate School of Culture Technology, KAIST)

**CHAIR OF
INSTITUTIONAL
PRESENTATION**

Boa Rhee
(Professor, Dept. Computer
Art, College of Art & Technology,
Chung-Ang University)

SPECIAL PROGRAM (LOCAL ENGAGED)

**CHAIR OF LOCAL
ENGAGEMENT 1
(OPENING PERFORMANCE)**

Hee-Eun Kim
(Team member,
Curatorial Team, Art Center Nabi)

**CHAIR OF LOCAL
ENGAGEMENT 2
(CLOSING PERFORMANCE)**

Suhun Lee
(Team member,
Curatorial Team, Art Center Nabi)

**CHAIR OF LOCAL
ENGAGED WORKSHOP**

Suhun Lee
(Team member,
Curatorial Team, Art Center Nabi)

**CHAIRS OF LOCAL
ENGAGED EXHIBITION**

Heeyoon Choi
(Team member,
Curatorial Team, Art Center Nabi)

Hahlra Kim
(Team member,
Curatorial Team, Art Center Nabi)

**CHAIRS OF ONLINE
(WEBSITE/SNS)
MANAGEMENT &
COMMUNICATION**

Soyoung Lim
(Team member,
Curatorial Team, Art Center Nabi)

Yoojin Chung
(Team member,
Curatorial Team, Art Center Nabi)

**CHAIRS OF
GRAPHIC DESIGN**

Soyoung Lim
(Team member, Curatorial Team, Art Center Nabi)

Yukyung Chung
(Team member, Curatorial Team, Art Center Nabi)

Claire Choi
(Freelancer)

**CHAIRS OF
PROMOTIONAL TRAILOR
& ARCHIVE VIDEO**

Homan Kwon
(Team member, Curatorial Team, Art Center Nabi)

JaeYoung Kim
(Team member, Curatorial Team, Art Center Nabi)

ISEA2019

(25th International Symposium on Electronic Art)

Lux Aeterna

ISEA2019 Catalog & Poster Design

Pansy Daisy

Special Exhibition 《LUX AETERNA》 Poster Design

Dada Graphic Design Studio

Pansy Daisy

Exhibition Space Design

Label1571

Technical Support

Gana Enterprise

Edited and Published by Art Center Nabi

4th fl, SK bldg., 26 Jong-ro, Jongno-gu, Seoul 03188, South Korea

ISBN

979-11-87275-05-3

<http://isea2019.isea-international.org>

isea2019@nabi.or.kr

Copyright © 2019 all rights reserved by the individual authors, Art Center Nabi,
ISEA2019 and ISEA International.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or
by any means, without prior written permission of the individual authors and ISEA International.